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96th Annual Research Report

Rice Research Station

LSU AgCenter Research & Extension

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Crowley, Louisiana
2004

96th Annual Research Report

RICE RESEARCH STATION

Crowley, Louisiana

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U.S. Department of Agriculture -
Agricultural Research Service
Cooperating

The Louisiana Agricultural Experiment Station provides equal opportunities in programs and employment.

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INTRODUCTION

Research at the Rice Research Station, Crowley, Louisiana, is conducted cooperatively by the Louisiana Agricultural Experiment Station and the United States Department of Agriculture, Agricultural Research Service. The 2004 rice research program included breeding, biotechnology, variety testing, production and distribution of foundation seed, fertilization, soil and water management, cultural practices, weed control, insect control, disease investigations, rice drying, bird control in rice, and physiology studies. Crops grown in rotation with rice were evaluated relative to increasing the efficiency of land use. The aquaculture research program places emphasis upon production practices, forages, and multi-cropping of crawfish with agronomic crops. Although most of the research work was performed by members of the Rice Station staff, several staff members from Baton Rouge conducted research at this station.

The research activities of this station include both fundamental and applied research, although the latter predominates due to the mission of the Rice Research Station. Research accomplishments and general progress of the Rice Station during 2004 are presented in this report representing the 96th Annual Research Report of the Rice Research Station, Louisiana Agricultural Experiment Station, LSU Agricultural Center.

In addition to research responsibilities of the Rice Research Station staff and cooperators, a large number of farmers, extension personnel, and others were trained and otherwise contacted during 2004. Approximately 450 people attended the annual Rice Research Station field day to view plots and participate in discussions of research findings. Field days were also conducted in Acadia, Evangeline, Jeff Davis, Morehouse, and Vermilion parishes. In addition, the staff participated in industry meetings, both on and off the station, and worked individually with farmers and others in solving immediate problems. Several thousand people received services from the Rice Research Station during 2004.

Projects at this station are conducted under the supervision of research scientists from the Rice Research Station and also by cooperating personnel from certain departments of the Louisiana Agricultural Experiment Station. Following the reports, station personnel and cooperators in 2004 are listed.

MONTHLY RAINFALL DATA
RICE RESEARCH STATION - CROWLEY, LA
2004

DATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEAR TOTAL
1					.36	.03	.09				.65	.43	
2		.41			1.00	.03	.75	.70			.32		
3		.20				.10	.13				2.00		
4							.05					.13	
5	1.95	.23	.05						.10	.40			
6		1.46	.03			.28		.30					
7				1.23			.47			.50		.42	
8	.15									1.20			
9	.80						.20			2.60		.39	
10		.07					.09			1.74			
11		1.33		.05			.53				.16		
12		2.52		.55	4.50						.15		
13		.02		.08	.58				.11				
14				.05	1.91	.94				.20			
15			1.00		2.96	.02				.06			
16	.02		.03										
17	.32				.32	.58						.02	
18	.87				.81		.22				1.47		
19	.02				2.46					.08			
20						.02		.02			1.27		
21											.70		
22						1.32						.02	
23		.41				1.86	.20		.12		.01	1.91	
24		.09				.17		.05	.25		.60		
25	.49	.08		1.64		4.11			.65	.15			
26	.02	.03		2.36		.99	.20	.07					
27						.70					.98		
28								.90			.01		
29						.45		.50					
30	1.76		.05				.76	.16			.43		
31							.02						
MONTH TOTAL	6.40	6.85	1.16	5.96	14.90	11.60	3.71	2.70	1.23	6.93	8.75	3.32	73.51
2003	1.14	8.09	2.56	3.00	0.00	13.87	6.86	4.40	6.54	5.41	4.90	2.71	59.48

RICE BREEDING

GENETIC IMPROVEMENT OF RICE FOR LOUISIANA PRODUCTION[1]

S.D. Linscombe, X.Y. Sha, K.F. Bearb, C.A. Conner, B.W. Theunissen, B.J. Henry, and H.L. Hoffpauir

INTRODUCTION

The primary objective of the Rice Breeding Project is the development of superior varieties for the Louisiana rice industry. The Breeding Project is developing improved genotypes of both long- and medium-grain types, which are both important in the state and region. The project is also placing major emphasis on the development of specialty purpose types.

In addition to the primary objective of varietal development, the Breeding Project also conducts other researches that may have direct and/or indirect contributions on varietal development. Included here are studies on milling quality, mutation breeding, date of planting, incorporation of herbicide resistance into rice varieties for use in red rice control programs, and development of lines for crawfish forage production.

The 2004 rice breeding nursery included 82,000 breeding rows, 341 F_1 transplant populations, and 271 space planted F_2 populations. About 600 new crosses were made. On- and off-station testing included over 6,000 yield plots. Yield testing included the Cooperative Uniform Regional Rice Nursery, which contained 200 experimental lines and checks (54 Louisiana entries). The commercial-advanced test was conducted at the Rice Research Station and eight off-station locations.

The preliminary yield testing program evaluated 912 lines (mainly of F_5 and F_6 generation), most for the first time. In addition to yield testing, these lines were also evaluated for seedling vigor, milling characteristics, quality parameters, and numerous other agronomic characteristics.

[1] This research is supported in part by funding provided by rice producers through the Louisiana Rice Research Board.

Cooperative Uniform Regional Rice Nursery (URN)

Public rice breeders in the United States conduct cooperative yield nurseries in which experimental lines and commercial varieties are grown and evaluated at research locations in Arkansas, Louisiana, Mississippi, Texas, Florida, California, and Missouri. The nurseries are used to test the adaptation of entries in the diverse rice-growing environments of the United States. The entries in the 2004 nursery included materials from Arkansas, California, Louisiana, Mississippi, and Texas.

A randomized complete block design was applied, with three replications for group 1-4 and two replications for group 5-7. All plots were drill-seeded on March 19 and harvested on August 3. The URN was conducted using standard agronomic practice with no fungicide applied. Yield and agronomic data from the 2004 URN nursery at the Rice Research Station are presented in tables 1-7.

Table 1. Agronomic and milling performance of 2004 Uniform Regional Nursery, Group 1, Crowley, LA.

Entry	RU #	Pedigree	Grain Type*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @ 12%)	Ratoon Yield (lb/A @ 12%)	Total Yield (lb/A @ 12%)
						Whole	Total			
001	RU0301093	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS	L	90	39	62.4	69.8	7596	3295	10891
020	CYBT	CYBONNET	L	91	42	66.3	70.6	7765	2924	10689
017	FRNS	FRNS	L	90	41	58.2	66.4	7473	3159	10632
003	RU9903092	92:13826(VSTA/LBNT//RSMT)//MBLE	L	89	39	63.6	67.8	6649	3885	10534
007	RU0301096	NWBT/3/LBNT/9902//LBLE/4/DREW	L	92	43	60.3	70.6	7427	3005	10432
008	RU0202008	CPRS//82CAY21/TBNT/…	L	82	43	57.7	66.4	7527	2777	10304
005	RU0302005	TACAURI/3/CPRS//82CAY21/TBNT	L	90	39	63.8	69.6	7196	3093	10289
010	RU0101105	LGRU//LMNT/RA73/3/LGRU/4/LGRU	L	94	48	58.3	67.3	7265	3020	10285
011	RU0402011	61764DH3	M	91	42	66.6	69.8	7499	2038	9537
018	PI606331	CCDR	L	88	37	58.0	67.8	7504	2018	9522
002	RU0202002	9502008/3/CPRS//82CAY21/TBNT	L	86	41	60.4	67.4	7498	1816	9314
014	RU0404014	TBNT/LA110//LMNT	L	88	41	60.9	69.2	6185	2841	9026
004	RU0101093	9101001//TBNT/KATY/3/LGRU	L	82	41	63.0	69.6	6114	2877	8991
009	RU0103123	RU9302165(8902207x2-25KR)/DXBL	L	92	40	65.4	70.7	6386	2545	8931
013	RU0301121	L201//TBNT/BLMT/3/JDON	L	90	38	58.5	67.3	5978	2945	8923
015	RU0304122	8804032/DLLA	L	91	44	65.5	70.4	6484	2340	8824
019	PI593892	JEFF	L	83	39	63.5	70.0	6069	2507	8576
006	RU0103089	JEFF/CCDR	L	91	41	61.2	67.5	5932	2404	8336
012	RU0403012	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF	L	90	42	62.6	68.7	5925	2300	8225
016	RU0404016	CPRS/JKSN	L	89	35	58.8	66.8	5643	1776	7419
c.v.%				1.5	3.6	2.9	1.7	6.5	11.9	6.2
$LSD_{0.05}$				2.2	2.4	3.7	2.5	685	525	925

* L = Long grain; M = Medium grain.

Table 2. Agronomic and milling performance of 2004 Uniform Regional Nursery, Group 2, Crowley, LA.

Entry	RU #	Pedigree	Grain Type*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @ 12%)	Ratoon Yield (lb/A @ 12%)	Total Yield (lb/A @ 12%)
						Whole	Total			
028	RU0402028	BNGL//MERC/RICO/3/MERC/…	M	96	39	69.1	71.1	7133	3518	10651
031	RU0202183	9502065/3/BNGL//MERC/RICO	M	95	39	67.4	70.1	7279	2938	10217
040	LGRU	LGRU	L	92	46	56.3	65.6	7410	2697	10107
027	RU0301105	RU9201176/3/KATY//TBNT/NWRX	L	89	45	59.6	67.6	7249	2819	10068
039	MDRK	MEDARK	M	91	40	66.1	70.2	6857	3181	10038
023	RU0103190	BF4-274	L	96	40	59.3	67.8	6537	3309	9846
038	PI561735	BNGL	M	94	41	67.2	69.7	6792	2786	9578
024	RU0101099	RU8201176/4/LBNT/STBN//NWBT/3/MILL	L	89	43	65.4	71.1	6859	2694	9553
034	RU0202195	NWBT/KATY//9902207x2	L	87	38	64.0	70.2	7379	2170	9549
022	RU0402022	9502008/3/MBLE//LMNT/20001-5	L	88	39	59.2	65.6	6831	2328	9159
036	RU0304194	IR36/8603006	L	92	44	55.4	66.7	6482	2669	9151
021	RU0301127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/…	M	90	37	65.6	68.9	6525	2360	8885
030	RU0301030	961215	L	91	45	57.0	68.2	6085	2656	8741
032	RU0203032	JEFF/(VSTA/LBNT//L201/3/SKBT)RU9404077	L	91	45	64.4	70.5	6992	1730	8722
035	RU0304157	8904186S919/8903052	L	91	38	64.7	70.0	5963	2612	8575
026	RU0103184	(CPRS/PELDE)96:3944/JEFF	L	93	39	65.1	68.5	6293	2173	8466
037	RU9902134	PIRO	S	96	42	68.5	71.3	5991	2309	8300
025	RU0002140	JSMN/DLLA	L	95	40	46.4	60.3	5958	2236	8194
033	RU0404033	CPRS/3/(L201//TBNT/BLMT)	L	92	40	63.0	68.0	6359	1795	8154
029	RU0203029	(RU8303116/LMNT)RU9103049/KBNT	L	88	35	57.0	67.4	4924	1812	6736
c.v.%				1.6	4.1	2.8	1.6	7.4	10.4	6.4
$LSD_{0.05}$				2.4	2.8	3.7	2.3	807	435	961

* L = Long grain; M = Medium grain; S = Short grain.

Table 3. Agronomic and milling performance of 2004 Uniform Regional Nursery, Group 3, Crowley, LA.

Entry	RU #	Pedigree	Grain Type*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @ 12%)	Ratoon Yield (lb/A @ 12%)	Total Yield (lb/A @ 12%)
050	RU0301050	LBNT/9902//NWBT/3/KATY/NWBT/4/DREW	L	91	43	62.1	68.8	7793	2876	10669
044	RU0301044	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU	L	91	45	63.9	69.8	7851	2610	10461
060	DREW	DREW	L	92	49	64.5	69.5	7051	3078	10129
041	RU0301041	LMNT//82CAY21/CICA8/3/DLMT/4/BASMATI-(120)/…	L	91	46	64.5	68.7	7127	2751	9878
051	RU0402051	DREW/AC167DH1	L	92	45	62.6	70.1	6342	3494	9836
048	RU0302094	9502008-A/DREW	L	87	40	64.6	70.4	7699	2118	9817
047	RU0301047	KBNT/CPRS	L	89	39	61.6	68.3	7086	2626	9712
045	RU0202192	DREW/3/CPRS//82CAY21/TBNT	L	90	40	65.7	70.4	6995	2653	9648
056	RU9603178	SABR	L	90	42	65.8	70.2	6634	2846	9480
057	RU9404036	PRISCILLA	L	91	43	53.7	66.6	6056	3230	9286
042	RU0402042	AC110DH2/AC108DH2	L	89	41	65.8	72.8	7187	1985	9172
058	RU0002174	CHNR	L	90	38	63.5	71.4	7161	1892	9053
046	RU0403046	CCDR/97URRN26	L	91	43	60.3	68.6	5654	3300	8954
059	PI561734	CPRS	L	90	43	60.6	66.6	6714	2187	8901
049	RU0303169	(PCOS/RU8703196//GFMT)RU9503150/…	L	89	40	60.4	68.0	6002	2759	8761
055	RU0104055	L201//TBNT/BLMT	L	93	41	63.5	67.0	5489	3076	8565
043	RU0403043	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	90	41	61.2	69.6	5618	2474	8092
052	RU0103104	BF7-42	L	95	37	53.6	66.7	4891	2495	7386
053	RU0404053	CPRS/3/(L201//TBNT/BLMT)	L	88	40	60.8	68.7	5431	1938	7369
054	RU0404054	8904186S919/NWBT	L	89	37	52.6	66.5	3568	1742	5310
c.v.%				1.4	3.8	5.4	2.0	8.0	11.8	8.1
$LSD_{0.05}$				2.0	2.6	6.9	2.9	851	507	1203

* L = Long grain.

Table 4. Agronomic and milling performance of 2004 Uniform Regional Nursery, Group 4, Crowley, LA .

Entry	RU #	Pedigree	Grain Type*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @ 12%)	Ratoon Yield (lb/A @ 12%)	Total Yield (lb/A @ 12%)
						Whole	Total			
064	RU0401064	BNGL/RICO/3/ORIN//M101/MARS	M	96	40	67.3	69.6	6864	4175	11039
076	RU0301188	961237	L	90	47	63.1	69.3	6939	3803	10742
067	RU0401067	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/…	M	84	35	66.5	70.2	6490	4038	10528
061	RU0301061	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU	L	91	45	60.4	68.0	6881	3440	10321
079	BNKS	BANKS	L	96	48	60.4	68.3	7849	2395	10244
065	RU0402065	9502008-A/DREW	L	89	41	63.4	66.7	7874	2239	10113
073	RU0304198	9002065/MILLIE	L	97	43	60.8	68.4	6148	3720	9868
071	RU0202091	9865216DH2	M	90	44	66.2	70.4	7751	2031	9782
068	RU0402068	9502008-A/DREW	L	89	40	64.0	70.1	7468	2286	9754
070	RU0301176	NWBT/3/LBNT/9902//LBLE/4/LGRU	L	93	42	59.4	68.6	6685	2994	9679
062	RU0402062	0043752/0047277	L	89	43	58.1	66.9	7558	2104	9662
080	WLLS	WELLS	L	90	44	58.8	68.9	6431	3074	9505
078	RU0403078	PSCL/JEFF	L	87	39	64.3	69.9	5853	3192	9045
066	RU0203190	(BF3-566)	L	94	40	59.2	68.1	6164	2833	8997
069	RU0403069	PSCL/JEFF	L	88	42	58.8	68.6	5565	2888	8453
072	RU0403072	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	88	41	61.9	69.7	5642	2733	8375
063	RU0203181	BF5-1-1	L	95	38	64.4	69.9	5609	2609	8218
077	RU0304077	V7817/SKBT	L	93	40	64.2	69.7	5646	2146	7792
075	RU0403075	(GFMT*2/TQNG)TX4110/CCDR	L	84	37	59.1	70.4	5413	2163	7576
074	RU0404074	8904186S919/NWBT	L	91	44	42.8	65.3	3032	1518	4550
c.v.%				1.7	3.1	4.5	2.9	7.0	8.7	6.5
$LSD_{0.05}$				2.5	2.1	5.8	4.2	739	405	994

* L = Long grain; M = Medium grain.

Table 5. Agronomic and milling performance of 2004 Uniform Regional Nursery, Group 5, Crowley, LA.

Entry	RU #	Pedigree	Grain Type*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @ 12%)	Ratoon Yield (lb/A @ 12%)	Total Yield (lb/A @ 12%)
						Whole	Total			
091	RU0402091	9863910DH2/AR 1053	L	91	42	61.7	71.2	6909	4131	11040
111	RU0401111	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/DREW	L	91	45	59.1	67.1	7954	2979	10933
109	RU0402109	LGRU/WELLS	L	91	42	57.8	70.3	7393	3270	10663
087	RU0401087	NWBT/3/LBNT/9902//LBLE/4/LGRU	L	93	42	60.3	70.1	7331	3103	10434
102	RU0401102	LGRU//LMNT/RA73/3/LGRU/4/WLLS	L	91	44	59.5	67.7	7641	2705	10346
095	RU0403095	PSCL/JEFF	L	86	45	62.9	69.8	6857	3474	10331
082	RU0302082	9502008-A/DREW	L	88	40	66.7	72.6	7632	2655	10287
106	RU0402106	CPRS//20001-5/LMNT/3/KBNT//KATY/CPRS	L	90	42	61.7	69.0	7233	3012	10245
097	RU0402097	9502008-A//AR 1188/CCDR	L	85	40	66.4	71.9	8031	2118	10149
096	RU0401096	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU	L	46	46	60.8	68.4	7540	2565	10105
084	RU0401084	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/…	M	82	40	67.1	69.8	6866	3148	10014
081	RU0301081	NWBT/3/LBNT/9902//LBLE/4/DREW	L	98	49	62.7	71.2	6274	3710	9984
100	RU0404100	TBNT/LA110//LMNT/3/TBNT	L	91	38	56.7	69.0	6815	2983	9798
088	RU0402088	AC111DH3/AC468DH2	L	89	40	60.8	68.5	7405	2359	9764
089	RU0403089	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	L	87	42	65.3	69.4	6759	2860	9619
113	RU0403113	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	89	42	66.3	71.4	6591	2950	9541
093	RU0401093	LMNT//82CAY21/CICA8/3/MARS/TBNT/4/LGRU	L	91	34	64.2	69.4	5836	3544	9380
090	RU0401090	NWBT/3/LBNT/9902//LBLE/4/CPRS	L	95	44	50.5	66.6	6388	2987	9375
094	RU0402094	9502008/3/CPRS//82CAY21/TBNT	L	83	36	62.8	69.3	6403	2796	9199
117	PI606331	CCDR	L	90	39	56.7	65.5	6879	2287	9166
105	RU0401105	KATY/STBN//9101001/5/LGRU//LMNT/…	L	93	45	57.3	67.7	6235	2912	9147
112	RU0402112	9502008/AR 1121	L	86	39	59.7	66.9	7092	2014	9106
110	RU0403110	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF	L	84	43	65.5	70.6	6518	2516	9034
103	RU0402103	9502008//KATY/902207x2	L	90	41	64.3	69.9	7118	1848	8966
098	RU0403098	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	87	43	59.9	68.6	6430	2502	8932
085	RU0402085	0043676/AC105DH3	L	86	39	63.2	68.0	7048	1767	8815
099	RU0301099	JEFF/ADAR	L	86	43	57.8	67.5	6316	2457	8773
104	RU0403104	(GFMT*2/TQNG)TX4110/CCDR	L	90	44	54.6	69.3	5264	3506	8770
108	RU0401108	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/…	M	82	34	69.5	72.5	5404	3135	8539
086	RU0403086	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	L	88	41	58.5	67.9	5978	2551	8529
118	RU0003009	HIDALGO	L	86	40	60.9	68.9	6601	1874	8475
115	RU0402115	KATY/CPRS//NWBT/…/3/CPRS/KBNT	L	89	38	55.7	64.6	6395	1915	8310
101	RU0103101	(CPRS/PELDE)96:3944/JEFF	L	88	38	69.0	72.7	6465	1839	8304
116	RU0103116	(VSTA/LBNT//RSMT)RU9403086/…	L	92	41	66.1	71.0	5812	2432	8244
107	RU0403107	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	88	41	61.3	69.9	5554	2651	8205
092	RU0403092	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	90	40	66.3	71.5	5578	2572	8150
114	RU0404114	8303116/LMNT//NWBT	L	86	43	60.5	71.6	5257	1917	7174
083	RU0404083	8804032/KATY	L	87	32	66.8	70.7	4932	2004	6936
120	PI629291	DELLMATI	L	82	48	56.5	68.1	3824	2911	6735
119	PI608664	L205	L	81	39	55.2	67.5	4064	1675	5739
c.v.%				2.2	3.9	3.2	1.6	7.3	12.4	6.0
$LSD_{0.05}$				3.9	3.2	4.0	2.3	954	670	1103

* L = Long grain; M = Medium grain.

Table 6. Agronomic and milling performance of 2004 Uniform Regional Nursery, Group 6, Crowley, LA.

Entry	RU #	Pedigree	Grain Type*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @ 12%)	Ratoon Yield (lb/A @ 12%)	Total Yield (lb/A @ 12%)
						Whole	Total			
142	RU0201142	4484	L	99	48	63.4	68.9	7360	3804	11164
127	RU0401127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/…	M	89	36	66.7	71.7	6915	4131	11046
143	RU0302143	MBLE//TQNG/MBLE (MCR02YT-1534)	L	87	43	60.8	66.3	7720	3196	10916
134	RU0402134	BNGL/3/STRN/MERC…	M	98	43	69.7	71.8	7329	3516	10845
152	RU0402152	YD-4/RSMT	L	83	42	61.0	66.6	7510	3258	10768
124	RU0301124	RU9201176/3/KATY//TBNT/NWRX	L	89	47	63.0	69.4	7609	2660	10269
137	RU0402137	MERC/RICO//BNGL/3/SMARS/MARS/…	M	97	40	66.8	70.1	6246	3963	10209
128	RU0402128	0043752/0047277	L	89	42	61.2	68.7	7990	1995	9985
136	RU0401136	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/…	M	94	34	67.1	70.6	6839	3138	9977
139	RU0201139	4582	L	100	48	65.6	70.6	6783	3090	9873
133	RU0201133	941009	L	95	45	62.3	68.5	7050	2795	9845
148	RU0401148	NWBT/3/LBNT/9902//LBLE/4/NWBT/KATY	L	97	50	55.7	68.0	7100	2707	9807
140	RU0402140	MERC/RICO//BNGL/3/SMARS/…	M	97	42	65.2	69.4	6160	3552	9712
132	RU0403132	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	90	44	64.7	69.6	6800	2795	9595
147	RU0403147	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	92	46	65.9	71.1	6973	2538	9511
144	RU0003178	(CPRS/PELDE)96:3944/JEFF	L	87	39	64.4	70.8	6932	2467	9399
160	FRNS	FRNS	L	91	43	59.3	68.6	6746	2652	9398
141	RU0403141	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	92	45	62.5	67.9	7148	2094	9242
155	RU0402155	CPRS//CPRS/TONG	L	91	43	64.9	71.1	6718	2498	9216
138	RU0403138	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	90	44	63.4	69.1	6651	2419	9070
158	PI593241	DELLROSE	L	91	43	67.9	71.5	5884	3036	8920
121	RU0401121	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/…	M	91	38	67.5	70.5	6554	2272	8826
145	RU0401145	L201//TBNT/BLMT/3/CPRS	L	87	37	62.0	68.5	6508	2315	8823
129	RU0303129	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	L	89	40	63.1	70.0	6597	2189	8786
122	RU0404122	LCSN//NWBT/KATY	L	97	35	67.7	72.2	5926	2851	8777
146	RU0402146	MERC/RICO//MERC/3/MERC/…	M	92	40	66.9	70.5	7228	1487	8715
135	RU0303135	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	L	90	39	61.2	65.6	6392	2208	8600
126	RU0403126	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	L	90	41	63.2	67.6	6409	2127	8536
123	RU0403123	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	L	87	42	60.5	67.1	5713	2804	8517
150	RU0403150	((92:13797(VSTA/LBNT//RSMT)/LBLE)TX7035/PSCL	L	89	44	60.9	71.0	5524	2963	8487
154	RU0404154	8603006/3/MARS/NWRX//TBNT	L	86	40	55.0	66.7	5723	2570	8293
131	RU0402131	JSMN/DLLA//CPRS/KDM	L	84	37	64.9	71.3	6250	2022	8272
149	RU0402149	AC101DH2/AC102DH2	L	90	38	63.3	71.7	6566	1695	8261
125	RU0402125	96 INT/AR 1188	L	96	47	66.0	69.5	7434	802	8236
157	RU0404157	8603006/3/MARS/NWRX//TBNT	L	89	37	53.5	68.0	5588	2551	8139
159	PI595900	DXBL	L	90	36	61.3	69.9	5724	2367	8091
130	RU0401130	CPRS//NWBT/KATY	L	93	37	63.4	69.2	6383	1683	8066
156	RU0404156	8403113/GGHW	L	91	41	64.4	66.6	4714	2451	7165
151	RU0401151	RICO/V4716//ORION-172	M	90	40	67.5	70.7	4432	2553	6985
153	RU0103153	BF5-143-1	L	98	39	59.0	68.6	3901	2667	6568
c.v.%				1.3	2.9	2.5	2.0	6.1	14.5	6.3
$LSD_{0.05}$				2.5	2.4	3.2	2.9	807	770	1171

* L = Long grain; M = Medium grain.

Table 7. Agronomic and milling performance of 2004 Uniform Regional Nursery, Group 7, Crowley, LA.

Entry	RU #	Pedigree	Grain Type*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @ 12%)	Ratoon Yield (lb/A @ 12%)	Total Yield (lb/A @ 12%)
						Whole	Total			
200	RICE TEC	XL 8	L	86	43	57.9	67.7	7355	4588	11943
176	RU0401176	LGRU-2/DREW	L	95	47	58.6	67.5	7768	2567	10335
185	RU0401185	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU	L	97	48	63.9	70.1	7997	2287	10284
180	RU0402180	CPRS/9502008-A	L	89	41	61.8	68.1	7784	2380	10164
178	RU0403178	PSCL/JEFF	L	88	41	57.2	67.7	6871	3229	10100
195	RU0402195	902207x2/LNWBT/KATY/3/CPRS/KBNT	L	94	40	69.4	72.2	6665	3240	9905
173	RU0401173	V6DW/STTD//L201/3/VSTA/NTAI//LMNT/4/…	L	93	44	63.3	69.1	7276	2600	9876
170	RU0401170	INKY RICE CROSS 961217	L	92	46	56.3	66.5	6992	2829	9821
161	RU0301161	NWBT/3/LBNT/9902//LBLE/4/DREW	L	92	43	62.3	71.2	7144	2657	9801
187	RU0403187	CCDR/(GFMT*2/TQNG)TX4153	L	90	41	62.7	68.5	6141	3645	9786
162	RU0402162	BNGL//TDCN/LMNT	M	96	41	66.4	70.0	6689	3073	9762
182	RU0401182	DREW/5/NWBT/3/DAWN/9695//STBN/4/KATY/STBN	L	93	47	65.4	70.1	7898	1829	9727
190	RU0403190	((NWBT/RU8303181)87:15034/RSMT)TX7144/JEFF	L	88	41	62.4	70.2	6913	2758	9671
165	RU0402165	CCDR//AR 1142/LA 2031	L	88	41	60.9	69.8	7150	2495	9645
177	RU0402177	CPRS/KBNT	L	92	46	65.2	70.1	6897	2653	9550
164	RU0401164	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS	L	92	47	53.4	67.7	6720	2761	9481
179	RU0401179	KBNT LPA1-1/BBLE	L	92	51	58.9	68.3	6573	2885	9458
181	RU0403181	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	L	89	41	68.7	71.5	6675	2760	9435
194	RU0404194	8603006/3/MARS/NWRX//TBNT	L	85	39	58.1	67.6	6497	2871	9368
192	RU0402192	CPRS/KBNT//9502008	L	94	40	65.2	69.7	6706	2636	9342
169	RU0403169	PSCL/MDSN	L	89	40	57.3	67.7	6389	2887	9276
174	RU0402174	CH1/3/CPRS//82CAY21/TBNT	L	82	38	58.8	67.9	6260	3014	9274
168	RU0402168	CH1/3/CPRS//82CAY21/TBNT	L	85	40	63.1	70.0	5791	3373	9164
172	RU0203172	94:56117(MARS/CM101)/94:54109…	L	99	45	66.5	70.2	6012	3139	9151
188	RU0401188	RNS3/5/IR36M4/4/L201/3/TTEP/IR-8//UNKN/6/BNGL	L	91	48	63.9	69.0	6997	2118	9115
171	RU0402171	CPRS/KBNT	L	86	34	65.2	70.8	5718	3374	9092
175	RU0403175	((NWBT/RU8303181)87:15034/RSMT)…	L	87	43	64.2	69.3	6485	2445	8930
199	PI561734	CPRS	L	91	43	58.9	66.2	6581	2338	8919
183	RU0402183	9502065/3/MERC/RICO//BNGL	M	94	40	67.2	70.4	6427	2484	8911
167	RU0401167	NWBT/3/LBNT/9902//LBLE/4/DREW	L	90	44	55.1	66.9	6065	2660	8725
191	RU0404191	8603006/3/MARS/NWRX//TBNT	L	90	38	56.8	67.5	5911	2721	8632
184	RU0403184	PSCL/JEFF	L	90	38	62.2	69.0	5913	2671	8584
196	RU0404196	RSMT/KATY	L	99	39	63.1	69.6	5465	2901	8366
186	RU0404186	8603006/3/MARS/NWRX//TBNT	L	88	43	56.9	67.5	5727	2463	8190
189	RU0402189	CPRS//82CAY21/TBNT/3/AR 1179	L	88	35	62.9	70.1	5847	2315	8162
197	RU0404197	RXMT//MARS/TBNT	L	88	39	60.7	68.4	5941	2217	8158
198	RU0404198	CPRS/4/KCAI/LEAH//LEAH/3/8403113	L	92	40	56.8	66.5	5559	2102	7661
163	RU0303163	(RU8303116/LMNT)RU9103049/KBNT	L	89	35	59.9	68.7	4780	2576	7356
193	RU0404193	8804032/KATY	L	95	38	67.9	71.1	5356	1963	7319
166	RU0403166	BF7-40	L	94	36	56.3	60.5	3253	2412	5665
c.v.%				2.2	3.8	6.3	1.8	7.5	16.5	6.9
$LSD_{0.05}$				4.1	3.2	7.8	2.5	975	909	1279

* L = Long grain; M = Medium grain.

Commercial-Advanced Tests

In order to evaluate the adaptability, stability, and performance of potential rice varieties, the Rice Breeding Project annually conducts yield trials on commercial rice varieties and advanced experimental lines at several locations throughout the rice growing regions of Louisiana.

In 2004, these tests were conducted at the Rice Research Station and eight on-farm test sites in Acadia, East Carroll, Evangeline, Jeff Davis, Morehouse, Richland, and Vermilion (2) parishes. Some of these locations were conducted in cooperation with the Rice Fertilization Project.

Sixty entries were tested in 2004 (Table 8). Standard agronomic practices were used for each individual location. A randomized complete block design with three replications was applied for these tests. Seeding dates were, the Rice Research Station, March 19; Acadia, March 26; East Carroll, April 21; Evangeline, March 26; Jeff Davis, March 12; Morehouse, April 20; Richland, May 24, Vermilion (Lake Arthur), March 23, and Vermilion (Pine Island), April 5. Harvesting dates were, the Rice Research Station, August 3; Acadia, August 11; East Carroll, September 8; Evangeline, August 10; Jeff Davis, August 5; Morehouse, September 7; Richland, October 27, Vermilion (Lake Arthur), August 9, and Vermilion (Pine Island), April 2. Results from these studies are shown in tables 9-17.

Table 8. Entries of the Commercial-Advanced Yield Tests, 2003.

Entry	Pedigree	Grain Type*	Source**
201	CL 121	L	LAES
202	CL 131	L	LAES
203	CL 161	L	LAES
204	CL 029	L	LAES
205	CYPRESS	L	LAES
206	CHENIERE	L	LAES
207	COCODRIE	L	LAES
208	WELLS	L	AAES
209	FRANCIS	L	AAES
210	MEDARK	M	AAES
211	JEFFERSON	L	TAES, USDA; MAFES
212	CYBONNET	L	AAES
213	PIROGUE	S	LAES
214	BENGAL	M	LAES
215	BANKS	L	AAES
216	DELLROSE	L(A)	LAES
217	DELLA	L(A)	LAES
218	DELLMATI	L(AE)	LAES
219	9502008/3/CPRS//82CAY21/TBNT	L	LAES
220	TACAURI/3/CPRS//82CAY21/TBNT	L	LAES
221	CPRS//82CAY21/TBNT/…	L	LAES
222	9502008/3/MBLE//LMNT/20001-5	L	LAES
223	NWBT/KATY//9902207x2	L	LAES
224	DREW/3/CPRS//82CAY21/TBNT	L	LAES
225	9502008-A/DREW	L	LAES
226	9502008-A/DREW	L	LAES
227	9502008/3/CPRS//82CAY21/TBNT	L	LAES
228	9502008-A/DREW	L	LAES

Continued.

Table 8. Continued.

Entry	Pedigree	Grain Type*	Source**
229	9502008-A/DREW	L	LAES
230	9502008-A//AR 1188/CCDR	L	LAES
231	9502008//KATY/902207x2	L	LAES
232	JSMN/DLLA	L(A)	LAES
233	JUPITER	M	LAES
234	BNGL//MERC/RICO/3/MERC/…	M	LAES
235	96 INT/AR 1188	L(A)	LAES
236	MERC/RICO//BNGL/3/SMARS/…	M	LAES
237	MERC/RICO//MERC/3/MERC/…	M	LAES
238	9502065/3/MERC/RICO//BNGL	M	LAES
239	61764DH3	M	LAES
240	AC110DH2/AC108DH2	L	LAES
241	DREW/AC167DH1	L	LAES
242	0043752/0047277	L	LAES
243	0043676/AC105DH3	L	LAES
244	AC111DH3/AC468DH2	M	LAES
245	9863910DH2/AR 1053	L	LAES
246	9865216DH2	M	LAES
247	0043752/0047277	L	LAES
248	AC101DH2/AC102DH2	L	LAES
249	TX 9092	L	TAES, USDA
250	TX 3123	L	TAES, USDA
251	AR 1093	L	AAES
252	MS 4055	L	MAFES
253	CLXL 8	L	RiceTec
254	XP 710	L	RiceTec
255	XP 712	M	RiceTec
256	XP 716	M	RiceTec
257	XP 723	L	RiceTec
258	AB 8198	L	Anheuser Busch
259	AB 8649	L	Anheuser Busch
260	AB 8684	M	Anheuser Busch

* L = Long grain, M = Medium grain, and S = Short grain (A = Aromatic, E = Elongating).

** AAES, Rice Research and Extension Center, Arkansas Agricultural Experiment Station, Stuttgart, AR; LAES, Rice Research Station, Louisiana Agricultural Experiment Station, LSU Agricultural Center, Crowley, LA; MAFES, Delta Research and Extension Center, Mississippi Agricultural and Forestry Experiment Station, Stoneville, MS; and TAES, USDA, Texas A&M Research and Education Center, Texas Agricultural Experiment Station, U.S. Department of Agriculture, Beaumont, TX.

Table 9. Agronomic performance of 2004 Commercial-Advanced Test, Acadia Parish, LA.

Entry	Source	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%
				Whole	Total	
254	XP 710	91	46	60.0	71.4	9314
257	XP 723	89	46	66.4	73.2	9034
256	XP 716	91	47	67.9	70.6	8123
253	CLXL 8	91	47	63.9	71.5	7749
255	XP 712	89	46	64.7	70.6	7593
221	TRAINASSE	83	40	63.5	70.7	7337
225	04URN 065	86	38	63.0	71.8	7084
223	04URN 034	85	37	65.7	72.2	7069
226	04URN 068	90	39	64.6	72.2	6988
245	04URN 091	92	42	63.8	70.7	6973
229	04URN 048	88	39	64.7	72.3	6843
247	04URN 128	90	40	67.4	71.9	6817
243	04URN 085	87	38	67.0	71.7	6816
230	04URN 097	88	38	65.0	72.4	6722
202	CL 002	89	36	67.2	72.2	6712
227	04URN 094	88	40	66.8	71.3	6671
209	FRANCIS	92	40	62.5	70.6	6667
239	04URN 011	86	39	67.1	70.3	6648
231	04URN 103	84	40	65.4	70.6	6636
215	BANKS	93	41	59.0	68.1	6598
228	04URN 082	90	38	65.3	73.5	6570
222	04URN 022	89	39	63.2	70.4	6381
207	COCODRIE	89	38	67.5	72.5	6361
242	04URN 062	88	39	66.4	71.6	6353
214	BENGAL	90	37	67.0	70.6	6346
203	CL 161	93	39	67.4	71.1	6286
246	04URN 071	87	38	66.3	69.4	6217
210	MEDARK	89	36	66.8	69.2	6216
220	04URN 005	90	36	64.0	71.9	6210
244	04URN 088	92	38	65.7	71.3	6181
248	04URN 149	91	38	66.7	72.6	6170
260	AB 8684	90	36	68.7	72.3	6059
235	04URN 125	93	41	66.4	69.7	6055
224	04URN 045	91	38	65.6	72.5	6042
250	TX 3123	92	37	68.2	71.5	6028
219	04URN 002	88	38	64.8	72.0	5916
204	CL 029	91	37	67.1	72.4	5904
240	04URN 042	89	37	61.3	71.4	5845
259	AB 8649	91	41	59.9	71.6	5805
234	04URN 028	91	35	65.5	70.0	5681
206	CHENIERE	90	36	68.3	72.5	5676
258	AB 8198	89	42	53.2	69.6	5675
208	WELLS	92	40	60.8	71.3	5657
205	CYPRESS	91	39	68.2	72.1	5635
232	04URN 025	88	36	59.8	68.4	5622
251	AR 1093	84	41	63.8	70.9	5621
236	04URN 140	90	35	63.1	71.7	5599

Continued.

Table 9. Continued.

Entry	Source	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%
				Whole	Total	
238	04URN 183	89	33	66.1	72.0	5517
241	04URN 051	92	40	64.1	70.4	5497
212	CYBONNET	91	37	67.8	72.8	5478
237	04URN 146	85	36	67.4	70.8	5413
249	TX 9092	89	37	61.6	71.0	5270
233	JUPITER	91	35	64.8	69.4	5180
201	CL 121	86	36	56.8	72.7	5001
211	JEFFERSON	85	35	67.6	72.2	4839
252	MS 4055	92	39	62.3	69.1	4790
217	DELLA	94	46	64.0	70.4	4625
213	PIROGUE	89	35	64.0	69.6	4577
216	DELLROSE	90	37	62.4	72.0	3874
218	DELLMATI	85	46	54.7	69.9	3261
C.V. %		1.5	3.8	2.1	0.9	7.5
$LSD_{0.05}$		2.1	2.4	2.6	1.3	746

Table 10. Agronomic performance of 2004 Commercial-Advanced Test, East Carroll Parish, LA.

Entry	Source	Days to 50% heading	Yield (lb/A @ 12%)
234	04URN 028	79	8512
236	04URN 140	79	8502
253	CLXL 8	79	8344
246	04URN 071	76	8332
214	BENGAL	79	8233
213	PIROGUE	79	8185
245	04URN 091	80	7844
257	XP 723	79	7807
210	MEDARK	77	7651
255	XP 712	79	7628
239	04URN 011	75	7589
233	JUPITER	79	7586
237	04URN 146	77	7540
260	AB 8684	79	7535
220	04URN 005	78	7497
238	04URN 183	80	7363
259	AB 8649	79	7285
243	04URN 085	76	7123
256	XP 716	81	7091
258	AB 8198	78	7033
254	XP 710	87	7011
247	04URN 128	78	7001

Continued.

Table 10. Continued.

Entry	Source	Days to 50% heading	Yield (lb/A @ 12%)
226	04URN 068	79	6985
212	CYBONNET	81	6930
235	04URN 125	81	6789
215	BANKS	82	6563
225	04URN 065	78	6509
206	CHENIERE	81	6507
229	04URN 048	77	6471
209	FRANCIS	80	6467
230	04URN 097	78	6464
242	04URN 062	78	6455
201	CL 121	75	6451
221	TRAINASSE	74	6425
208	WELLS	82	6335
207	COCODRIE	78	6265
231	04URN 103	76	6250
223	04URN 034	77	6228
227	04URN 094	77	6220
219	04URN 002	77	6204
241	04URN 051	84	6165
203	CL 161	82	6142
202	CL 002	80	5958
240	04URN 042	79	5947
216	DELLROSE	80	5893
205	CYPRESS	81	5888
249	TX 9092	77	5886
251	AR 1093	72	5837
224	04URN 045	79	5830
232	04URN 025	81	5683
222	04URN 022	80	5525
228	04URN 082	79	5423
252	MS 4055	83	5400
248	04URN 149	79	5305
204	CL 029	81	5286
250	TX 3123	82	5275
244	04URN 088	82	5205
217	DELLA	83	5145
211	JEFFERSON	74	5008
218	DELLMATI	76	4785
C.V. %		1.3	10.0
$LSD_{0.05}$		1.6	1065

Table 11. Agronomic performance of 2004 Commercial-Advanced Test, Evangeline Parish, LA.

Entry	Source	Days to 50% heading	Plant Height (inch)	Yield (lb/A @ 12%)
257	XP 723	84	49	9337
253	CLXL 8	83	47	9312
254	XP 710	87	42	9020
255	XP 712	89	46	8721
256	XP 716	91	48	8628
245	04URN 091	84	45	8575
239	04URN 011	87	44	8486
242	04URN 062	84	42	8468
215	BANKS	89	47	8416
246	04URN 071	86	44	8416
248	04URN 149	87	40	8334
240	04URN 042	86	42	8141
209	FRANCIS	87	43	8075
231	04URN 103	82	42	8056
230	04URN 097	85	40	7941
226	04URN 068	85	41	7917
208	WELLS	87	43	7914
225	04URN 065	85	40	7886
247	04URN 128	85	42	7877
244	04URN 088	87	40	7850
228	04URN 082	87	40	7776
243	04URN 085	85	40	7733
229	04URN 048	85	40	7701
219	04URN 002	84	40	7638
223	04URN 034	85	39	7546
212	CYBONNET	86	40	7512
206	CHENIERE	87	39	7484
224	04URN 045	87	41	7438
222	04URN 022	86	39	7300
227	04URN 094	86	40	7290
235	04URN 125	88	41	7279
203	CL 161	87	39	7149
207	COCODRIE	86	40	7145
233	JUPITER	89	39	7133
241	04URN 051	88	43	7116
202	CL 002	87	36	7092
221	TRAINASSE	79	44	7057
258	AB 8198	87	47	7023
205	CYPRESS	87	40	7019
204	CL 029	87	41	7012
220	04URN 005	86	38	7003
252	MS 4055	88	44	6809
249	TX 9092	84	40	6797
250	TX 3123	86	38	6796
259	AB 8649	87	42	6631
213	PIROGUE	94	43	6617
237	04URN 146	89	38	6601
236	04URN 140	89	40	6580

Continued.

Table 11. Continued.

Entry	Source	Days to 50% heading	Plant Height (inch)	Yield (lb/A @ 12%)
234	04URN 028	89	38	6537
251	AR 1093	81	45	6526
260	AB 8684	89	40	6509
214	BENGAL	90	40	6489
210	MEDARK	89	38	6333
232	04URN 025	88	41	6303
201	CL 121	84	35	6268
238	04URN 183	91	36	6068
211	JEFFERSON	79	39	5721
216	DELLROSE	87	41	5692
217	DELLA	91	51	5037
218	DELLMATI	82	47	4080
C.V. %		1.6	4.6	5.7
$LSD_{0.05}$		2.2	3.1	673

Table 12. Agronomic and milling performance of 2004 Commercial-Advanced Test, Jeff Davis Parish, LA.

Entry	Source	Seedling Vigor†	Days to 50% heading	Plant Height (inch)	Lodging (%)	Yield (lb/A) @ 12%	SB‡	BL§	PB¶
256	XP 716	5	93	44		8883	5	0	1
254	XP 710	4	86	40		8093	7	0	1
255	XP 712	4	91	42		7846	6	0	1
233	JUPITER	6	93	38		7456	6	0	1
257	XP 723	5	90	41		7176	7	0	2
239	04URN 011	5	90	40		7041	6	1	2
246	04URN 071	4	90	41		6896	6	0	1
248	04URN 149	5	94	36		6802	6	0	4
231	04URN 103	5	87	39		6759	6	1	6
253	CLXL 8	3	85	41		6653	8	2	2
234	04URN 028	5	93	36		6626	7	1	2
215	BANKS	5	92	40		6464	7	1	3
252	MS 4055	6	90	36		6401	6	0	4
224	04URN 045	6	89	39	10	6372	7	2	2
213	PIROGUE	5	92	38		6238	6	0	1
249	TX 9092	5	88	36		6227	7	2	3
211	JEFFERSON	6	82	35		6096	7	1	2
210	MEDARK	4	92	36		5982	6	0	3
260	AB 8684	4	92	35		5980	6	1	3
238	04URN 183	5	91	35		5955	6	0	2
237	04URN 146	5	90	36		5889	7	1	2
235	04URN 125	5	91	39		5883	6	0	2
236	04URN 140	5	93	36		5866	7	1	1
258	AB 8198	5	88	41		5842	8	0	5

Continued.

Table 12. Continued.

Entry	Source	Seedling Vigor†	Days to 50% heading	Plant Height (inch)	Lodging (%)	Yield (lb/A) @ 12%	SB‡	BL§	PB¶
209	FRANCIS	5	87	38		5823	7	2	4
214	BENGAL	4	93	36		5744	7	1	4
206	CHENIERE	5	90	36		5647	8	2	3
227	04URN 094	5	88	36		5567	7	3	4
223	04URN 034	5	87	35		5423	8	3	5
232	04URN 025	6	94	38		5375	7	0	2
201	CL 121	5	85	35		5157	7	2	4
241	04URN 051	4	89	40		5109	8	1	5
245	04URN 091	5	87	41	30	5069	8	2	3
216	DELLROSE	6	91	38	40	5010	7	2	2
208	WELLS	4	90	38		4927	7	3	6
207	COCODRIE	4	89	36		4810	8	1	4
205	CYPRESS	4	92	36	7	4739	7	3	4
219	04URN 002	5	86	37	10	4709	8	2	4
230	04URN 097	5	88	36	10	4672	8	4	4
242	04URN 062	4	88	38	7	4623	8	3	5
228	04URN 082	6	90	34	13	4604	8	4	3
247	04URN 128	5	88	36		4601	8	3	4
259	AB 8649	4	88	38	37	4504	9	3	5
240	04URN 042	5	89	36	37	4474	8	4	4
243	04URN 085	4	88	36	20	4459	8	3	6
212	CYBONNET	4	89	37	13	4454	8	4	4
226	04URN 068	5	89	36		4408	8	4	4
250	TX 3123	4	89	36	17	4286	8	4	5
251	AR 1093	4	82	38	47	4256	9	5	4
217	DELLA	6	93	49	27	4215	6	0	1
225	04URN 065	5	88	34	10	4158	8	3	4
229	04URN 048	5	89	34	27	4063	8	3	4
204	CL 029	4	89	35		3957	8	3	6
222	04URN 022	4	87	34	10	3852	8	4	3
221	TRAINASSE	5	80	35	23	3805	8	2	4
203	CL 161	4	91	38	33	3708	8	4	5
202	CL 002	4	88	34	57	3526	8	3	5
220	04URN 005	5	86	35	80	3470	9	2	3
244	04URN 088	5	91	37	37	3307	8	4	4
218	DELLMATI	5	82	42	63	3240	7	0	4
C.V. %		13.5	1.9	4.5		9.1	7.0	64.7	32.5
$LSD_{0.05}$		1.0	2.7	2.7		797	0.8	2.0	1.8

†Subjective rating 1 to 9, where 1 = excellent, 9 = poor.
‡SB = Sheath blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.
§BL = Rotten neck blast rating 0-9, where 0 = no disease, 9 = maximum disease possible.
¶PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 13. Agronomic and milling performance of 2004 Commercial-Advanced Test, Vermilion Parish (Lake Arthur), LA.

Entry	Source	Seedling Vigor†	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%	Ratoon (lb/A) @ 12%	Total (lb/A) @ 12%	SB‡
					Whole	Total				
257	XP 723	5	86	47	67.9	73.5	10066	4770	14835	5
256	XP 716	6	90	48	66.4	70.3	8594	5232	13825	4
254	XP 710	4	89	44	56.6	69.7	9233	4252	13485	5
255	XP 712	4	86	46	66.3	70.8	8601	4817	13418	6
234	04URN 028	4	26	39	69.3	72.2	7997	4351	12348	6
246	04URN 071	4	85	44	69.1	72.1	8378	3872	12251	5
239	04URN 011	5	84	44	66.7	70.4	8238	3969	12207	5
233	JUPITER	5	87	38	68.9	71.8	8703	3427	12130	5
253	CLXL 8	5	81	46	64.5	73.2	8252	2676	10928	7
231	04URN 103	5	82	44	64.4	71.2	7802	2957	10759	6
213	PIROGUE	5	87	43	65.7	72.2	8032	2671	10703	5
245	04URN 091	4	88	46	66.3	73.4	7627	2970	10597	7
238	04URN 183	4	87	37	68.2	71.9	7550	3046	10596	7
252	MS 4055	6	89	39	63.7	70.0	6402	4106	10508	5
260	AB 8684	4	89	37	68.2	71.6	7119	3317	10436	6
236	04URN 140	4	88	39	66.0	69.8	7338	2982	10320	6
214	BENGAL	4	87	41	67.3	70.9	7276	2903	10179	6
259	AB 8649	5	88	43	57.8	71.0	6624	3115	9739	7
258	AB 8198	4	87	46	56.6	71.2	6873	2856	9729	6
240	04URN 042	5	86	40	68.6	74.4	6585	3108	9693	8
249	TX 9092	5	86	40	67.6	72.2	5947	3707	9655	7
210	MEDARK	4	86	38	67.0	70.3	6882	2746	9628	6
248	04URN 149	4	88	40	66.4	73.7	6895	2719	9614	7
221	TRAINASSE	6	82	41	67.6	72.4	7049	2449	9498	6
237	04URN 146	4	86	40	68.9	71.7	6916	2555	9471	7
251	AR 1093	4	78	44	65.1	73.5	6193	3247	9439	7
228	04URN 082	5	85	40	66.3	74.1	6872	2558	9430	7
224	04URN 045	5	87	39	69.5	72.9	6746	2664	9410	6
241	04URN 051	5	91	44	61.9	70.2	6277	3128	9405	6
243	04URN 085	4	85	39	69.6	72.7	7444	1862	9307	8
223	04URN 034	5	84	38	68.9	73.9	7451	1728	9180	7
208	WELLS	4	91	43	63.0	72.2	6534	2633	9168	6
220	04URN 005	5	86	38	62.5	71.0	7071	2058	9129	7
227	04URN 094	4	84	38	67.6	73.0	6487	2623	9110	7
250	TX 3123	5	87	39	68.4	71.8	6327	2744	9071	6
206	CHENIERE	5	88	39	69.4	73.4	6855	2029	8884	6
215	BANKS	5	92	44	56.8	68.5	6525	2355	8881	5
225	04URN 065	5	85	40	68.6	73.9	7294	1554	8848	6
222	04URN 022	5	86	38	69.2	73.8	6599	2152	8751	7
209	FRANCIS	6	89	40	61.4	70.1	6227	2332	8560	5
247	04URN 128	5	85	41	70.5	73.8	6945	1554	8499	7
212	CYBONNET	5	88	39	65.3	71.8	6122	2304	8427	7
226	04URN 068	4	85	38	67.1	73.2	6775	1591	8366	7
232	04URN 025	6	86	40	60.9	68.4	6226	2130	8357	7
204	CL 029	4	86	42	68.1	73.4	5968	2366	8334	7

Continued.

Table 13. Continued.

Entry	Source	Seedling Vigor†	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%	Ratoon (lb/A) @ 12%	Total (lb/A) @ 12%	SB‡
					Whole	Total				
235	04URN 125	4	87	45	65.1	70.1	6718	1569	8287	5
207	COCODRIE	5	86	40	67.9	72.9	6871	1313	8184	7
205	CYPRESS	4	88	39	67.3	72.4	6008	2167	8175	7
219	04URN 002	5	85	41	69.5	73.6	6739	1406	8145	7
242	04URN 062	4	84	42	66.7	72.6	6655	1438	8093	8
229	04URN 048	5	84	39	66.9	72.6	6329	1509	7839	8
244	04URN 088	5	88	40	69.5	72.4	6404	1433	7837	6
203	CL 161	4	88	41	67.9	72.5	5762	1988	7750	8
216	DELLROSE	6	90	40	61.9	71.5	4514	3227	7740	6
201	CL 121	5	81	37	68.2	74.0	5800	1935	7735	6
202	CL 002	4	84	35	68.8	73.6	5998	1551	7549	8
230	04URN 097	4	85	40	68.5	73.5	6369	965	7334	8
211	JEFFERSON	7	83	37	65.1	72.1	5238	2002	7240	6
218	DELLMATI	6	84	50	59.9	69.0	3369	2038	5407	5
217	DELLA	6	88	51	62.9	70.3	3758	1186	4943	5
C.V. %		12.8	1.5	4.0	2.8	1.2	7.1	14.5	6.8	11.7
$LSD_{0.05}$		1.0	2.1	2.6	3.7	1.8	784	614	1048	1.2

†Subjective rating 1 to 9, where 1 = excellent, 9 = poor.
‡SB = Sheath blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 14. Agronomic performance of 2004 Commercial-Advanced Test, Morehouse Parish, LA.

Entry	Source	Days to 50% heading	Yield (lb/A @ 12%)
257	XP 723	82	11272
254	XP 710	84	11167
253	CLXL 8	82	10876
256	XP 716	81	10821
255	XP 712	80	10213
239	04URN 011	78	10064
246	04URN 071	78	9795
233	JUPITER	81	9646
243	04URN 085	83	9567
234	04URN 028	83	9503
213	PIROGUE	79	9254
236	04URN 140	82	9100
245	04URN 091	83	9088
210	MEDARK	81	9044
260	AB 8684	82	8950
242	04URN 062	82	8943
238	04URN 183	82	8865
247	04URN 128	83	8778
209	FRANCIS	81	8754

Continued.

Table 14. Continued.

Entry	Source	Days to 50% heading	Yield (lb/A @ 12%)
208	WELLS	82	8748
241	04URN 051	83	8691
259	AB 8649	85	8629
214	BENGAL	82	8540
207	COCODRIE	82	8536
220	04URN 005	82	8467
215	BANKS	86	8449
206	CHENIERE	85	8424
258	AB 8198	81	8385
237	04URN 146	82	8379
240	04URN 042	82	8373
248	04URN 149	83	8351
229	04URN 048	82	8217
202	CL 002	83	8195
244	04URN 088	86	8162
222	04URN 022	84	8125
226	04URN 068	82	8116
235	04URN 125	81	8076
204	CL 029	82	8067
225	04URN 065	82	7938
228	04URN 082	84	7893
232	04URN 025	80	7849
203	CL 161	85	7847
221	TRAINASSE	77	7813
224	04URN 045	82	7804
223	04URN 034	82	7766
230	04URN 097	81	7668
227	04URN 094	80	7642
205	CYPRESS	85	7640
219	04URN 002	81	7601
250	TX 3123	83	7597
249	TX 9092	82	7523
252	MS 4055	82	7383
231	04URN 103	77	7329
212	CYBONNET	83	7327
251	AR 1093	73	7324
201	CL 121	78	7149
211	JEFFERSON	76	6887
217	DELLA	80	6781
216	DELLROSE	82	6020
218	DELLMATI	78	5300
C.V. %		1.2	6.1
$LSD_{0.05}$		1.5	824

Table 15. Agronomic performance of 2004 Commercial-Advanced Test, Vermilion Parish (Pine Island), LA.

Entry	Source	Seedling Vigor*	Days to 50% heading	Plant Height (inch)	Lodging (%)	Yield (lb/A @ 12%)
257	XP 723	5	79	48		8181
253	CLXL 8	5	79	44		7049
254	XP 710	5	84	44		6849
255	XP 712	5	82	48		6831
256	XP 716	5	85	48		6621
219	04URN 002	3	77	37		6079
247	04URN 128	5	79	40		5908
230	04URN 097	4	79	38		5841
234	04URN 028	6	85	35		5807
229	04URN 048	4	79	38		5791
226	04URN 068	4	79	39		5790
242	04URN 062	4	79	40		5788
225	04URN 065	4	78	37		5761
220	04URN 005	5	80	36		5759
233	JUPITER	5	83	36		5725
240	04URN 042	4	80	37		5688
213	PIROGUE	6	84	38		5648
206	CHENIERE	4	82	36		5592
207	COCODRIE	5	78	37		5582
246	04URN 071	4	80	39		5550
227	04URN 094	4	79	38		5511
243	04URN 085	4	80	36		5491
214	BENGAL	4	83	38		5466
208	WELLS	4	84	41		5395
238	04URN 183	5	86	34		5387
224	04URN 045	5	81	40		5335
239	04URN 011	5	81	39		5327
204	CL 029	4	82	38		5270
231	04URN 103	5	75	40		5246
202	CL 002	3	81	34		5158
203	CL 161	5	82	38		5152
215	BANKS	4	84	43		5146
228	04URN 082	4	81	37		5124
205	CYPRESS	4	82	37		5109
221	TRAINASSE	5	72	38		5088
237	04URN 146	5	82	35		5086
209	FRANCIS	6	81	39		5072
222	04URN 022	4	80	35		5040
244	04URN 088	4	81	36		5012
245	04URN 091	4	80	41		5006
236	04URN 140	5	85	35		4972
212	CYBONNET	4	81	38		4954
258	AB 8198	4	80	40		4866
235	04URN 125	5	85	39		4811
223	04URN 034	4	79	38		4803
250	TX 3123	4	82	36		4759
260	AB 8684	4	83	37		4747

Continued.

Table 15. Continued.

Entry	Source	Seedling Vigor	Days to 50% heading	Plant Height (inch)	Lodging (%)	Yield (lb/A @ 12%)
252	MS 4055	6	82	41		4694
248	04URN 149	5	80	37		4635
210	MEDARK	4	83	36	7	4605
249	TX 9092	4	80	39		4601
232	04URN 025	6	83	36		4597
201	CL 121	6	79	34		4593
251	AR 1093	4	72	41		4588
259	AB 8649	5	82	41		4357
241	04URN 051	5	81	40		4340
216	DELLROSE	5	83	38		4107
211	JEFFERSON	6	74	38		4057
217	DELLA	6	85	50		3223
218	DELLMATI	6	75	47		2406
C.V. %		12.9	1.3	4.6		8.8
$LSD_{0.05}$		1.0	1.7	2.9		746

* Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

Table 16. Agronomic performance of 2004 Commercial-Advanced Test, Richland Parish, LA.

Entry	Source	Days to 50% heading	Yield (lb/A @ 12%)
233	JUPITER	87	9583
210	MEDARK	86	9520
213	PIROGUE	85	9382
254	XP 710	85	9190
238	04URN 183	87	9096
253	CLXL 8	85	8927
234	04URN 028	90	8891
246	04URN 071	84	8739
257	XP 723	78	8640
214	BENGAL	88	8514
236	04URN 140	88	8287
206	CHENIERE	88	8084
239	04URN 011	85	8057
237	04URN 146	88	7983
224	04URN 045	83	7976
215	BANKS	88	7845
208	WELLS	85	7838
255	XP 712	87	7760
207	COCODRIE	83	7568
259	AB 8649	81	7566
260	AB 8684	86	7469
245	04URN 091	76	7432
252	MS 4055	80	7417

Continued.

Table 16. Continued.

Entry	Source	Days to 50% heading	Yield (lb/A @ 12%)
232	04URN 025	86	7367
240	04URN 042	81	7341
209	FRANCIS	79	7317
242	04URN 062	78	7269
241	04URN 051	86	7253
223	04URN 034	79	7221
204	CL 029	93	7094
243	04URN 085	84	7078
205	CYPRESS	89	7037
202	CL 002	90	7013
247	04URN 128	75	6903
249	TX 9092	76	6876
203	CL 161	90	6771
220	04URN 005	78	6771
244	04URN 088	89	6735
228	04URN 082	81	6721
227	04URN 094	79	6616
216	DELLROSE	82	6507
226	04URN 068	77	6506
258	AB 8198	86	6466
222	04URN 022	83	6378
201	CL 121	79	6346
235	04URN 125	88	6250
225	04URN 065	77	6217
250	TX 3123	77	6205
230	04URN 097	78	6169
219	04URN 002	74	6123
211	JEFFERSON	73	6026
256	XP 716	88	5992
229	04URN 048	78	5952
217	DELLA	92	5939
231	04URN 103	72	5868
248	04URN 149	78	5866
221	TRAINASSE	71	5744
212	CYBONNET	71	5623
251	AR 1093	73	4846
218	DELLMATI	81	4113
C.V. %		4.5	9.5
$LSD_{0.05}$		6.2	1103

Table 17. Agronomic and milling performance of 2004 Commercial-Advanced Test, Rice Research Station, Crowley, LA.

Entry	Source	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%	Ratoon (lb/A) @ 12%	Total (lb/A) @ 12%
				Whole	Total			
257	XP 723	90	47	65.2	72.3	9423	4057	13480
255	XP 712	92	47	62.9	69.9	8290	4453	12743
253	CLXL 8	90	49	53.5	67.8	8171	4221	12392
256	XP 716	94	48	68.4	71.4	7739	4637	12376
254	XP 710	92	46	57.7	69.6	8055	3153	11208
220	04URN 005	92	41	61.2	68.1	8082	2521	10603
234	04URN 028	94	39	67.5	70.1	7619	2964	10583
245	04URN 091	91	45	61.1	70.7	7461	3083	10544
215	BANKS	93	46	62.1	69.6	7490	2692	10182
228	04URN 082	89	40	64.7	70.9	7771	2372	10143
231	04URN 103	87	43	59.6	67.9	7416	2711	10127
229	04URN 048	88	40	60.6	66.6	8195	1902	10097
210	MEDARK	92	40	67.3	71.1	7040	2988	10028
249	TX 9092	90	40	62.5	69.3	6612	3397	10009
226	04URN 068	88	41	59.0	65.6	8224	1770	9994
241	04URN 051	92	43	63.1	68.4	6956	2923	9879
233	JUPITER	95	41	66.8	70.1	7476	2378	9854
212	CYBONNET	90	41	64.3	70.2	7398	2389	9787
230	04URN 097	89	39	63.2	69.2	8072	1663	9735
225	04URN 065	89	40	62.4	68.7	7703	1931	9634
209	FRANCIS	91	41	61.0	69.8	7193	2401	9594
204	CL 029	92	41	61.9	69.1	7297	2256	9553
236	04URN 140	95	40	64.7	67.8	6035	3489	9524
223	04URN 034	87	39	64.2	70.2	7708	1781	9489
227	04URN 094	87	40	60.0	66.5	7146	2338	9484
222	04URN 022	89	42	62.3	68.2	7437	2032	9469
240	04URN 042	90	40	65.2	71.3	7014	2437	9451
203	CL 161	94	43	62.9	69.0	7290	2142	9432
219	04URN 002	86	40	61.4	68.5	7845	1573	9418
202	CL 002	91	37	64.6	69.9	7206	2163	9369
208	WELLS	93	45	57.3	68.2	6571	2695	9266
242	04URN 062	89	41	61.3	68.7	7284	1917	9201
207	COCODRIE	89	38	59.7	68.3	7615	1581	9196
206	CHENIERE	91	39	61.4	70.3	7594	1565	9159
216	DELLROSE	92	45	62.2	70.2	6163	2878	9041
221	TRAINASSE	81	42	52.1	63.0	6795	2166	8961
211	JEFFERSON	84	38	61.8	70.1	6598	2363	8961
258	AB 8198	90	45	48.9	66.4	6187	2761	8948
248	04URN 149	90	37	59.5	69.5	7038	1903	8941
238	04URN 183	93	39	63.5	66.5	6356	2586	8942
224	04URN 045	89	41	61.8	68.9	6729	2203	8932
247	04URN 128	89	41	60.4	67.2	7258	1649	8907
205	CYPRESS	92	41	64.4	70.0	7163	1735	8897
201	CL 121	88	37	62.3	68.8	6916	1945	8861
246	04URN 071	91	43	66.9	70.2	7137	1640	8777

Continued.

Table 17. Continued.

Entry	Source	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%	Ratoon (lb/A) @ 12%	Total (lb/A) @ 12%
				Whole	Total			
260	AB 8684	94	40	67.6	70.1	6224	2527	8751
239	04URN 011	91	43	66.1	69.1	7031	1602	8633
243	04URN 085	87	39	65.1	69.3	7338	1262	8600
232	04URN 025	94	41	47.0	63.5	6584	1899	8483
259	AB 8649	88	44	56.4	68.5	6177	2291	8468
250	TX 3123	92	37	61.9	68.2	6420	2042	8462
252	MS 4055	94	40	59.1	68.9	5493	2968	8461
244	04URN 088	90	40	60.9	68.5	6593	1841	8434
214	BENGAL	93	39	67.6	70.5	5870	2493	8363
251	AR 1093	84	41	60.1	69.7	6046	2124	8170
235	04URN 125	94	45	66.2	70.2	7324	824	8148
237	04URN 146	91	40	64.8	69.5	6540	1512	8052
213	PIROGUE	95	41	60.8	69.1	5746	1717	7463
218	DELLMATI	87	48	50.4	68.1	4430	2908	7338
217	DELLA	93	59	49.2	67.4	5143	1003	6146
C.V. %		1.5	3.8	3.6	2.2	7.7	12.2	6.2
$LSD_{0.05}$		2.1	2.5	4.4	3.0	873	466	936

Preliminary Yield Tests

The preliminary yield tests provide the first stage of yield testing of promising experimental lines, which include both replicated (PY) and non-replicated (SP) tests, depending on the priority and /or seed availability. The more promising line selections will be advanced for additional testing.

The tests were conducted using standard agronomic practices (except that no fungicides were applied) at the Rice Research Station at Crowley, LA. Either a randomized complete block or a complete randomized design was applied to arrange test entries. The plot size was 4.66 x 16 foot. Seeding rate was 100 pounds per acre. Seeding and harvest dates were as follows:

Test	Entry No.	Seeding Date	Harvest Date
PY	501-875	March 11	August 5 & October 27 (Ratoon)
PY	876-925	March 12	August 6 & October 27 (Ratoon)
SP	001-375	March 12	August 6 & October 27 (Ratoon)
SP	Puerto Rico	May 25	October 4
AY	001-025	March 19 & May 25	August 4 & October 4

Preliminary yield test data are presented in tables 18 – 34.
Single plot test data are presented in tables 35 - 40.
Advanced yield test (anther culture) data are presented in tables 41-42.

Table 18. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 1, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
521	KBNT/JODN//CPRS/KBNT	4	92	38	63.1	70.2	7406	3062	10468	3
525	TRAINASSE	6	82	42	61.4	68.6	7525	2934	10459	3
514	9602065/9702128	5	90	41	65.7	70.2	7402	2724	10126	3
522	KBNT/JODN//CPRS/KBNT	5	93	40	69.7	73.1	6989	3007	9996	4
506	KATYCPRS//NWBT/…/3/9502008	4	90	40	67.9	71.9	7537	2411	9948	3
516	WELLS/DREW	5	90	43	61.5	71.6	7337	2600	9937	3
512	9502008/3/CPRS//82CAY21/TBNT	4	85	40	64.6	70.6	7747	2134	9881	2
510	KATYCPRS//NWBT/…/3/9502008	5	94	41	66.5	70.6	7394	2372	9766	3
515	9502008-A//AR 1188/CCDR	5	86	39	66.0	71.6	7855	1838	9693	3
524	CPRS/9502008-A	5	88	37	65.8	71.2	7391	2177	9568	4
518	KATYCPRS//NWBT/…/3/9502008	4	86	38	68.1	72.3	7005	2435	9440	4
523	9502008/3/CPRS//82CAY21/TBNT	5	83	40	64.2	71.1	6709	2659	9368	2
505	9502008-A/DREW	5	87	41	64.7	69.4	7944	1387	9331	2
519	KATYCPRS//NWBT/…/3/9502008	5	91	36	65.8	71.1	7165	2149	9314	3
503	9502008//CPRS/KBNT	4	88	39	65.6	69.9	7381	1796	9177	3
520	TACAURI/KBNT/LCSN	6	89	36	61.9	70.9	6918	2153	9071	2
502	DREW/3/KBNT//KATY/CPRS	5	93	42	65.3	71.9	7326	1733	9057	1
509	9502008-A//CPRS/KBNT	5	89	39	67.4	70.5	7362	1654	9016	3
501	9302065/DREW	5	89	37	67.0	72.8	7096	1889	8985	2
508	9502008-A/DREW	6	88	39	66.9	71.1	7211	1718	8929	2
517	KATY/CPRS//JKSN/3/AR 1188/CCDR	4	89	40	65.9	70.6	7800	1057	8857	3
507	KATYCPRS//NWBT/…/3/9502008	5	88	33	67.2	71.6	6523	2280	8803	3
511	LBLEX2/BJ-1*F//…/3/GCHW/4/CPRS/LGRU	5	86	37	65.4	71.5	6771	1738	8509	2
504	ALAN/3/KBNT//KATY/CPRS	5	93	38	65.1	70.1	5901	2198	8099	3
513	902207X2//NWBT/KATY/3/CPRS/KBNT	6	88	36	67.3	72.4	5739	1628	7367	3
C.V. %		17.0	2.1	3.4	3.3	1.4	5.9	30.8	9.0	43.1
$LSD_{0.05}$		1.6	3.9	2.8	4.5	2.1	872	1365	1729	2.2

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 19. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 2, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
541	9502008/CPRS	5	91	41	63.7	69.6	7826	2773	10599	3
532	KATY/CPRS//NWBT/KATY/3/KATY/CPRS//.	6	91	42	65.3	69.6	7746	2630	10376	3
544	9502008//CPRS/KBNT	4	88	40	67.4	72.1	7484	2609	10093	3
548	9502008/DREW	6	93	42	67.0	71.9	7208	2882	10090	3
549	9302065/KBNT	6	96	35	66.1	71.9	7330	2564	9894	2
542	9302065/3/KBNT//KATY/CPRS	6	95	39	67.1	71.9	6582	3018	9600	3
536	9502008//CPRS/KBNT	6	89	38	62.5	68.7	7395	2114	9509	3
535	CPRS/KBNT/3/KBNT//KATY/CPRS	4	95	39	64.5	69.6	7186	2294	9480	2
533	9502008-A//CPRS/KBNT	4	90	38	65.8	70.1	7645	1798	9443	3
527	KBNT/JODN//CPRS/KBNT	5	95	42	67.2	71.2	7463	1920	9383	4
526	KBNT/JODN//CPRS/KBNT	4	95	41	65.1	69.9	7579	1554	9133	4
543	902207X2//JODN/LBLE SC-5	6	89	38	65.8	70.4	7014	2111	9125	3
529	NWBT/KATY//LCSN/CPRS	6	95	38	61.4	68.9	6512	2588	9100	2
530	DREW/3/9602103 CPRS//82CAY21/TBNT	6	92	36	64.6	70.5	7595	1500	9095	4
537	9302065/3/NWBT/KATY//902207X2	6	94	36	66.5	71.5	7107	1774	8881	2
546	9502008/TACAURI	5	90	38	66.1	70.7	6698	2166	8864	3
538	9302065/3/NWBT/KATY//902207X2	5	96	34	66.0	71.4	7084	1698	8782	2
540	9302065//20001-5/LMNT	5	84	38	65.8	71.0	6421	2308	8729	3
550	CCDR	5	91	40	66.6	72.7	7208	1324	8532	3
534	CPRS/KBNT/3/KBNT//KATY/CPRS	6	93	40	64.2	69.7	6902	1519	8421	4
539	9302065/AR 1189	5	90	36	63.7	69.5	6450	1961	8411	3
545	20001-5/LMNT//CPRS/KBNT	6	93	40	66.5	70.6	6239	1799	8038	4
531	9602082 CPRS//82CAY21/TBNT/3/AR 1179	6	94	38	64.2	69.7	6038	1959	7997	3
528	CPRS/LMNT*2//CR1113/3/CPRS//L201/…	6	93	40	64.1	70.1	6640	715	7355	3
547	9502008/DREW	4	88	40	68.6	73.4	5655	1690	7345	5
C.V. %		11.3	2.1	3.3	3.0	1.8	5.1	23.8	7.3	34.2
$LSD_{0.05}$		1.2	4.0	2.6	4.1	2.6	744	1009	1359	2.1

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 20. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 3, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
570	8401-CP03/9502008	4	95	44	64.6	68.8	8031	2341	10372	3
571	8401-CP03/9502008	4	95	43	67.8	71.7	8048	2166	10214	3
560	KBNT/3/CPRS//82CAY21/TBNT	4	91	38	63.0	69.1	7195	2795	9990	3
568	8401-CP03/9502008	5	95	42	67.4	71.4	7385	2490	9875	5
561	CPRS//82CAY21/TBNT/3/KBNT	5	87	39	63.3	69.5	6535	3280	9815	3
573	CPRS//82CAY21/TBNT/3/AR 1179	5	96	39	64.6	70.5	7119	2583	9702	4
572	8401-CP03/9502008	4	95	43	64.6	69.1	7433	2138	9571	3
574	CPRS/LGRU	4	92	39	63.4	68.9	7051	2347	9398	4
567	8401-CP03/9502008	4	95	41	67.1	71.0	7347	2030	9377	3
554	9502008/3/CPRS//82CAY21/TBNT	5	89	40	65.8	71.8	7477	1852	9329	3
575	CHNR	6	92	41	61.6	69.2	7448	1793	9241	3
559	CPRS//82CAY21/TBNT/3/LBLE	6	93	42	65.0	70.1	7162	2032	9194	3
569	8401-CP03/9502008	4	96	43	64.8	69.0	7380	1741	9121	4
565	LBLEX2-2BJ…/3/CPRS//…	4	88	41	59.8	67.9	7054	2050	9104	5
566	LEAH//LBLE SC-5/CPRS	6	91	43	56.2	67.4	6345	2729	9074	2
563	CPRS//82CAY21/TBNT/3/KBNT	5	90	42	56.5	67.6	7450	1561	9011	5
564	LBLEX2-2BJ…/3/CPRS//…	5	89	40	61.2	68.1	6929	2067	8996	3
555	9502008/3/CPRS//82CAY21/TBNT	4	88	38	67.3	71.6	7275	1403	8678	4
551	KATY/CPRS//NWBT/…/3/LMNT	6	96	42	66.4	70.9	7050	1477	8527	3
556	9502008/3/CPRS//82CAY21/TBNT	4	85	38	67.4	71.7	7240	1083	8323	4
562	CPRS//82CAY21/TBNT/3/KBNT	5	94	44	61.0	68.7	6381	1823	8204	3
558	CPRS//82CAY21/TBNT/3/LBLE	6	92	40	63.0	68.6	6442	1631	8073	4
553	KATY/CPRS//…	6	95	36	61.4	70.0	5891	2071	7962	5
552	KATY/CPRS//…	6	97	36	60.7	67.9	6277	1305	7582	4
557	MBLE//LBLE AS 5/CPRS	5	94	36	55.2	63.1	4042	3200	7242	7
C.V. %		12.5	1.4	3.1	4.6	2.9	6.3	29.0	9.5	33.1
$LSD_{0.05}$		1.2	2.6	2.6	6.0	4.1	906	1245	1768	2.4

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 21. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 4, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
597	TACAURI/KBNT/LCSN	5	93	37	67.0	72.3	7942	3300	11242	2
600	FRAN	5	90	44	62.1	68.5	8000	2532	10532	3
596	TACAURI/KBNT/LCSN	5	92	39	67.3	71.1	7330	3091	10421	3
576	CPRS/LGRU	6	96	42	64.2	69.3	7874	2230	10104	4
598	TACAURI/CCDR	5	92	38	66.7	71.2	7866	2211	10077	3
594	LMNT/20001-5/3/LMNT/L-202/4/JODN	5	95	42	65.9	70.2	7431	2441	9872	4
592	CPRS/3/JODN/LBLE SC-5//9902207X2	5	87	39	64.9	70.6	7010	2813	9823	3
593	9702128/9902045	6	90	37	66.4	71.4	7147	2590	9737	4
580	9602103/WELLS	6	88	40	61.7	70.0	7716	1916	9632	4
591	CPRS/3/JODN/LBLE SC-5//9902207X2	6	94	43	66.4	70.7	7500	2055	9555	2
595	EP 227/AR 1142/LA 2031	6	93	39	59.8	65.9	7277	2239	9516	3
584	DREW/CCDR	6	88	40	66.0	70.8	7155	2294	9449	4
586	CPRS/9502008-A	5	91	41	65.1	69.8	7899	1533	9432	3
583	CCDR//LGRU/LCSN	5	90	37	67.9	71.5	6767	2581	9348	5
588	CPRS/LGRU	5	97	40	60.9	68.5	7262	2057	9319	4
581	MBLE//CPRS/KBNT	6	95	38	65.7	71.1	6875	2350	9225	4
585	CPRS/9502008-A	6	91	39	65.1	70.3	7887	1209	9096	4
589	CPRS/LGRU	4	90	42	62.5	68.7	7336	1709	9045	3
599	CPRS/KBNT//MBLE	4	90	35	67.6	70.6	7215	1827	9042	5
590	CPRS/3/JODN/LBLE SC-5//9902207X2	4	93	42	63.7	69.3	7355	1612	8967	3
578	LGRU/WELLS	6	98	40	59.9	68.5	7284	1615	8899	2
577	9802165/9802112	4	94	39	65.5	70.6	7461	1387	8848	4
582	9302065//LGRU/LCSN	5	97	37	61.9	70.1	6835	2013	8848	3
579	LGRU/WELLS	5	98	40	57.1	68.6	7147	1516	8663	4
587	CPRS/3/KBNT//CPRS/MBLE	5	91	44	61.1	68.5	6975	1602	8577	3
C.V. %		13.3	1.7	3.2	2.9	1.9	4.7	25.5	7.8	31.7
$LSD_{0.05}$		1.4	3.3	2.6	3.8	2.8	717	1112	1520	2.1

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 22. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 5, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
622	CCDR//LGRU/LCSN	5	90	35	65.8	71.8	7922	2520	10442	5
621	CCDR//LGRU/LCSN	5	90	37	65.1	69.7	7497	2859	10356	4
606	KBNT/JODN//CPRS/KBNT	4	95	43	59.3	65.8	7325	3029	10354	5
618	KATYCPRS//NWBT/…/3/9502008	4	90	36	65.3	71.5	7321	3013	10334	5
607	KBNT/JODN//CPRS/KBNT	4	94	44	64.4	69.7	7402	2892	10294	6
623	CCDR//LGRU/LCSN	5	89	39	65.2	70.4	7626	2599	10225	5
610	9502008-A/DREW	5	92	38	64.8	70.6	7335	2749	10084	5
609	9502008-A/DREW	6	92	39	63.9	69.2	7646	2343	9989	3
620	CCDR//LGRU/LCSN	5	87	36	63.6	70.1	7658	2095	9753	4
617	9302065/DREW	6	94	37	62.5	70.1	6771	2861	9632	4
613	9502008//KATY/902207X2	5	89	39	65.7	70.7	7094	2330	9424	5
604	MBLE/CPRS/KBNT	5	94	40	61.9	67.9	6577	2828	9405	4
605	MBLE/CPRS/KBNT	5	94	43	62.6	67.9	6511	2651	9162	4
603	KBNT/JODN//CPRS/KBNT	5	94	37	63.5	69.8	7154	1895	9049	4
624	CCDR//LGRU/LCSN	5	87	36	64.6	68.9	6381	2625	9006	5
619	9502008-A/JEFF	5	87	38	64.8	69.4	6864	2022	8886	4
601	CPRS/KBNT//MBLE	4	92	37	64.2	69.9	7230	1471	8701	5
614	9502008//KATY/902207X2	5	91	37	65.2	70.8	7096	1538	8634	5
608	9502008-A//CPRS/KBNT	4	94	42	64.0	68.2	7364	1203	8567	3
615	9502008//KATY/902207X2	5	89	40	62.5	69.0	6724	1675	8399	4
616	9502008//KATY/902207X2	5	95	41	60.8	67.4	5709	2348	8057	6
625	CPRS	5	93	44	63.8	68.8	6818	1154	7972	4
611	9502008-A/DREW	6	88	37	65.9	70.4	5946	1609	7555	5
602	CPRS/KBNT//MBLE	5	92	40	66.9	71.8	6928	398	7326	3
612	9502008-A/DREW	6	85	39	64.3	69.7	5806	1296	7102	5
C.V. %		10.1	2.0	2.6	3.1	1.8	6.1	18.7	5.3	25.3
$LSD_{0.05}$		1.0	3.8	2.1	4.1	2.5	881	835	1003	2.2

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 23. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 6, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
648	9502008-A//AR 1142/MBLE	5	94	38	68.9	73.6	7872	2773	10644	4
650	URN 034	5	89	40	65.0	71.2	8303	2022	10325	4
644	CCDR/JEFF	5	89	41	65.1	70.9	8410	1830	10240	5
649	9502008-A//AR 1142/MBLE	5	91	37	67.7	72.7	7598	2533	10131	4
641	CCDR/JEFF	5	89	40	62.8	68.7	8317	1766	10083	4
634	CPRS/LGRU//LGRU	5	96	45	60.0	67.7	8173	1744	9917	3
646	CCDR/9502008-A	5	88	41	64.6	69.5	8067	1764	9831	4
640	CCDR/JEFF	5	88	39	64.1	70.3	8090	1687	9777	4
637	9502008-A//AR 1142/MBLE	5	91	36	66.0	71.1	7530	2165	9695	5
630	CCDR/3/KATY/CPRS//JKSN	6	88	40	63.1	69.7	7851	1826	9677	3
645	CCDR/9502008-A	5	88	41	60.2	67.2	7943	1712	9655	4
635	CPRS/LGRU//LGRU	5	96	41	62.9	68.9	7547	2023	9570	3
642	CCDR/JEFF	5	89	41	65.7	71.9	7944	1374	9318	3
633	CPRS/LGRU//LGRU	5	97	42	55.1	64.2	6683	2556	9239	3
639	AR 1188/CCDR/4/KBNT/3/CPRS//82CAY21	6	91	39	60.0	67.0	7365	1772	9137	6
643	CCDR/JEFF	4	89	39	63.3	69.0	7661	1429	9090	4
626	CCDR/LGRU	5	95	40	66.1	71.6	7566	1510	9076	4
631	CCDR/3/KATY/CPRS//JKSN	5	90	40	61.7	67.8	8004	1052	9056	4
627	CCDR/LGRU	5	95	40	62.2	68.1	7449	1599	9048	3
638	AR 1188/CCDR//AR 1142/LA 2031	5	88	41	63.1	69.3	7284	1735	9019	4
629	9302065//LGRU/LCSN	5	92	37	62.9	69.9	6437	2513	8950	6
647	9502008-A//AR 1142/MBLE	6	93	39	62.8	69.4	7732	1185	8917	4
636	CPRS/LGRU//LGRU	6	95	41	61.8	68.7	6991	1547	8538	2
632	9602065/CPRS	5	95	39	62.4	67.8	6765	1462	8227	2
628	DREW/CCDR	5	85	36	63.5	69.6	6655	1297	7952	5
C.V. %		14.7	1.2	3.8	3.3	2.4	4.2	22.1	6.3	28.1
$LSD_{0.05}$		1.5	2.2	3.1	4.3	3.5	665	819	1230	2.1

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 24. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 7, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
674	CPRS/KBNT//9502008-A	5	89	41	64.4	70.2	8521	2768	11289	4
660	9302065//ADAR/JODN	5	90	44	63.7	71.2	7683	2883	10566	3
673	TACAURI/KBNT/LCSN	6	92	35	63.6	70.4	7612	2896	10508	4
670	DREW/CCDR	6	88	40	62.6	68.6	8025	2350	10375	3
652	9502008-A//AR 1142/MBLE	4	96	38	64.9	69.9	8301	1983	10284	4
669	DREW/CCDR	6	89	40	62.9	69.1	7552	2714	10266	5
675	CL 161	4	96	46	59.8	65.7	7448	2413	9861	5
661	9302065//ADAR/JODN	5	92	40	63.7	70.4	7036	2751	9787	3
653	9502008-A//AR 1142/MBLE	5	94	38	63.4	70.6	7198	2558	9756	4
654	KATY/CPRS//JKSN/3/AR 1188/CCDR	6	92	42	61.6	68.2	8273	1401	9674	3
655	KATY/CPRS//JKSN/3/AR 1188/CCDR	5	90	41	64.2	69.8	8023	1585	9608	4
672	CPRS/9502008-A	4	93	43	63.1	68.6	7792	1799	9591	3
658	KATY/CPRS//JKSN/3/AR 1188/CCDR	5	89	41	60.1	67.3	7550	1893	9443	5
671	CPRS/9502008-A	5	90	41	65.7	72.2	7920	1494	9414	3
668	CCDR//AR 1142/LA 2031	5	89	39	63.5	71.2	7040	2360	9400	4
651	9502008-A//AR 1142/MBLE	5	92	38	66.0	72.3	8299	944	9243	4
665	JEFF//CPRS/LGRU	5	94	41	65.7	71.4	7468	1755	9223	3
663	JEFF/JODN	4	93	38	65.3	69.7	6567	2502	9069	4
659	LGRU/9502008-A	5	91	42	63.7	68.6	7439	1610	9049	4
657	9502008-A//AR 1188/CCDR	6	91	40	60.8	67.5	8145	765	8910	4
664	JEFF//CPRS/LGRU	4	93	46	60.5	67.7	6889	1909	8798	2
666	JEFF//CPRS/LGRU	5	93	41	64.7	70.7	6102	2690	8792	6
656	KATY/CPRS//JKSN/3/AR 1188/CCDR	5	90	41	63.0	68.9	7812	947	8759	5
667	9502008-A/JEFF	5	86	40	63.9	70.3	6683	2065	8748	4
662	9302065//ADAR/JODN	5	93	38	65.6	70.4	6661	2046	8707	4
C.V. %		10.5	1.5	3.0	4.1	3.0	6.2	20.2	6.2	26.7
$LSD_{0.05}$		1.0	2.8	2.5	5.4	4.3	966	852	1229	2.0

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 25. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 8, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
700	XL 8	5	92	47	55.8	67.8	7116	4217	11333	2
698	SABER/LGRU	5	90	40	65.9	70.8	7165	3975	11140	2
696	9302065//DREW/JEFF	5	95	42	56.1	66.5	7527	3186	10713	5
684	9302065/CCDR	4	89	40	63.5	70.4	7384	2824	10208	3
676	CPRS/KBNT//9502008-A	6	90	41	55.7	63.4	8110	2013	10123	4
678	WELLS/LSCN	5	94	44	58.0	70.7	7683	2037	9720	2
680	JKSN/CPRS	5	90	41	65.2	71.0	7075	2416	9491	4
699	CCDR/3/CPRS/NWBT//KATY	5	86	37	62.8	69.4	7420	2068	9488	5
681	JKSN/CPRS	5	94	42	63.9	67.4	7522	1928	9450	3
682	MILL/CPRS	5	92	40	58.5	67.4	6602	2807	9409	6
687	9302065/CPRS	5	95	41	62.7	68.2	7522	1880	9402	5
693	9302065/CPRS	5	95	39	64.8	70.4	6607	2788	9395	3
694	9302065/CPRS	5	95	38	64.5	70.0	6814	2557	9371	4
677	LGRU/LCSN	5	88	43	65.9	71.5	8192	1113	9305	2
685	9302065/LGRU/JODN	4	90	41	62.2	69.0	7225	2066	9291	4
690	9302065/CPRS	6	95	42	64.7	69.8	7182	2062	9244	4
692	9302065/CPRS	4	96	43	63.3	68.8	7288	1896	9184	3
697	SABER/LGRU	5	92	42	61.8	67.9	5702	3056	8758	2
679	AR 1188/CCDR//AR 1142/LA 2031	6	88	42	67.3	71.6	7836	875	8711	4
691	9302065/CPRS	4	96	38	62.0	68.3	6581	2115	8696	6
695	9302065/LMNT	6	95	41	68.4	68.5	6232	2343	8575	3
686	9302065/CPRS	4	96	41	61.5	67.9	6725	1829	8554	4
683	MILL/CCDR	5	93	37	62.5	68.8	6355	1933	8288	5
689	9302065/CPRS	5	96	41	62.6	69.0	6655	1627	8282	4
688	9302065/CPRS	5	96	40	65.6	70.3	6437	1539	7976	5
C.V. %		11.5	1.2	3.7	5.2	2.6	7.2	21.4	5.6	25.0
$LSD_{0.05}$		1.1	2.3	3.1	6.7	3.8	1054	1009	1086	1.8

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 26. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 9, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
721	CPRS/9901081	4	92	48	59.2	66.3	7446	3475	10921	5
715	CPRS//NWBT/KATY/3/KBNT	5	90	39	67.3	71.7	7868	2812	10680	4
725	WELLS	4	94	44	57.2	67.8	7614	2883	10497	3
724	MBLE/LGRU	4	95	45	63.5	69.9	7399	2917	10316	2
713	CPRS//NWBT/KATY/3/KBNT	5	95	40	64.2	71.0	7312	2893	10205	3
717	CPRS/3/CPRS/NWBT/KATY	5	93	42	61.4	67.6	7776	2409	10185	4
703	CCDR/4/CPRS/3/MBLE//LMNT/…	5	87	40	63.2	69.0	8253	1803	10056	4
723	NWBT/KATY//CPRS/3/LCSN	5	95	40	62.3	68.6	6984	3055	10039	4
712	CPRS//NWBT/KATY/3/KBNT	5	90	36	67.5	71.1	6500	3509	10009	5
708	DREW/CPRS	5	90	38	65.9	71.0	7218	2711	9929	4
702	CCDR/4/CPRS/3/MBLE//LMNT/…	5	87	41	61.8	67.4	8266	1624	9890	4
701	CCDR/MILL	6	86	40	65.0	70.7	7719	2125	9844	4
705	CCDR/9901081	5	94	37	61.8	69.1	7157	2508	9665	4
704	CCDR/9901081	6	92	38	59.7	66.7	7290	2310	9600	4
711	9901081/CCDR	6	85	37	64.5	70.4	6654	2832	9486	7
709	DREW/CPRS	5	91	39	64.3	70.5	6668	2772	9440	4
706	CCDR/9901081	6	94	41	58.4	65.3	7088	2172	9260	3
710	9901081/CCDR	5	89	38	65.1	70.5	7125	2101	9226	5
722	CPRS/9901081	6	86	41	61.6	68.0	6874	2310	9184	5
720	CPRS/9901081	6	94	40	60.2	66.1	6521	2544	9065	5
719	CPRS/JEFF	5	87	39	64.6	69.8	6564	2428	8992	5
714	CPRS//NWBT/KATY/3/KBNT	6	92	39	65.0	70.1	7028	1922	8950	6
716	CPRS/3/CPRS/NWBT/KATY	5	93	39	67.2	71.8	7331	1449	8780	5
718	CPRS/3/CPRS/NWBT/KATY	6	93	40	62.6	67.9	6824	1924	8748	5
707	LCSN/4/KATY/CPRS/3/CPRS/LMNT	6	94	40	62.1	69.9	6122	2535	8657	4
C.V. %		12.6	1.3	4.3	3.5	2.1	6.5	19.2	7.3	27.4
$LSD_{0.05}$		1.3	2.5	3.6	4.6	3.1	970	982	1462	2.3

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 27. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 10, long-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
732	CCDR/3/CPRS/NWBT//KATY	5	93	38	67.4	70.8	7972	3353	11325	3
750	BANKS	5	96	49	57.9	65.0	8744	2435	11179	4
742	9502008/CPRS//WELLS	5	92	41	63.7	71.3	7950	3107	11057	4
744	9502008/CPRS//9502008/LGRU	4	93	42	65.2	69.3	8078	2885	10963	3
740	9302065/DREW//WELLS	5	96	44	57.3	67.7	7657	3177	10834	5
739	9901081/CCDR	5	87	41	63.5	69.7	7603	3155	10758	4
749	9502008/CPRS/4/KATY/CPRS/3/VSTA/…	5	95	43	61.4	66.8	7730	2899	10629	3
733	CCDR/3/CPRS/NWBT//KATY	5	87	40	67.4	69.9	8082	2492	10574	4
745	NWBT/KATY/3/82CAY21/…/4/MCR 4933	6	91	38	69.7	72.2	7508	2895	10403	4
736	CCDR/9901081	5	92	39	60.8	67.7	7638	2699	10337	5
741	9302065/DREW//WELLS	6	89	37	66.6	71.6	6348	3843	10191	4
747	9502008/CPRS//9502008/LGRU	4	95	41	59.7	65.4	6812	3334	10146	3
746	9502008/CPRS//WELLS	5	91	39	63.0	71.1	7662	2286	9948	4
735	CCDR/9901081	4	90	40	64.5	69.5	7459	2421	9880	4
728	9302065/CCDR	5	94	39	66.2	70.6	7780	2080	9860	4
727	LGRU//CCDR 9770532 DH2	5	92	40	62.4	68.7	7826	2013	9839	3
748	9502008/CPRS/4/KATY/CPRS/3/VSTA/…	5	90	42	64.2	68.7	7812	1943	9755	4
729	9302065/LMNT	6	98	44	63.8	70.4	6630	2748	9378	2
731	9302065//DREW/JEFF	6	96	39	64.0	69.5	7055	1835	8890	3
730	9302065//DREW/JEFF	6	96	36	64.0	71.0	6715	2137	8852	4
734	CCDR/JEFF	6	91	38	64.5	68.4	7404	1412	8816	5
743	9502008/CPRS//WELLS	5	94	38	67.1	71.3	6506	2173	8679	4
737	CCDR/9901081	6	94	37	61.3	67.3	6949	1623	8572	4
738	9901081/CCDR	5	92	38	61.9	68.8	7118	1249	8367	3
726	JKSN/CPRS	6	95	38	65.2	69.5	6134	1586	7720	6
C.V. %		11.7	1.5	3.5	4.7	3.0	5.3	23.1	7.6	28.0
$LSD_{0.05}$		1.2	2.9	2.9	6.2	4.3	816	1179	1552	2.0

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 28. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 11, anther culture entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
764	AC407DH2/AC440F2DH1	5	88	40	65.1	69.9	7424	4324	11748	3
773	AC425DH2/AC431DH2	6	90	42	61.0	70.3	8444	3006	11450	2
771	AC423DH2/AC468DH2	5	90	48	64.5	69.1	6628	4452	11080	4
758	AC274DH2/AC407DH2	5	88	40	57.4	69.4	6496	4329	10825	4
772	AC425DH2/AC431DH2	5	90	46	56.9	67.6	7982	2591	10573	3
774	AC425DH2/AC636DH1	4	85	39	67.4	70.8	7974	2267	10241	4
765	AC407DH2/AC403F2DH1	7	88	42	58.3	69.5	6403	3817	10220	4
757	AC274DH2/AC407DH2	5	87	37	66.5	71.3	5939	3895	9834	4
761	AC401DH2/AC347DH2	4	81	35	62.7	69.0	6426	3381	9807	5
775	CCDR	5	89	36	59.4	68.1	7797	1898	9697	4
769	AC407DH2/AC425DH2	6	85	41	65.9	72.5	7089	2513	9602	2
756	AC273DH2/AC638DH1	5	92	41	55.9	66.8	6330	3265	9595	4
752	AC262DH2/AC272DH2	5	89	37	63.7	70.6	6415	3022	9437	3
760	AC357DH2/AC347DH2	5	85	44	63.4	71.7	6309	2940	9249	4
768	AC407DH2/AC425DH2	5	85	42	66.6	72.6	7072	2156	9228	3
754	AC262DH2/AC407DH2	6	86	38	62.5	70.5	5683	3507	9190	4
766	AC407DH2/AC431DH2	6	84	43	48.1	66.9	6099	3063	9162	4
763	AC405DH2/AC401DH2	4	83	41	59.1	68.3	6875	2263	9138	4
759	AC317DH2/AC425DH2	6	92	44	65.4	69.7	6284	2708	8992	2
767	AC407DH2/AC274DH2	6	85	42	58.8	69.2	5509	3433	8942	4
751	Steve	6	97	43	55	70.1	4880	3999	8879	4
755	AC262DH2/AC468DH2	5	85	37	62.3	69.5	4998	2056	7054	5
770	AC407DH2/AC352DH2	5	86	36	56.5	67.2	4524	2407	6931	4
762	AC401DH2/AC347DH2	5	84	34	58.9	67.9	5244	1453	6697	4
753	AC262DH2/AC407DH2	5	85	36	47	68.1	4359	2277	6636	3
C.V. %		10.4	2.8	5.0	3.7	2.2	9.0	15.3	9.6	34.3
$LSD_{0.05}$		1.1	5.1	4.1	4.5	3.1	1188	946	1866	2.4

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 29. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 12, anther culture entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
794	AC101DH1/DREW	5	85	42	61.0	68.3	7619	3634	11253	4
799	AC110DH2/AC108DH2	5	90	42	62.7	70.2	7945	3219	11164	3
789	CCDR/98LL0401	5	88	40	69.0	71.3	8045	2713	10758	6
800	WELLS	5	95	43	58.2	69.5	7607	3065	10672	4
798	AC110DH2/AC108DH2	5	91	40	62.8	69.1	7972	2588	10560	4
780	AC105DH3/AC285DH2	6	90	36	64.1	70.0	7833	2682	10515	5
784	AC167DH3/AC105DH3	5	88	39	63.4	69.3	8154	2291	10445	4
797	CCDR/9770532DH2	5	89	40	65.2	69.5	8543	1883	10426	5
781	AC110DH3/0043752	5	88	40	63.4	69.9	8230	2114	10344	4
785	AC167DH3/AC105DH3	5	87	39	66.0	67.9	7955	2328	10283	5
792	AC105DH2/AC101DH2	6	88	39	64.1	69.8	8025	2066	10091	5
796	AC101DH2/967648DH4	5	89	41	65.6	69.6	7830	1953	9783	4
788	9502008-A	6	88	38	65.5	71.1	7998	1656	9654	5
793	AC105DH2/AC139DH2	5	88	30	64.4	71.3	6938	2704	9642	5
787	AC111DH3/AC468DH2	5	90	41	60.3	68.1	7615	1931	9546	4
782	AC132DH2/967648DH4	5	89	39	62.6	69.9	7012	2344	9356	5
786	AC111DH3/AC468DH2	5	91	41	55.5	64.0	7255	2039	9294	3
777	AC468DH2/AC423DH2	6	84	37	68.2	71.6	6131	3137	9268	4
783	AC167DH3/0047276	5	89	36	54.0	65.8	6171	2810	8981	4
778	AC468DH2/AC405DH2	5	86	40	63.8	69.1	6466	2423	8889	4
779	49204/49469	5	85	40	62.0	71.0	5958	2760	8718	4
795	0043676/0047272	5	86	41	62.2	67.1	7876	751	8627	4
791	AC176DH1/9959213DH2	5	85	40	53.3	66.0	5881	2652	8533	4
790	AC176DH1/9959213DH2	5	88	39	53.3	67.6	5885	1960	7845	4
776	AC425DH2/AC468DH2	5	84	43	67.3	70.9	6264	1364	7628	4
C.V. %		12.3	2.3	3.7	4.4	3.0	5.4	20.5	6.6	26.7
$LSD_{0.05}$		1.3	4.1	3.0	5.6	4.3	818	1001	1311	2.2

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 30. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 13, anther culture entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
803	AR1053/97CR233DH1	4	88	46	56.9	67.9	7784	3287	11071	4
810	AC105DH2/AC157DH2	4	85	45	63.2	71.9	7847	3222	11069	3
811	AC105DH2/AC157DH2	4	85	41	61.7	72.0	7624	3081	10705	4
809	DREW/98PIM0071DH3	5	88	45	63.5	70.4	6945	3684	10629	3
804	61764DH3	6	88	44	68.3	71.7	8052	2095	10147	3
805	AC140DH2/AC101DH2	6	92	44	64.4	70.4	7248	2807	10055	3
818	AC110DH2/97CR165DH2	5	84	47	66.5	71.6	7200	2774	9974	3
820	PY658/FRCS	4	84	40	60.8	68.8	7212	2579	9791	3
819	JAF4DH3	5	87	42	63.2	70.4	7427	2200	9627	4
823	PY743/PY661	6	91	45	61.6	67.5	7391	1877	9268	5
808	79283	5	89	41	65.5	69.7	7833	1330	9163	4
815	JAF4DH3	5	88	39	63.6	69.4	7701	1442	9143	4
825	CHNR	5	91	40	63.1	70.6	7468	1653	9121	3
816	AC110DH4	5	89	39	58.6	66.8	7944	1138	9082	4
822	PY737/SP316	5	92	42	59.0	66.7	7226	1841	9067	5
814	JAF4DH3	5	88	38	66.5	71.1	7276	1439	8715	3
807		5	90	38	66.7	71.0	7489	1201	8690	4
806	AC105DH2/AC110DH2	5	89	39	66.4	69.7	6903	1656	8559	4
821	PY671/PY226	5	81	39	62.5	71.0	6604	1854	8458	5
817	AC101DH2/AC102DH2	5	88	40	65.2	71.9	7085	1244	8329	3
802	AC118DH12/97CR174DH1	5	90	40	53.4	66.0	5184	3118	8302	5
812	AC110DH2/97CR165DH2	5	83	47	60.8	69.4	5742	2076	7818	5
801	AC118DH12/97CR174DH1	5	91	41	57.3	66.6	4912	2666	7578	6
824	SP264/FRCS	4	81	40	64.3	72.2	5412	2029	7441	4
813	AC110DH2/97CR165DH2	5	81	38	64.1	70.6	5753	1481	7234	3
C.V. %		10.8	1.6	3.5	3.9	2.3	4.9	21.2	6.3	22.1
$LSD_{0.05}$		1.1	2.9	3.0	5.1	3.3	709	942	1189	1.7

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 31. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 14, anther culture entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
850	FRAN	5	91	40	57.6	65.9	7562	3357	10919	4
848	CCDR/9770532DH2	4	86	39	64.0	68.7	8244	1951	10195	4
847	CCDR/9770532DH2	5	88	40	64.4	69.2	7632	2084	9716	4
833	SP291/FRCS	5	95	41	57.1	64.9	7311	2313	9623	4
846	AC105DH2/AC101DH2	5	86	40	66.0	69.9	7652	1820	9472	4
849	AC105DH3/0047276	5	92	40	63.5	69.5	7728	1653	9381	4
834	SP295/SP271	5	85	40	61.1	68.3	6874	2326	9200	3
832	SP291/PY174	6	87	40	61.1	68.5	6891	2165	9056	4
841	SP306/PY327	5	87	39	65.5	70.2	7384	1640	9024	4
835	SP301/PY327	5	82	39	66.7	71.6	6520	2379	8899	4
842	SP306/PY327	5	86	39	64.5	69.2	7197	1577	8774	5
840	SP306/SP271	5	84	40	64.7	69.3	7213	1369	8582	5
844	AC102DH2/97CR210DH2	5	86	48	59.7	67.8	6242	2316	8558	4
839	SP306/SP290	5	80	35	64.4	70.6	6616	1928	8544	5
845	0043676/0047272	5	87	41	63.4	68.2	7470	955	8425	4
836	SP301/PY327	5	82	38	65.6	69.8	6425	1982	8407	5
837	SP305/SP290	5	82	40	60.3	69.8	6674	1714	8388	4
843	SP314/SP290	5	85	41	67.0	72.1	6684	1486	8170	3
831	SP291/PY226	5	85	32	62.1	69.1	6204	1828	8032	4
838	SP305/SP290	5	83	40	56.7	69.2	5713	1966	7679	3
829	SP291/SP294	6	87	41	60.1	69.4	6280	1268	7548	4
830	SP291/PY327	5	85	40	59.4	68.6	6146	1321	7467	4
826	SP271/PY671	6	85	40	60.2	69.2	5521	1404	6925	4
827	SP271/PY671	6	85	38	61.6	69.7	5216	1444	6660	4
828	SP291/SP314	6	94	35	64.3	72.4	4594	1028	5622	3
C.V. %		7.6	1.8	3.9	3.8	1.6	5.0	22.0	6.9	23.0
$LSD_{0.05}$		0.8	3.3	3.2	4.9	2.3	691	823	1217	1.8

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 32. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 15, medium-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
870	BNGL//MERC/RICO/3/MERC/RICO//BNGL	5	89	39	66.2	70.4	8437	3853	12290	4
857	BNGL//MERC/RICO/3/MERC/RICO//BNGL	5	89	38	64.7	69.1	8016	3589	11605	5
856	MERC/RICO//BNGL/3/SMARS/MARS/…	4	92	38	66.6	69.3	8122	3397	11519	3
854	MERC/RICO//BNGL/3/SMARS/MARS/…	5	93	41	66.0	69.3	8385	2625	11010	3
871	ORIN//MERC/RICO/3/BNGL//…	5	92	37	68.5	71.4	7874	2946	10820	3
873	MERC/RICO//BNGL/3/SMARS/MARS/…	5	88	37	67.1	70.0	7585	3213	10798	3
874	JUPITER	5	92	41	66.2	69.2	8382	2278	10660	1
858	MERC/RICO//BNGL/3/SMARS/MARS/…	5	94	38	66.1	69.5	7166	3488	10654	4
864	MERC/RICO//BNGL/3/SMARS/MARS/…	5	93	39	65.3	68.8	7908	2718	10626	4
868	MERC/RICO//BNGL/3/SMARS/MARS/…	5	92	38	61.1	67.6	7500	2999	10499	5
869	MERC/RICO//BNGL/3/SMARS/MARS/…	6	89	36	67.5	69.4	8013	2483	10496	3
861	MERC/RICO//BNGL/3/SMARS/MARS/…	5	93	39	66.4	70.7	7452	2899	10351	4
865	MERC/RICO//BNGL/3/SMARS/MARS/…	5	92	38	63.7	69.1	7804	2471	10275	4
852	MERC/RICO//BNGL/3/SMARS/MARS/…	6	93	37	66.8	70.9	7671	2597	10268	3
867	MERC/RICO//BNGL/3/9502065	5	93	35	68.6	71.4	7465	2755	10220	3
872	MERC/RICO//BNGL/3/SMARS/MARS/…	4	92	39	68.4	71.4	8063	2112	10175	4
860	MERC/RICO//BNGL/3/MERC//MERC/KOSH	5	90	39	68.7	71.2	7741	2418	10159	4
866	MERC/RICO//BNGL/3/9502065	5	92	36	66.7	69.8	7525	2608	10133	5
853	MERC//MERC/KOSH/3/MERC/RICO//BNGL	4	85	38	68.6	72.3	7575	2530	10105	2
851	MERC/RICO//BNGL/3/SMARS/MARS/…	5	92	38	68.1	71.3	7388	2636	10024	4
855	9502065/BNGL	5	94	36	66.4	69.8	7327	2624	9951	3
862	MERC/RICO//BNGL/3/SMARS/MARS/…	6	92	37	67.2	70.9	6957	2787	9744	4
863	BNGL/3/MERC/RICO//BNGL	5	94	37	64.5	70.4	7364	2375	9739	5
859	MERC/RICO//MERC/3/MERC/LMNT//…	5	89	38	68.7	71.0	6967	2646	9613	2
875	EARL	4	90	44	63.9	70.8	7330	1373	8703	4
C.V. %		8.5	1.4	2.7	2.8	2.1	5.8	19.2	7.3	23.0
$LSD_{0.05}$		0.8	2.6	2.1	3.8	3.1	927	1086	1565	1.5

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 33. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 16, medium-grain entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
889	MERC/RICO//BNGL/3/SMARS/MARS/…	5	95	40	63.7	66.6	7833	2689	10522	4
885	MERC/RICO//BNGL/3/SMARS/MARS/…	5	95	39	64.6	67.5	7738	2466	10204	5
883	MERC/RICO//BNGL/3/SMARS/MARS/…	5	95	39	64.5	68.2	7119	2804	9923	5
877	9502065/BNGL	5	96	39	67.3	69.8	7824	2032	9856	3
888	MERC/RICO//BNGL/3/SMARS/MARS/…	5	96	39	65.1	67.7	7390	2337	9727	5
896	BNGL//MERC/RICO/3/EARL	4	92	39	63.9	71.0	7129	2588	9717	6
898	BNGL//MERC/RICO/3/EARL	5	94	37	66.4	69.2	7679	1764	9443	4
879	MERC//MERC/KOSH/3/MERC/RICO//BNGL	6	95	37	65.5	68.5	7687	1682	9369	2
900	BNGL	5	94	38	65.8	69.1	7507	1748	9255	4
894	SMARS/MARS//…/3/MERC/RICO//BNGL	5	94	40	64.8	68.9	7730	1407	9137	4
890	BNGL/9502065	5	92	39	65.6	69.0	7313	1754	9067	6
887	MERC/RICO//BNGL/3/SMARS/MARS/…	6	96	39	64.8	67.5	7446	1513	8959	4
886	MERC/RICO//BNGL/3/SMARS/MARS/…	5	94	36	65.8	68.9	7169	1779	8948	5
895	BNGL//MERC/RICO/3/MERC/RICO//BNGL	6	92	37	66.3	69.7	6390	2443	8833	5
891	BNGL/9502065	5	90	37	66.9	69.3	7268	1512	8780	4
893	9502065/3/MERC/RICO//BNGL	6	98	39	66.3	68.9	6786	1901	8687	3
892	9502065/3/MERC/RICO//BNGL	6	94	36	64.1	67.2	7261	1423	8684	3
884	MERC/RICO//BNGL/3/SMARS/MARS/…	6	93	36	62.9	68.6	6191	2336	8527	6
899	PIRO	6	93	42	66.3	69.7	7662	689	8351	1
881	BNGL/9502065	5	95	37	64.3	67.1	7492	805	8297	3
878	MERC//MERC/KOSH/3/S-102	5	87	39	67.9	70.3	6243	1924	8167	3
880	MERC/RICO/MERC/3/9502065	6	91	37	65.5	68.4	7200	821	8021	3
897	9902028/3/BNGL//MERC/…	6	90	41	66.7	69.5	6506	1482	7988	5
882	BNGL/3/MERC/RICO//MERC	6	92	36	68.6	72.1	6341	1057	7398	5
876	BNGL/3/MERC/RICO//MERC	5	88	38	70.5	72.1	6720	500	7220	2
C.V. %		9.6	1.6	3.4	2.6	1.4	7.4	22.6	6.2	26.2
$LSD_{0.05}$		1.0	3.1	2.7	3.5	2.0	1098	809	1146	2.0

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 34. Agronomic and milling performance of 2004 Preliminary Yield Test, Group 17, specialty entries. Rice Research Station, Crowley, LA.

Entry	Pedigree	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
905	JSMN/DLLA//KAYEEMA-477	5	95	43	64.4	69.5	7538	2012	9550	5
920	96SP287/95B8472 -300	5	90	41	59.0	69.2	6836	2658	9494	3
906	JSMN/DLLA//96SP287-599	6	96	37	56.8	69.0	6560	2884	9444	2
908	JSMN/DLLA//DREW	6	93	39	65.6	71.2	6172	3137	9309	2
904	902207X2/DG 1275-30	6	97	41	63.8	70.7	6208	3099	9307	2
925	LA 2140	7	95	40	60.1	68.6	7315	1547	8862	3
903	JSMN/DLLA//DLLA-726	6	88	42	58.3	66.6	7272	1500	8772	3
909	JSMN/DLLA//95B8413-25	5	91	39	60.5	71.0	6350	2373	8723	5
922	CPRS/GOOLARA-484	5	91	39	66.5	69.9	6762	1936	8698	5
912	JSMN/DLLA//96SP287	6	99	36	65.8	70.8	5383	3214	8597	3
901	JSMN/DLLA//KAYEEMA-477	6	88	39	59	73.8	6270	2310	8580	4
914	DMSI//LMNT/NWBT/3/…/DG 1231 -292	7	101	41	65.9	71.9	6259	2296	8555	2
907	JSMN/DLLA//LEAH/DLLA	5	92	35	64.9	73.0	5589	2961	8550	3
916	JSMN/DLLA//96SP287	6	101	37	68.7	72.5	5685	2856	8541	3
917	DLMT/3/NWBT/KATY//82CAY21 - 1300	6	94	40	64.1	70.2	6822	1639	8461	2
921	DG 1255/ALAN	6	94	39	60.4	69.3	5824	2582	8406	4
913	CPRS/DLRS	7	90	39	64.1	71.5	6412	1920	8332	4
910	96SP287/95B8472 -200	6	96	37	59.9	69.1	6664	1628	8292	3
924	CHENIERE	6	93	41	64.6	70.9	7517	653	8170	3
919	DLRS//AR 1142/LA 2031 - 1200	6	92	40	62.9	70.1	6386	1656	8042	1
915	JSMN/DLLA//96SP287 -300	7	97	38	66.2	72.2	5247	2766	8013	2
902	JSMN/DLLA//DLLA-726	5	89	41	60.6	69.3	6087	1850	7937	3
923	JSMN/DLLA//KAYEEMA-631	6	95	39	53.6	68.6	6166	1531	7697	3
911	JSMN/DLLA//96SP287-300	6	95	34	61.3	68.7	5600	1794	7394	4
918	DLRS//AR 1142/LA 2031 - 1200	6	91	42	55.8	67.3	6168	1196	7364	2
C.V. %		7.1	1.7	2.9	5.6	1.9	7.1	21.3	6.0	41.7
$LSD_{0.05}$		0.8	3.4	2.3	7.2	2.8	936	949	1065	2.4

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 35. Agronomic and milling performance of 2004 Single Plot Test (SP). Long-grain entries. Rice Research Station, Crowley, LA.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
111	AR 1188/CCDR//LCSN	5	92	40	65.0	70.2	7897	3386	11282	5
100	TRAINASSE	5	84	44	64.4	69.5	8128	2660	10788	4
009	KATY/CPRS//NWBT/KATY/3/9502008	5	90	39	61.3	69.0	8322	2126	10448	2
014	9502008-A/DREW	6	94	40	64.6	71.4	7596	2744	10340	1
035	9502008/CPRS	5	95	42	66.2	70.8	7691	2579	10270	3
067	CPRS/9502008-A	5	95	44	51.9	63.5	8290	1835	10126	5
113	KBNT/3/CPRS//82CAY21/4/AR SRM 154291	4	95	41	61.5	66.6	7710	2401	10111	4
098	CCDR/9901081	5	92	42	59.0	68.4	7779	2090	9869	4
121	CPRS/KBNT/3/KBNT//KATY/CPRS	4	95	39	68.0	72.9	7044	2734	9778	4
050	CHENIERE	5	93	41	63.3	70.5	8588	1156	9744	3
109	CPRS/3/CPRS/NWBT/KATY	5	95	42	65.4	69.7	7524	2186	9710	4
116	KATY/CPRS//JKSN/3/AR 1188/CCDR	5	90	43	60.0	66.3	7963	1730	9693	3
069	TACAURI/CCDR	6	93	40	65.7	70.3	7564	2096	9660	4
013	9502008-A/DREW	5	89	40	63.0	69.3	8328	1235	9563	2
041	9502008-A/DREW	6	94	41	66.4	70.3	7576	1987	9562	2
040	9502008-A/CPRS	6	93	41	67.9	73.1	7864	1698	9562	5
055	KBNT/KATYCPRS/3/DREW	5	97	41	62.4	71.7	7341	2189	9530	1
090	9302065/CPRS	5	96	41	65.6	69.7	7560	1938	9498	2
120	KBNT/JODN//CPRS/KBNT	6	94	41	66.2	70.8	8089	1364	9453	4
042	9502008//CPRS/KBNT	6	93	40	68.0	72.3	7415	2035	9450	3
063	KBNT/3/CPRS//82CAY21/TBNT	5	92	41	63.4	69.3	6810	2635	9444	7
011	CPRS/KBNT//9502008	5	89	36	68.5	72.3	7418	2023	9441	2
012	9502008-A//CPRS/KBNT	5	93	43	66.8	71.1	8219	1217	9436	2
110	CPRS/JEFF	5	93	41	64.4	69.4	7270	2163	9433	3
043	9502008//CPRS/KBNT	6	92	41	57.9	66.6	7994	1437	9431	5
072	CCDR/LGRU	5	90	39	62.0	68.8	7374	2037	9411	4
092	CCDR/3/CPRS/NWBT//KATY	5	90	42	70.0	74.6	7943	1462	9404	5
117	LCSN/CPRS//9502008-A	5	94	40	64.4	70.7	6643	2753	9396	3
017	CPRS/KBNT/3/KBNT//KATY/CPRS	5	95	40	59.0	67.6	7576	1771	9347	3
044	9502008//CPRS/KBNT	5	92	40	65.3	70.7	8124	1205	9330	3
045	KATY/CPRS//NWBT/…/3/LMNT	6	93	41	65.9	71.3	7479	1845	9324	4
006	KATY/CPRS//NWBT/KATY/3/TACAURI	4	95	41	61.1	67.5	7491	1824	9315	3
003	CPRS/DREW(AR-1176)	5	90	41	68.5	72.3	7276	2022	9298	2
115	DREW/CCDR	5	93	42	62.2	68.7	7248	2007	9254	5
084	LCSN/CPRS//9502008-A	6	92	39	66.8	72.1	7196	2043	9239	2
027	9502008//CPRS/KBNT	5	92	40	64.7	70.2	7874	1363	9237	3
007	KATY/CPRS//NWBT/KATY/3/TACAURI	5	93	38	64.3	69.3	7447	1736	9182	4
060	KATY/CPRS//…	6	96	37	63.7	71.1	7160	2011	9170	2
108	CPRS/3/CPRS/NWBT/KATY	5	93	42	64.0	68.7	7420	1749	9169	5
001	CPRS/LMNT*2//CR1113/3/CPRS//L201/…	6	91	42	67.5	72.7	7747	1412	9160	3
028	9302065//20001-5/LMNT	6	86	40	64.8	70.6	7612	1535	9147	2
103	DREW/CPRS	5	89	38	62.9	70.7	6987	2142	9129	4
102	DREW/CPRS	5	96	41	61.6	67.7	6831	2297	9129	6
096	CCDR/4/CPRS/3/MBLE//LMNT/…	5	100	39	65.3	70.6	8235	889	9125	5
005	9602082 CPRS//82CAY21/TBNT/3/AR 1179	4	89	43	62.7	68.5	7427	1661	9088	3
106	CPRS//NWBT/KATY/3/KBNT	4	93	39	61.2	67.7	6931	2156	9087	3

Continued.

Table 35. Continued.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
122	CPRS/LGRU	6	91	37	64.2	68.8	7236	1829	9065	3
046	KATY/CPRS//NWBT/…/3/LMNT	6	95	41	65.7	71.6	7939	1110	9049	4
058	KATY/CPRS//…	6	98	38	64.9	72.1	7203	1840	9043	3
015	AR 1188//CPRS/KBNT	6	89	41	62.4	69.2	7222	1817	9039	4
064	8401-CP03/9502008	6	96	44	62.2	67.9	6949	2086	9036	6
070	TACAURI/CCDR	6	94	39	64.0	70.1	7644	1339	8983	3
087	JKSN/9302065	5	90	39	65.9	71.2	7153	1806	8959	2
010	CPRS/KBNT//9502008	6	92	39	63.9	68.1	7691	1265	8956	5
019	CPRS/KBNT/3/KBNT//KATY/CPRS	4	95	37	61.7	68.3	6747	2187	8934	2
039	902207X2/MBLE	7	94	35	68.0	72.1	7212	1683	8894	3
075	FRANCIS	6	95	41	58.6	66.9	6949	1941	8889	6
066	LMNT/CCDR	5	98	43	65.4	71.1	6120	2752	8872	2
053	KATY/CPRS//NWBT/…/4/NWBT/3/LBNT/…	5	93	39	68.7	73.7	6679	2182	8861	2
094	CCDR/LGRU	4	89	40	65.6	70.8	8061	798	8859	2
031	KATY/CPRS//NWBT/…/3/CPRS/KBNT	5	95	45	62.9	68.7	7041	1811	8852	5
114	9302065/CPRS	6	91	41	63.7	69.9	7197	1652	8849	5
037	98P2-1	6	93	41	66.5	72.0	7099	1725	8824	3
016	CPRS/KBNT//MBLE	6	93	37	64.4	70.0	7770	1052	8822	2
059	KATY/CPRS//…	6	95	38	60.3	68.2	7093	1710	8802	4
095	CCDR/LGRU	5	94	39	67.2	71.7	7347	1438	8785	2
112	CPRS/LGRU//LGRU	5	95	39	65.4	71.3	7055	1727	8782	3
036	9302065/KBNT	6	95	42	65.1	70.3	7045	1719	8763	2
105	CPRS//NWBT/KATY/3/KBNT	5	94	41	60.1	67.4	6563	2159	8722	5
123	9502008-A//AR 1142/MBLE	6	89	39	65.2	71.6	8002	716	8718	5
091	9302065/LMNT	6	95	40	66.1	72.2	6545	2153	8697	2
002	CPRS/DREW(AR-1176)	6	93	44	59.6	64.7	7341	1339	8680	3
079	KATY/CPRS//JKSN/3/AR 1188/CCDR	6	91	42	66.8	71.5	7553	1109	8662	4
101	DREW/CPRS	6	94	39	64.7	69.6	6323	2306	8629	3
065	CPRS/LGRU	6	90	39	66.0	70.5	7404	1219	8624	4
018	CPRS/KBNT/3/KBNT//KATY/CPRS	5	93	42	59.5	66.8	6447	2173	8621	4
057	L201//TBNT/…/NWBT/KATY//902207X2	5	91	37	62.5	68.7	7184	1418	8601	2
085	CCDR/9502008-A	5	91	41	61.1	68.2	7182	1419	8601	4
062	LSCN/9602065	5	91	41	62.7	69.7	6516	2070	8586	6
082	9502008-A/JEFF	6	88	39	62.3	68.4	6719	1865	8584	5
083	CCDR//AR 1142/LA 2031	5	89	39	57.3	67.8	6913	1656	8569	5
086	JKSN/MCR 4933	5	85	39	64.7	71.7	6140	2427	8567	6
052	KATY/CPRS//NWBT/…/3/LMNT	6	94	43	66.0	72.6	6654	1906	8561	2
093	CCDR/3/CPRS/NWBT//KATY	5	88	41	64.3	71.0	6799	1735	8534	3
026	9502008//CPRS/KBNT	5	95	39	64.8	70.8	7547	973	8520	3
089	9302065/CPRS	5	94	39	65.6	70.3	6790	1692	8482	4
080	CCDR/DREW	5	90	40	63.0	69.3	7486	958	8444	4
071	OARD 1517	5	93	40	61.4	68.3	7095	1335	8430	4
047	20001-5/LMNT//CPRS/KBNT	5	87	40	62.3	68.2	6955	1460	8415	2
008	KATY/CPRS//NWBT/KATY/3/KATY/CPRS//	6	94	37	53.3	67.5	6589	1820	8409	2
004	9602082 CPRS//82CAY21/TBNT/3/AR 1179	5	93	38	68.0	72.5	6939	1464	8403	3
104	9901081/CPRS	5	91	37	45.1	61.4	5756	2618	8374	5
073	DREW/CCDR	6	89	37	61.5	69.2	6786	1558	8343	3

Continued.

Table 35. Continued.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
097	CCDR/9901081	5	93	41	67.1	72.2	6352	1975	8327	6
025	COCODRIE	5	93	41	61.2	68.5	8083	230	8313	3
118	9502008/3/CPRS//82CAY21/TBNT	6	94	39	64.5	69.6	5997	2296	8293	2
033	CPRS/KBNT//MBLE	6	94	37	63.7	69.7	6371	1874	8246	4
023	9502008//CPRS/KBNT	5	87	39	63.2	69.2	7501	737	8238	3
125	CYPRESS	5	95	44	64.7	69.4	7058	1034	8091	4
038	9502008/KBNT	6	96	37	68.6	72.8	5805	2282	8088	4
078	9502008-A//AR 1142/MBLE	6	93	39	60.4	66.7	7470	616	8087	4
029	9302065//20001-5/LMNT	6	86	38	63.8	70.6	6654	1423	8078	5
054	KATYCPRS//NWBT/…/3/9502008	5	91	42	63.3	68.8	7045	1020	8065	5
107	CPRS/3/CPRS/NWBT/KATY	5	94	41	62.7	68.0	7003	1052	8056	5
099	LCSN/4/KATY/CPRS/3/CPRS/LMNT	6	97	39	64.6	70.3	5238	2812	8050	6
051	9302065/3/NWBT/KATY//902207X2	5	94	38	67.0	72.4	6850	1195	8045	4
034	9502008/CPRS	6	92	40	60.8	68.1	6402	1612	8014	6
032	ALAN/3/KBNT//KATY/CPRS	6	92	39	57.5	66.3	6276	1698	7975	5
056	LMNT/9302065	5	98	42	67.4	72.7	6506	1393	7898	2
021	9502008//KATY/902207X2	5	89	37	64.1	70.3	6218	1573	7791	5
061	LSCN/9602065	6	94	39	61.2	69.2	6658	1003	7661	2
020	9502008//KATY/902207X2	5	93	41	65.3	70.0	6238	1381	7619	3
074	9502008-A//AR 1188/CCDR	5	90	39	63.4	68.4	7269	344	7612	4
119	LBLEX2/BJ-1*F//…/3/GCHW/4/JEFF	6	93	37	63.4	67.1	6759	714	7473	4
077	CCDR/9502008-A	6	89	41	63.0	68.7	6656	807	7463	5
024	9502008//CPRS/KBNT	5	90	42	60.8	66.2	6770	583	7353	3
068	9902002/9302041	7	92	33	58.6	68.8	6178	1140	7318	4
022	9502008//KATY/902207X2	5	93	40	66.3	72.5	6175	1127	7301	4
076	9602065/CPRS	6	96	35	63.6	68.6	6307	967	7274	5
088	9302065/CCDR	5	89	37	64.4	70.9	6304	904	7208	3
048	20001-5/LMNT/3/KATY//CPRS	9	88	39	64.4	69.7	5412	1768	7180	2
049	20001-5/LMNT/3/KATY//CPRS	8	90	37	63.4	69.9	5413	1691	7104	3
081	JEFF//CPRS/LGRU	7	94	36	64.9	68.8	5218	1412	6630	6
030	KATY/CPRS//NWBT/…/3/LMNT	7	92	35	61.3	68.4	5177	1317	6494	3
124	CCDR/DREW	5	95	39	64.4	68.0	4791	1061	5852	2

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 36. Agronomic and milling performance of 2004 Single Plot Test. Anther culture lines. Rice Research Station, Crowley, LA.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
179	DREW/98PIM0071DH3	4	88	43	58.5	68.1	7985	2844	10829	5
167	AR1053/97CR233DH1	6	98	41	60.9	69.3	6894	3907	10801	5
169	AC140DH2/AC101DH2	5	87	45	63.3	70.7	7012	3760	10772	3
137	AC274DH2/AC407DH2	5	90	46	56.4	68.8	6896	3745	10641	5
182	AC140DH2/AC101DH2	5	85	50	59.3	68.0	7274	3231	10505	4
157	AC425DH2/AC431DH2	5	91	46	58.0	68.1	7763	2725	10489	3
135	AC273DH2/AC358DH2	5	87	39	62.7	66.9	7405	3014	10419	5
168	9863910DH2/AR1053	6	87	43	62.6	69.2	7258	3071	10329	5
150	FRAN	5	89	44	61.3	68.4	7888	2439	10327	5
144	AC401DH2/AC347DH2	5	89	41	62.3	69.1	7874	2451	10325	3
138	AC274DH2/AC402DH2	4	90	47	49.4	64.0	7069	3078	10147	6
187	AC105DH2/AC157DH2	5	85	42	61.7	69.0	6560	3297	9856	4
178	DREW/98PIM0071DH3	5	88	49	57.6	68.9	7434	2417	9850	3
164	AC110DH3/0042809	5	88	44	63.4	69.7	7922	1924	9846	4
163	AC101DH2/AC139DH2	5	89	43	59.8	65.4	7513	2297	9809	5
215	SP301/PY327	5	82	41	64.4	70.5	7420	2379	9799	4
134	AC273DH2/AC274DH2	5	87	42	63.8	68.6	7173	2618	9791	3
136	AC274DH2/AC407DH2	5	86	44	60.9	67.8	6261	3519	9781	4
181	AC140DH2/AC101DH2	5	86	44	71.6	73.6	6232	3476	9708	3
156	AC425DH2/AC431DH2	5	92	48	56.0	66.7	7413	2279	9692	5
184	AC105DH2/AC157DH2	5	88	45	67.4	70.3	6280	3333	9613	5
165	AC176DH1/9959322DH2	5	89	43	63.9	71.3	6338	3242	9580	4
132	AC273DH2/AC638DH1	6	93	47	57.9	69.5	6407	3159	9567	7
129	AC262DH2/AC407DH2	6	87	44	60.2	69.2	6191	3307	9499	4
188	AC110DH2/97CR165DH2	5	86	44	57.1	67.7	6838	2600	9437	4
130	AC262DH2/AC407DH2	6	87	43	64.2	70.8	5574	3821	9395	4
131	AC273DH2/AC638DH1	7	91	48	58.6	69.0	6188	3081	9270	7
200	CHNR	5	91	41	63.3	71.0	7807	1437	9245	2
196	JAF4DH3	5	87	42	61.2	68.0	7030	2156	9186	3
143	AC357DH2/AC347DH2	5	84	41	61.4	70.2	6833	2343	9175	3
202	AC110DH2/97CR165DH2	5	87	42	57.2	67.4	7684	1483	9167	5
170	AC140DH2/AC101DH2	5	87	46	57.0	66.5	6717	2440	9157	4
177	DREW/98PIM0071DH3	5	86	45	56.2	66.3	6512	2494	9006	4
225	WELLS	5	90	43	55.6	64.9	6983	1983	8966	6
199	AC110DH4	4	88	39	64.5	69.6	6903	2050	8953	3
186	AC105DH2/AC157DH2	5	87	44	65.4	71.3	6607	2313	8920	4
222	SP306/PY327	5	85	41	66.1	71.0	7517	1361	8878	4
211	SP291/PY226	5	84	34	60.8	68.3	6107	2759	8866	5
191	AC110DH2/97CR165DH2	5	86	44	58.9	68.5	6727	2137	8864	4
171	EPAGRI 107/LMNT	5	89	38	67.6	71.4	7429	1435	8863	4
176	DREW/98PIM0071DH3	5	89	43	63.1	70.4	7181	1652	8833	3
201	AC110DH2/97CR165DH2	5	87	37	58.5	66.6	6767	2057	8824	6
210	SP291/SP294	5	87	42	58.6	70.1	6945	1871	8816	5
148	AC407DH2/AC274DH2	5	85	47	56.0	65.6	5683	3064	8747	6
195	JAF4DH3	5	87	43	63.6	68.8	6785	1907	8692	3
189	AC110DH2/97CR165DH2	4	88	46	64.2	70.8	6260	2423	8682	5

Continued.

Table 36. Continued.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
141	AC357DH2/AC347DH2	5	85	43	63.2	70.1	6249	2410	8658	4
193	AC110DH2/97CR165DH2	5	83	44	60.2	67.6	5940	2691	8631	4
161	49469/AC628DH1	4	90	47	48.4	66.1	5578	3051	8628	4
159	AC468DH2/AC401DH2	5	86	39	60.7	68.4	6242	2367	8609	3
190	AC110DH2/97CR165DH2	5	85	43	59.7	67.9	6329	2268	8597	4
185	AC105DH2/AC157DH2	4	88	43	63.3	69.9	6512	2077	8590	4
213	SP291/PY226	5	85	37	56.4	65.9	6101	2488	8590	5
127	AC262DH2/AC272DH2	6	86	43	50.4	64.4	5845	2731	8576	6
198	JAF4DH3	5	86	39	64.8	70.6	6674	1899	8574	4
207	SP264/FRCS	4	87	41	64.4	70.5	6374	2187	8561	5
204	PY731/PY15	5	90	45	67.7	70.4	5265	3278	8543	3
208	SP264/FRCS	4	87	42	60.9	67.4	6471	2060	8531	6
206	PY737/SP316	4	90	45	61.6	69.3	6587	1924	8511	7
166	CCDR/98PIM0151	5	89	48	54.5	65.5	6084	2398	8482	5
146	AC407DH2/AC440F2DH1	5	82	43	63.1	69.4	5546	2917	8464	7
133	AC273DH2/AC638DH1	5	87	44	40.0	64.5	6128	2315	8443	6
149	AC407DH2/AC425DH2	5	86	46	63.9	71.5	6589	1846	8436	4
220	SP306/SP271	5	86	39	64.1	68.8	6615	1709	8325	4
192	AC110DH2/97CR165DH2	5	85	43	56.9	65.6	6495	1810	8304	6
174	97CR210DH2/AC127DH2	6	88	43	65.4	70.0	5047	3179	8225	4
142	AC357DH2/AC347DH2	5	89	41	65.6	71.9	5937	2263	8200	4
151	AC407DH2/AC425DH2	5	88	46	64.3	70.9	6571	1627	8198	3
214	SP301/PY327	5	80	37	65.6	69.2	6041	2140	8181	5
197	JAF4DH3	5	88	39	56.8	65.3	6484	1688	8172	4
212	SP291/PY226	5	85	33	59.6	68.1	5622	2492	8114	4
205	PY737/SP316	5	91	43	61.6	70.2	6708	1366	8074	5
219	SP305/SP290	5	84	37	61.5	70.8	5950	2113	8063	3
155	AC423DH2/AC468DH2	6	89	44	58.3	69.2	4842	3207	8049	5
183	AC101DH2/AC157DH2	5	87	43	55.2	65.6	5805	2222	8026	5
147	AC407DH2/AC403F2DH1	6	90	47	57.1	67.0	4959	3025	7983	4
145	AC405DH2/AC401DH2	4	86	47	60.0	68.8	5899	1996	7895	6
158	AC425DH2/AC468DH2	6	86	41	63.1	70.1	5853	2030	7884	6
173	AC118DH12/97CR174DH	5	90	39	52.5	63.7	5656	2169	7825	6
152	AC407DH2/AC425DH2	5	87	44	62.1	69.2	5984	1813	7798	2
221	SP306/PY327	6	86	39	63.8	72.0	5575	2213	7788	4
217	SP301/PY327	6	80	37	67.0	72.3	5693	2094	7787	3
153	AC423DH2/AC431DH2	5	87	39	67.5	71.0	4803	2963	7766	5
175	CCDR	6	90	38	62.1	68.5	6784	954	7739	4
218	SP305/SP290	6	83	39	49.1	66.7	5232	2468	7699	6
216	SP301/PY327	5	85	42	57.6	66.5	5778	1899	7677	6
194	JAF4DH3	5	86	37	60.0	66.6	6076	1593	7670	5
180	AC110DH2/97CR210DH2	5	84	39	46.8	70.1	5799	1786	7585	3
160	49204/49469	6	85	43	61.4	70.0	5289	2292	7581	3
128	AC262DH2/AC407DH2	5	85	37	53.8	66.5	5536	1921	7457	5
203	PY671/PY226	4	82	39	63.7	70.7	5070	2321	7391	7
172	AR 1188/SAN ANTONIO PERU	4	89	39	53.9	63.2	5680	1290	6970	3
224	SP314/PY287	5	86	41	64.2	69.9	5278	1669	6947	3

Continued.

Table 36. Continued.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
223	SP314/PY743	6	85	40	67.9	72.2	5341	1323	6664	6
209	SP291/SP314	5		38	59.3	68.7	4921	1686	6607	4
154	AC423DH2/AC639DH1	5	89	38	50.7	63.4	5096	1402	6498	6
139	AC355DH2/AC403F2DH1	7	88	40	61.9	71.0	3887	2307	6194	3
126	AC262DH2/AC272DH2	4	91	54	65.6	70.4	3895	2022	5917	5
140	AC355DH2/AC641DH1	5	85	47	47.0	63.3	3381	2359	5740	7
162	AC262DH2/AC407DH2	5	87	43	44.0	64.9	3656	2013	5668	3

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 37. Agronomic and milling performance of 2004 Single Plot Test. Medium-grain entries. Rice Research Station, Crowley, LA.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
315	BNGL//MERC/RICO/3/EARL	6	91	39	68.3	71.5	8204	3224	11428	3
239	SMARS/MARS//…/3/MERC/RICO//BNGL	5	94	42	63.4	67.4	7717	3688	11405	5
316	BNGL//MERC/RICO/3/EARL	5	94	38	63.5	67.3	8000	3327	11327	2
322	JUPITER	5	93	41	65.3	68.2	9339	1864	11203	2
249	MERC/RICO//BNGL/3/9502065	5	95	39	63.6	66.9	8403	2730	11133	3
243	MERC/RICO//BNGL/3/SMARS/MARS/…	5	94	39	65.3	68.9	7561	3435	10996	4
229	BNGL/9502065	6	93	39	64.5	67.2	8191	2758	10949	2
244	MERC/RICO//BNGL/3/SMARS/MARS/…	5	95	41	66.5	69.5	7622	3301	10924	5
287	BNGL//MERC/RICO/3/MERC/RICO//BNGL	7	91	38	67.0	69.7	7625	3291	10916	5
247	BNGL/9502065	5	95	37	64.3	68.1	8349	2520	10869	4
241	MERC/RICO//BNGL/3/SMARS/MARS/…	5	93	43	63.3	67.2	7930	2891	10820	5
260	MERC//MERC/KOSH/3/MERC/RICO//BNGL	4	92	40	65.3	68.3	7848	2957	10805	2
298	BNGL//MERC/RICO/3/EARL	5	92	37	67.2	69.5	7331	3462	10793	4
242	MERC/RICO//BNGL/3/SMARS/MARS/…	5	95	39	66.0	69.5	7821	2917	10738	5
240	MERC/RICO//BNGL/3/SMARS/MARS/…	5	92	39	66.7	69.3	7221	3507	10728	6
272	SMARS/MARS//…/3/MERC/RICO//BNGL	6	86	41	63.4	67.1	8295	2420	10715	6
314	BNGL//MERC/RICO/3/EARL	5	96	37	65.9	68.8	7310	3404	10714	5
257	9502065/3/MERC/RICO//BNGL	6	97	34	65.2	68.3	6960	3661	10621	5
299	BNGL//MERC/RICO/3/EARL	5	92	41	65.8	69.3	7596	2972	10567	5
251	9502065/BNGL	5	95	40	62.4	66.2	8066	2473	10539	5
259	MERC//MERC/KOSH/3/MERC/RICO//BNGL	5	92	39	66.3	69.7	8193	2334	10526	3
288	BNGL//MERC/RICO/3/MERC/RICO//BNGL	6	96	37	65.0	68.1	7922	2558	10480	4
252	9502065/BNGL	5	95	38	64.0	66.9	8306	2022	10328	4
268	RICO/BNGL/3/MERC//MERC/KOSH	6	88	37	65.9	71.3	7930	2336	10266	4
230	9502065/3/MERC/RICO//BNGL	6	91	38	65.7	68.3	8304	1942	10246	2
296	BNGL//MERC/RICO/3/EARL	5	95	39	67.8	70.5	7085	3141	10226	2
283	BNGL//MERC/RICO/3/MERC/RICO//BNGL	6	95	41	68.3	71.4	6767	3382	10150	5
284	BNGL//MERC/RICO/3/STRN	6	91	39	66.5	70.2	7510	2633	10143	4
321	SP 361/BNGL	6	91	36	63.6	67.3	8088	2025	10114	3

Continued.

Table 37. Continued.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
318	BNGL//MERC/RICO/3/EARL	5	92	35	63.8	68.3	7331	2778	10109	5
234	MERC/LMNT//MERC/3/BNGL/4/LFTE	6	91	42	66.1	68.9	8106	1934	10040	4
258	9502065/3/MERC/RICO//BNGL	5	97	38	64.5	66.8	7535	2494	10029	3
233	MERC/RICO/MERC/3/9502065	6	90	39	65.7	68.5	8271	1733	10003	4
319	SP 361/BNGL	5	93	39	62.9	68.4	7806	2174	9981	4
271	SMARS/MARS//…/3/MERC/RICO//BNGL	5	95	43	62.5	66.2	7390	2556	9945	4
250	RICO/BNGL	5	89	37	68.2	72.4	7878	2054	9932	2
236	BNGL/9502065	5	89	44	65.2	68.5	7940	1936	9876	2
278	BNGL//MERC/RICO/3/STRN/…	6	89	38	66.6	69.4	7809	2031	9840	4
317	BNGL//MERC/RICO/3/EARL	5	93	35	67.2	69.9	7076	2757	9833	5
264	MERC/LMNT//MERC/3/BNGL/3/MERC/…	5	93	37	66.3	68.6	7126	2706	9833	4
311	9902028/3/BNGL//MERC/…	6	88	41	66.6	69.4	7337	2474	9811	5
269	SMARS/MARS//…/3/MERC/RICO//BNGL	6	91	37	68.5	71.1	6981	2787	9768	6
270	SMARS/MARS//…/3/MERC/RICO//BNGL	6	91	37	67.6	70.4	7401	2269	9670	5
232	MERC//MERC/KOSH/3/MERC/LMNT//MERC	6	87	39	70.0	72.6	7154	2401	9555	3
273	SMARS/MARS//…/3/MERC/RICO//BNGL	6	95	36	65.3	68.5	6819	2711	9530	5
237	BNGL/9502065	6	95	41	57.9	63.2	7336	2123	9459	6
279	BNGL//MERC/RICO/3/RICO/…	6	90	39	69.0	71.6	7987	1446	9433	4
253	9502065/RICO	6	97	37	62.1	65.3	7241	2191	9432	4
282	LFTE/BNGL	6	87	37	70.0	72.7	7091	2339	9430	3
246	BNGL/9502065	4	91	41	60.5	65.7	7076	2255	9331	7
310	9902028/3/BNGL//MERC/…	4	88	44	66.2	69.6	6906	2409	9315	4
248	BNGL/9502065	5	88	35	64.9	68.0	7186	2072	9257	6
255	9502065/3/MERC/RICO//BNGL	5	96	36	64.0	67.5	7470	1767	9237	6
300	BNGL//MERC/RICO/3/EARL	5	93	41	66.6	69.7	6399	2816	9215	5
276	ORIN//MERC/RICO/3/BNGL//…	6	93	36	66.3	70.5	7398	1816	9214	5
323	BNGL	5	93	40	65.5	69.3	8108	1066	9174	4
265	MERC/LMNT//MERC/3/BNGL/3/MERC/…	5	86	37	63.5	70.0	6641	2527	9168	4
285	BNGL/3/BNGL//MERC/RICO	5	92	39	65.0	68.9	6702	2460	9162	5
274	ORIN//MERC/RICO/3/BNGL//…	6	95	35	64.9	66.9	6431	2725	9157	6
226	MERC/RICO//BNGL/3/SMARS/MARS/…	6	95	39	67.0	70.1	7430	1725	9155	4
231	S-102/LFTE	6	80	33	70.9	73.8	6831	2313	9144	4
228	BNGL/9502065	5	92	40	65.3	68.7	8226	903	9129	2
312	9502065/3/MERC//MERC/…	5	86	38	64.2	68.6	6252	2854	9106	4
275	ORIN//MERC/RICO/3/BNGL//…	6	92	36	67.0	70.4	7659	1436	9095	5
290	SP 361//BNGL/RICO	6	87	36	66.5	70.0	6865	2207	9072	3
297	BNGL//MERC/RICO/3/EARL	5	91	40	64.4	68.2	6281	2766	9047	5
286	BNGL/3/BNGL//MERC/RICO	6	92	37	64.4	68.8	6180	2820	9000	6
227	BNGL/9502065	5	91	39	66.0	69.6	7383	1616	8999	5
325	EARL	4	93	46	61.9	66.7	6936	2011	8947	6
245	BNGL/3/SMARS/MARS//…	5	93	42	65.9	68.5	6867	2061	8928	6
293	9902028/3/BNGL//MERC/RICO	6	89	42	61.6	67.3	6544	2359	8902	5
235	MERC/RICO//BNGL/3/MERC//MERC	5	92	43	63.3	67.2	6293	2600	8893	4
292	9502065/3/MERC//MERC/4/9502065/3/…	6	88	42	64.8	68.6	6881	2002	8883	3
301	PY 678/BNGL	5	95	37	68.0	71.3	6698	2175	8873	4
295	9502065/3/MERC//MERC/4/9902028	5	91	43	59.3	65.5	6261	2590	8851	5

Continued.

Table 37. Continued.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
289	PY 678/BNGL//MERC/RICO	5	90	39	65.7	68.6	6904	1896	8800	5
291	SP 361//BNGL/RICO	6	91	39	61.8	67.3	7621	1036	8657	2
306	9902028/3/BNGL//MERC/…	5	91	43	61.5	67.0	7261	1386	8647	5
256	9502065/3/MERC/RICO//BNGL	5	95	35	61.4	65.0	7170	1440	8610	3
313	9502065/3/MERC//MERC/…	6	91	39	63.6	68.7	7462	1121	8583	4
254	9502065/RICO	5	100	35	61.7	65.0	5584	2877	8461	2
320	SP 361/BNGL	6	89	41	64.6	69.1	6993	1417	8410	3
309	9902028/3/BNGL//MERC/…	6	87	43	63.2	67.4	6215	2121	8335	6
277	ORIN//MERC/RICO/3/BNGL//…	6	86	35	64.0	67.3	6696	1639	8335	2
267	MERC/LMNT//MERC/3/BNGL/3/MERC/…	5	88	35	69.6	72.1	6333	1928	8261	5
266	MERC/LMNT//MERC/3/BNGL/3/MERC/…	6	88	38	60.8	67.7	6224	2016	8240	5
305	9902028/3/BNGL//MERC/…	6	92	42	63.2	67.2	6742	1494	8236	5
238	BNGL/3/MERC/RICO//MERC	6	88	37	67.1	70.6	5323	2870	8193	6
261	LFTE/AB 869	5	82	37	63.3	69.1	5976	2091	8066	6
324	PIRO	6	92	42	62.8	68.2	7015	955	7970	2
308	9902028/3/BNGL//MERC/…	5	89	39	66.2	70.4	6139	1727	7866	4
307	9902028/3/BNGL//MERC/…	6	92	43	58.6	64.1	5683	2147	7830	8
303	9902028/3/BNGL//MERC/…	5	88	39	63.8	68.0	6110	1715	7825	5
280	BNGL//MERC/RICO/3/RICO/…	6	91	38	67.7	70.7	6994	811	7805	3
262	LFTE/3/MERC/RICO//MERC	5	83	38	70.3	72.6	5564	2225	7788	4
263	MERC/LMNT//MERC/3/BNGL/4/AB 869	6	92	35	66.7	70.1	5935	1850	7785	5
304	9902028/3/BNGL//MERC/…	5	93	42	62.0	66.2	5711	1919	7630	6
294	9902028/3/BNGL//MERC/RICO	6	91	41	62.6	67.4	4968	2475	7443	7
281	BNGL/LFTE	6	87	35	68.1	71.0	5643	1657	7300	5
302	9902028/AB SRM 154291	6	88	42	65.6	69.1	5605	1595	7200	6

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 38. Agronomic and milling performance of 2004 Single Plot Test. Specialty entries. Rice Research Station, Crowley, LA.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
352	DLMT 8462…/4/DMSI/5/RSMT	6	92	42	60.3	69.9	7117	3026	10143	4
353	DLMT 8462…/4/DMSI/5/RSMT	5	88	40	52.8	63.4	7091	2669	9759	4
360	DLMT/3/NWBT/KATY//82CAY21	5	89	40	64.7	69.7	6677	3074	9751	4
365	DLRS//AR 1142/LA 2031	6	92	39	63.4	70.0	7705	1931	9636	3
327	ALAN/DIANGLONG 201	5	83	40	51.8	65.1	6064	3176	9240	2
346	DLMT/L-205 -1100	5	91	39	60.8	69.8	6133	3079	9213	5
334	JSMN/DLLA//LEAH/DLLA	5	88	38	63.0	71.1	5687	3516	9203	3
351	DLMT 8462…/4/DMSI/5/RSMT	5	88	38	57.7	67.1	6423	2723	9146	5
373	96SP287/95B8472	5	89	41	55.7	65.5	5690	3433	9123	4
374	DLRS	6	93	41	64.8	69.7	6078	2899	8977	2

Continued.

Table 38. Continued.

SP Entry	Pedigree	Vigor*	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)	PB**
					Whole	Total				
337	JSMN/DLLA//DLLA	7	93	40	38.1	69.3	4319	1972	6290	4
331	JSMN/DLLA//DLLA -857	7	93	37	55.1	70.3	4703	1401	6104	3
344	JSMN/DLLA//96SP287	7	100	33	50.6	66.6	2870	2436	5306	3
354	DLMT 8462…/4/DMSI/5/RSMT	5	93	43	59.7	68.0	5720	3192	8912	6
343	DREW/KSM//JKSN -30	6	94	41	45.2	56.3	6313	2597	8910	6
348	DLMT 8462…/4/DMSI/5/RSMT	6	90	42	56.7	66.4	5651	3233	8884	4
349	DLMT 8462…/4/DMSI/5/RSMT	6	93	42	58.9	67.6	5912	2952	8864	5
340	96 INT/AR-1188	5	97	36	50.2	63.9	6138	2714	8851	3
372	JSMN/TORO-2//DLMT	6	90	39	67.1	70.8	6253	2574	8826	2
347	DLMT 8462…/4/DMSI/5/RSMT	6	94	42	60.4	68.6	5544	3248	8792	5
357	DLMT/3/NWBT/KATY//82CAY21	5	95	38	64.9	70.0	6519	2113	8632	4
368	DLRS//AR 1142/LA 2031	6	91	43	62.1	69.3	7100	1511	8611	2
364	DLMT/3/NWBT/KATY//82CAY21	6	90	41	64.8	69.5	6251	2271	8522	4
335	JSMN/DLLA//LEAH/DLLA	5	95	40	58.4	67.2	5135	3378	8514	2
362	DLMT/3/NWBT/KATY//82CAY21	6	91	41	52.4	65.8	6612	1810	8422	4
359	DLMT/3/NWBT/KATY//82CAY21	6	90	39	62.8	69.3	6682	1740	8421	3
341	DREW/KDM//JSMN/DLLA	5	95	40	55.3	62.8	6181	2037	8218	5
356	DLMT/3/NWBT/KATY//82CAY21	6	94	40	58.5	67.7	6171	1904	8074	4
375	CCDR	5	88	39	56.1	64.3	7491	530	8021	4
358	DLMT/3/NWBT/KATY//82CAY21	7	94	38	60.0	67.9	5951	1993	7944	3
336	96DP287/95B8472	6	97	37	66.1	70.9	6275	1647	7922	4
363	DLMT/3/NWBT/KATY//82CAY21	6	95	37	62.7	69.9	5089	2767	7856	3
342	DREW/KDM//JSMN/DLLA	6	96	39	58.9	68.8	4481	3288	7769	2
345	DLMT/EPAGRI 106 - 50	6	81	41	52.1	65.1	5067	2430	7497	3
350	DLMT 8462…/4/DMSI/5/RSMT	5	91	37	61.4	67.7	5862	1595	7457	4
371	DLRS//AR 1142/LA 2031	6	94	38	62.2	68.6	5690	1755	7445	2
361	DLMT/3/NWBT/KATY//82CAY21	6	95	43	60.2	67.8	5065	2347	7411	5
370	DLRS//AR 1142/LA 2031	6	91	37	62.2	72.4	6513	802	7315	4
328	DG 1271/KBNT -312	6	87	38	53.0	63.1	5199	1931	7130	5
366	DLRS//AR 1142/LA 2031	6	91	42	61.8	69.3	6200	922	7122	3
329	JSMN/DLLA//KAYEEMA	6	88	37	55.9	66.6	5144	1930	7074	4
333	JSMN/DLLA//LEAH/DLLA	5	97	42	51.0	66.9	4791	2159	6950	6
326	CPRS/DLRS	6	94	42	60.3	67.0	5315	1589	6904	5
339	96 INT/AR-1188	6	96	41	44.4	63.2	4123	2759	6882	4
330	KBNT/DG 1247 -743	7	90	39	57.7	67.6	5385	1493	6878	3
355	DLMT/3/NWBT/KATY//82CAY21	6	94	39	57.8	66.6	5594	1275	6869	4
338	DLLA/JSMN/DLLA	6	95	36	50.8	67.0	4360	2401	6761	4
332	96SP287//JSMN/DLLA	6	97	37	58.6	68.3	4380	2252	6633	4
367	DLRS//AR 1142/LA 2031	6	90	38	65.5	71.9	5619	763	6381	3
369	DLRS//AR 1142/LA 2031	5	90	39	61.5	69.5	5692	663	6354	4

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

** PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 39. Agronomic and milling performance of 2004 Single Plot Test (SP). Puerto Rico winter nursery entries. Rice Research Station, Crowley, LA.

SP Entry	Pedigree	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	NB*
				Whole	Total		
461	BNGL/3/ORIN//MERC/RICO//…	84	38	62.7	72.6	7604	0
485	LA 2183 (Straw Color)	86	35	51.3	71.7	7215	0
404	CFX-29/CCDR	89	37	68.4	71.7	6984	1
403	CFX-26/9702128	83	34	66.2	69.6	6965	4
432	DREW/3/KBNT//KATY/CPRS/4/WELLS	88	35	69.2	72.1	6922	3
486	JUPITER	86	35	66.1	71	6834	0
464	BNGL/3/ORIN//MERC/RICO//…	86	38	64.3	71.1	6832	0
430	CPRS/CH1	89	36	69.5	73.4	6830	5
458	BNGL/3/ORIN//MERC/RICO//…	84	34	65.7	72	6712	1
417	9302065//CPRS/97T1280DH1	89	33	68.3	71.9	6624	2
465	BNGL/3/ORIN//MERC/RICO//…	84	35	62.7	73.1	6600	0
444	BNGL/4/9502065/3/MERC//MERC	87	35	58.9	72.1	6543	3
470	9502065/3/MERC//MERC/4/BNGL	87	35	58.2	70	6527	3
408	GFMT/CFX-29	91	33	60.6	67.7	6524	1
478	EARL/9902028	89	42	61.4	71.8	6522	4
474	EARL/9902028	87	41	56.5	73.9	6496	2
418	9302065//CPRS/97T1280DH1	90	33	62.3	72.7	6472	1
448	BNGL/4/9502065/3/MERC//MERC	88	32	56.7	72.3	6457	0
382	CFX18//CPRS/KBNT	86	41	70.6	72.8	6435	1
447	BNGL/4/9502065/3/MERC//MERC	88	37	63	70.2	6433	1
402	CFX-26/9702128	86	35	67.4	70.8	6422	6
390	CFX18/LM-1	91	33	64	69.8	6411	2
477	EARL/9902028	87	33	67.8	73.3	6372	3
381	CFX18//CPRS/KBNT	84	39	68.9	71.8	6372	5
462	BNGL/3/ORIN//MERC/RICO//…	87	35	65.7	72.4	6348	2
433	FRAN//9002207X2/KBNT	85	32	67.5	71.8	6333	1
476	EARL/9902028	88	41	62	72.1	6333	4
428	CCDR//9502008-A/DREW	89	36	69.2	73	6312	3
460	BNGL/3/ORIN//MERC/RICO//…	87	38	61	72.4	6273	0
479	EARL/9902028	88	35	60	70.9	6268	4
457	BNGL/3/ORIN//MERC/RICO//…	84	36	54.9	72.6	6260	3
475	EARL/9902028	86	43	57.7	73.1	6236	2
429	CPRS/CH1	90	36	68.6	71.8	6231	1
466	9502065/3/MERC//MERC/4/BNGL	88	35	65.4	71.8	6229	0
446	BNGL/4/9502065/3/MERC//MERC	85	32	55	71.8	6211	2
406	CFX-29//AR 1142/LA 2031	90	32	70.2	72.2	6196	2
468	9502065/3/MERC//MERC/4/BNGL	86	38	62.5	72.1	6163	2
483	BNGL/RICO//EARL	87	31	64	71.9	6124	0
484	LA 2183 (Straw Color)	86	37	65.1	70.4	6117	1
472	9502065/3/MERC//MERC/4/BNGL	88	36	59.6	70.3	6115	4
419	CCDR/3/NWBT/KATY//CPRS	82	36	70.2	73.3	6107	2
431	DREW/3/KBNT//KATY/CPRS/4/WELLS	87	38	63.3	68.9	6049	0
438	KATY/CPRS//NWBT/KATY	92	33	67	72.1	6008	2
376	CCDR/CFX18	90	38	65.8	70	5949	2
434	JODN/LMNT	90	37	66.4	70.4	5934	2
384	CFX18//CPRS/KBNT	88	37	64.6	68.9	5920	2

Continued.

Table 39. Continued.

SP Entry	Pedigree	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Total	Yield (lb/A @12%)	RNB*
397	CFX-24/LLCCDR	89	38	61.8	71.6	5912	1
392	9865216DH2/CL161	86	41	66	70.6	5867	4
459	BNGL/3/ORIN//MERC/RICO//…	84	37	58.3	71.5	5851	1
416	9302065//CPRS/97T1280DH1	86	34	65.9	70.9	5850	0
422	CCDR/3/NWBT/KATY//CPRS	82	34	68.7	71.9	5834	1
436	KATY/CPRS//NWBT/KATY	92	33	64.5	69	5829	3
482	9902028/EARL	86	41	51.7	71.3	5728	2
399	CFX-24/98IM2551	90	34	64.6	69.4	5725	4
471	9502065/3/MERC//MERC/4/BNGL	87	35	50	69	5721	5
420	CCDR/3/NWBT/KATY//CPRS	84	33	69.6	72.9	5718	3
487	BNGL	87	33	65	71.8	5717	5
463	BNGL/3/ORIN//MERC/RICO//…	84	39	64.1	72.1	5714	1
441	CHNR	90	36	66	71	5711	4
473	9502065/3/MERC//MERC/4/BNGL	88	37	62.4	70.5	5694	3
439	KATY/CPRS//NWBT/KATY	91	33	64.3	70.4	5687	1
481	9902028/EARL	87	32	63.4	70	5684	4
413	9302065//9002007x2/LGRU	88	31	67	71.5	5651	2
452	BNGL/3/ORIN//MERC/RICO//…	88	34	58.7	73.2	5641	0
435	JODN/LMNT	92	35	68.2	71.9	5609	2
389	CFX18/LM-1	88	39	65	68.8	5608	2
445	BNGL/4/9502065/3/MERC//MERC	88	37	57.5	72	5588	4
425	CCDR/3/NWBT/KATY//CPRS	89	33	66.4	73.4	5587	4
377	CCDR/CFX18	83	38	66.5	71.2	5566	6
414	9302065//9002007x2/LGRU	85	35	68.5	71.5	5536	4
480	EARL/9902028	88	44	62.9	73.6	5531	2
383	CFX18//CPRS/KBNT	84	41	65	69.8	5512	4
394	CPRS/CFX-29	92	35	61.2	67.2	5493	1
437	KATY/CPRS//NWBT/KATY	92	32	64.2	69.1	5483	1
388	CFX18//CPRS/KBNT	90	40	66.4	69.9	5461	4
386	CFX18//CPRS/KBNT	91	38	63.5	70.4	5461	1
379	CFX18//CPRS/KBNT	85	39	67.6	71.2	5453	4
442	CCDR	87	34	70.5	74.3	5441	6
424	CCDR/3/NWBT/KATY//CPRS	83	33	69.6	72.6	5437	4
427	CCDR//9502008-A/DREW	87	35	67.4	73.2	5408	5
387	CFX18//CPRS/KBNT	91	39	63.1	69.3	5372	2
450	BNGL/4/9502065/3/MERC//MERC	88	38	61.3	70.2	5349	1
453	BNGL/3/ORIN//MERC/RICO//…	87	37	66.7	72.2	5285	0
378	CFX18//CPRS/KBNT	85	41	66.7	71	5238	4
454	BNGL/3/ORIN//MERC/RICO//…	88	38	63.8	72.9	5235	1
409	DREW/CFX-18	88	32	69.1	72.6	5216	2
455	BNGL/3/ORIN//MERC/RICO//…	87	34	61.3	74.3	5213	0
423	CCDR/3/NWBT/KATY//CPRS	84	34	69.1	73	5203	4
385	CFX18//CPRS/KBNT	86	40	64.4	69.2	5174	3
456	BNGL/3/ORIN//MERC/RICO//…	83	35	62	73.4	5174	3
415	9302065//CPRS/97T1280DH1	90	33	65.1	70.3	5161	0
391	9865216DH2/CL161	85	39	66.8	73.6	5080	6
395	CFX-24/LLCCDR	92	37	66.6	70.5	5069	2

Continued.

Table 39. Continued.

SP Entry	Pedigree	Days to 50% Heading	Plant Height (in)	Milling (%) Whole	Total	Yield (lb/A @12%)	RNB*
469	9502065/3/MERC//MERC/4/BNGL	87	35	57.6	72.7	5067	3
380	CFX18//CPRS/KBNT	85	39	67	70.4	5017	3
411	WELLS/CFX-18	85	29	66.4	72.2	4986	3
449	BNGL/4/9502065/3/MERC//MERC	88	33	58	72.3	4961	3
443	TRENASSE	73	33	64	72.8	4928	5
407	GFMT/CFX-29	92	31	55.4	67.8	4742	0
440	KATY/CPRS//NWBT/KATY	92	33	65.4	70.7	4732	2
396	CFX-24/LLCCDR	89	36	68.1	71	4599	2
467	9502065/3/MERC//MERC/4/BNGL	87	37	64	71.2	4575	3
426	CCDR/3/NWBT/KATY//CPRS	87	34	67.3	72.7	4528	3
410	CPRS/97T1280 DH1//CFX-18	90	29	67.1	71.6	4484	3
393	CFX-22/98IM3291	91	38	63.7	69.8	4473	2
421	CCDR//9502008-A/DREW	84	34	70.6	73.2	4410	1
451	BNGL/3/ORIN//MERC/RICO//…	88	37	58.2	74.2	4389	1
412	9302065//9002007x2/LGRU	90	29	63.4	70.8	4314	0

*RNB = Rotten neck blast rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 40. Agronomic and milling performance of 2004 Advanced Yield Test (AY). Anther culture lines, Date 1. Rice Research Station, Crowley, LA.

Entry	Pedigree	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)	Ratoon Yield (lb/A @12%)	Total Yield (lb/A @12%)
				Whole	Total			
003	AR1053/97CR233DH1	94	42	57.2	66.6	6052	4502	10554
006	9863910DH2/AR1053	90	44	61.6	70.3	6918	3332	10250
020	FRAN	92	42	60.5	67.8	7277	2866	10143
013	0047272/0046181	87	38	65.8	70.8	8048	1997	10045
002	CCDR/9770532DH2	86	40	63.3	69.1	7877	2059	9936
007	0043752/0047277	86	42	61.5	69.2	8008	1919	9927
004	AC105DH2/AC101DH2	86	40	61.8	65.5	7723	2101	9824
015	WELLS	95	46	58.3	68.4	6968	2768	9736
014	CCDR/98PIM0151	90	44	63.4	69.3	6995	2512	9507
005	CCDR	86	39	59.6	68.0	7734	1764	9498
018	(AC71190H2/97HB52)DH2/(CCDR/…	96	49	58.8	68.3	7146	2236	9382
019	CCDR/9770532DH2	87	40	63.0	68.6	7623	1714	9337
025	JEFF	85	39	66.9	71.4	6524	2665	9189
012	AC102DH2/97CR210DH2	88	41	58.8	69.3	7461	1724	9185
016	CCDR/9770532DH2	85	40	61.3	68.1	7075	1965	9040
008	CCDR/98LL0401	87	41	62.9	66.8	7082	1908	8990
010	CHNR	89	38	59.8	69.1	7294	1662	8956
021	AC110DH2/97CR210DH2	83	40	58.7	68.6	6376	2380	8756
011	AC176DH1/9959322DH2	85	40	62.3	70.8	5953	2603	8556
009	0043676/AC105DH3	85	40	64.7	68.4	7424	1124	8548
023	0043676/AC105DH3	85	38	63.8	68.5	7192	1241	8433
017	AC102DH2/97CR210DH2	88	41	62.0	70.5	6069	2100	8169
022	97CR210DH2/AC157DH2	96	41	59.6	66.5	5204	2886	8090
024	0043676/AC105DH3	86	40	60.7	65.8	6885	1119	8004
001	7050	84	34	63.8	70.4	6039	1909	7948
C.V %		1.7	4.4	3.1	2.4	6.5	9.3	4.8
$LSD_{0.05}$		2.4	2.9	3.9	3.4	749	335	730

Table 41. Agronomic and milling performance of 2004 Advanced Yield Test (AY). Anther culture lines, Date 2. Rice Research Station, Crowley, LA.

Entry	Pedigree	Milling (%)		Yield (lb/A @12%)
		Whole	Total	
013	0047272/0046181	68.5	71.5	6877
011	AC176DH1/9959322DH2	62.8	69.9	6861
020	FRAN	63.1	69.3	6831
018	(AC71190H2/97HB52)DH2/(CCDR/97-71333DH2)DH2	60.8	72.0	6602
002	CCDR/9770532DH2	70.2	73.1	6596
005	CCDR	68.2	72.5	6551
004	AC105DH2/AC101DH2	68.2	71.7	6478
007	0043752/0047277	67.3	71.6	6472
014	CCDR/98PIM0151	68.7	72.2	6458
015	WELLS	62.3	70.8	6347
017	AC102DH2/97CR210DH2	61.9	71.2	6210
012	AC102DH2/97CR210DH2	64.8	71.9	6132
010	CHNR	67.0	71.6	6113
006	9863910DH2/AR1053	60.4	70.0	6092
008	CCDR/98LL0401	63.4	68.9	6016
023	0043676/AC105DH3	64.6	68.8	5853
019	CCDR/9770532DH2	69.2	72.1	5824
016	CCDR/9770532DH2	68.7	72.9	5780
021	AC110DH2/97CR210DH2	65.4	72.2	5508
025	JEFF	66.6	71.4	5379
009	0043676/AC105DH3	66.9	71.1	5319
022	97CR210DH2/AC157DH2	58.3	67.7	5256
024	0043676/AC105DH3	65.3	70.5	5044
003	AR1053/97CR233DH1	58.6	67.6	4944
001	7050	65.5	71.0	4177
C.V %		3.3	1.7	10.8
$LSD_{0.05}$		4.4	2.4	1064

Clearfield Experimental Lines

The combination of a Clearfield variety with use of the NewPath (*imazethypr*) herbicide can be used in a program to selectively eliminate red rice in a commercial rice field. Since the majority of the current Clearfield rice acreage was planted with CL161 (a Cypress mutant), there is a great potential to improve Clearfield rice production by the development of new Clearfield varieties.

The Rice Breeding Project at the LSU AgCenter's Rice Research Station (RRS) has been actively involved in the development of new Clearfield lines that combine the high level of herbicide resistance, high yield potential, and good agronomic characteristics. The three Clearfield varieties (CL121, CL141, and CL161) released by BASF were released by this project. Due to the limitation of both mutation and backcross breeding, conventional pedigree breeding has continued to be the primary method for the development of new Clearfield rice varieties. Crosses are continuously made to combine the high level of *imazethypr* resistance of CL161 and its derived experimental lines with high yield potential of conventional long-grain varieties or lines. Over the past several years, a great number of new experimental Clearfield lines have been developed at the RRS. On- and off-station trials were conducted to evaluate these lines in a typical breeding trial for yield, milling, and agronomic performance. These trials were also treated with the herbicide Newpath to evaluate resistance levels. In each of the trials, *imazethypr* was applied at a rate of 0.126 lb ai/A at emergence after drill seeding, then again at the 3- to 4-leaf stage.

In 2004, advanced yield trials, including 27 experimental Clearfield lines along with check varieties CL121 and CL161, were tested at RRS and five off-station locations. Another 98 experimental lines and the check varieties CL121 and CL161 were tested in our preliminary yield trials at the RRS. Standard agronomic practices were used for all trials. The experimental design was a randomized complete block with two to three replications for each location. Plot size was 4.67 x 16 ft. All off-station tests were planted as companion studies to the Commercial Advanced Tests at each corresponding location. Results are listed in tables 42-51.

Table 42. Agronomic and milling performance of 2004 Clearfield advanced yield trials, Acadia Parish, LA.

Entry	Source	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%
				Whole	Total	
010	CLRP 001	88	40	64.5	73.6	7000
022	CLPR 035	90	40	67.7	72.1	6557
005	CLR 008	92	41	69.2	72.2	6540
009	CLRP 002	90	36	66.9	72.3	6520
002	CLR 018	90	42	67.9	71.5	6488
006	CLR 012	93	41	67.7	71.3	6423
008	CLR 019	91	40	67.7	72.3	6381
007	CLR 011	93	40	68.2	71.2	6355
001	CLR 020	89	39	67.0	73.4	6352
025	CLPR 027	93	40	67.2	71.8	6147
004	CLR 014	93	40	67.7	71.9	6100
017	CLPR 029	92	39	68.1	71.6	6069
019	CLPR 036	92	41	67.8	72.3	6034
016	CLRP 019	92	40	67.7	71.3	6010
027	CL 161	93	41	67.4	71.1	5993
020	CLPR 033	91	37	66.7	73.9	5873
003	CLR 010	93	40	67.7	71.2	5857
012	CLRP 010	92	37	69.9	72.9	5845
011	CLRP 022	92	40	67.2	70.6	5758
013	CLRP 007	92	36	68.3	71.9	5564
021	CLPR 023	91	39	68.5	72.2	5481
024	CLPR 025	92	41	65.9	71.2	5438
018	CLPR 028	90	39	68.2	72.8	5412
015	CLRP 037	91	35	67.0	71.9	5373
c.v. %		0.9	2.9	1.7	0.9	4.9
$LSD_{0.05}$		1.4	1.8	2.4	1.4	480

Table 43. Agronomic performance and yield of 2004 Clearfield advanced yield trials, Evangeline Parish, LA.

Entry	Source	Days to 50% Heading	Plant Height (in)	Yield (lb/A @12%)
022	CLPR 035	86	41	7675
010	CLRP 001	86	39	7610
008	CLR 019	86	42	7503
002	CLR 018	86	41	7482
006	CLR 012	88	42	7439
027	CL 161	89	41	7436
025	CLPR 027	88	40	7375
017	CLPR 029	86	41	7346
019	CLPR 036	87	41	7310
016	CLRP 019	87	40	7305
001	CLR 020	85	40	7298
018	CLPR 028	87	40	7272
004	CLR 014	87	42	7214
005	CLR 008	88	41	7209
021	CLPR 023	87	40	7182
009	CLRP 002	88	37	7172
003	CLR 010	87	40	7098
020	CLPR 033	86	36	7059
007	CLR 011	89	41	6859
011	CLRP 022	91	40	6844
013	CLRP 007	91	38	6714
023	CLPR 021	93	41	6698
024	CLPR 025	89	40	6684
012	CLRP 010	91	35	6654
015	CLRP 037	88	35	6610
014	CLRP 018	88	40	6494
026	CL 121	85	36	5809
c.v. %		1.2	4.1	5.9
$LSD_{0.05}$		1.8	2.6	689

Table 44. Agronomic and disease performance of 2004 Clearfield advanced yield trials, Jefferson Davis Parish, LA.

Entry	Source	Seedling Vigor†	Days to 50% heading	Plant Height (inch)	Lodging (%)	Yield (lb/A) @ 12%	SB‡	BL§	PB¶
013	CLRP 007	4	90	34	10	5719	8	2	3
020	CLPR 033	5	87	35	40	5499	8	4	2
005	CLR 008	4	90	36	7	5468	7	3	3
007	CLR 011	4	91	37	10	5445	7	3	4
003	CLR 010	4	92	37	20	5406	7	4	2
025	CLPR 027	4	91	39	20	5346	8	3	3
018	CLPR 028	4	88	38	37	5128	8	3	3
027	CL 161	4	92	39	17	4974	8	3	3
009	CLRP 002	4	89	34	47	4963	8	4	4
019	CLPR 036	4	89	37	17	4956	7	3	3
002	CLR 018	4	89	38	37	4907	8	3	4
011	CLRP 022	4	90	38	37	4900	7	3	2
008	CLR 019	4	87	37	43	4883	8	3	2
017	CLPR 029	4	88	37	40	4845	8	4	3
001	CLR 020	4	89	37	10	4705	8	5	4
026	CL 121	8	93	36		4669	6	2	3
004	CLR 014	4	91	39	37	4584	8	3	3
012	CLRP 010	5	91	34	13	4506	8	2	4
022	CLPR 035	4	87	38	23	4401	7	4	4
016	CLRP 019	4	90	36	47	4333	8	3	4
021	CLPR 023	4	89	36	60	4311	8	4	4
024	CLPR 025	4	92	36		4284	8	3	5
006	CLR 012	4	90	39	50	4274	8	3	3
014	CLRP 018	4	91	38	23	4226	7	4	4
023	CLPR 021	4	93	38		4152	7	4	2
015	CLRP 037	4	89	32	23	4125	8	4	4
010	CLRP 001	4	87	36	83	3713	8	3	2
c.v.%		12.7	1.2	4.2		10.8	5.7	29.5	38.8
$LSD_{0.05}$		0.9	1.8	2.5		848	0.7	1.6	2.1

†Subjective rating 1 to 9, where 1 = excellent, 9 = poor.
‡SB = Sheath blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.
§BL = Rotten neck blast rating 0-9, where 0 = no disease, 9 = maximum disease possible.
¶PB = Panicle blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 45. Agronomic and milling performance of 2004 Clearfield advanced yield trials, Lake Arthur, Vermilion Parish, LA.

Entry	Source	Seedling Vigor†	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%	Ratoon (lb/A) @ 12%	Total (lb/A) @ 12%	SB‡
					Whole	Total				
020	CLPR 033	6	88	37	65.7	72.7	7027	2427	9453	5
002	CLR 018	4	88	40	68.0	71.4	6581	2808	9389	7
015	CLRP 037	5	89	33	66.6	71.3	6196	3100	9296	7
013	CLRP 007	5	90	35	64.5	70.8	6330	2785	9115	7
008	CLR 019	5	88	41	68.1	72.4	6081	2900	8981	7
025	CLPR 027	5	91	38	66.3	70.9	6078	2776	8854	6
019	CLPR 036	5	88	39	68.9	72.5	6208	2575	8783	7
017	CLPR 029	5	88	39	67.6	72.3	5975	2618	8592	7
001	CLR 020	5	87	39	67.6	72.5	6265	2273	8538	7
010	CLRP 001	5	86	41	69.0	73.1	6308	2036	8344	8
007	CLR 011	5	89	38	67.3	71.8	5990	2350	8340	7
009	CLRP 002	5	88	35	69.5	73.1	6082	2199	8281	8
012	CLRP 010	6	90	35	70.7	73.7	6011	2196	8207	7
024	CLPR 025	5	91	37	61.9	69.2	5632	2543	8175	7
018	CLPR 028	5	87	39	70.6	73.8	5585	2540	8126	6
016	CLRP 019	5	89	38	67.4	71.0	5919	2137	8056	6
023	CLPR 021	4	92	39	64.3	70.1	5557	2412	7969	7
027	CL 161	5	90	39	66.7	71.0	5875	2093	7968	7
021	CLPR 023	6	88	35	67.0	71.8	5596	2358	7954	7
003	CLR 010	5	88	38	66.7	71.2	5753	2078	7831	7
005	CLR 008	5	89	37	68.2	71.6	5762	2052	7814	7
011	CLRP 022	5	90	38	67.2	71.1	5520	2233	7753	7
022	CLPR 035	5	86	38	68.4	72.4	5778	1905	7683	6
006	CLR 012	5	89	40	65.5	70.7	5544	2120	7664	7
014	CLRP 018	5	90	37	68.4	71.8	5227	1979	7205	7
004	CLR 014	5	90	40	65.5	71.0	5229	1897	7126	7
026	CL 121	5	86	34	66.0	73.0	4852	1972	6824	6
c.v.%		10.7	0.9	3.6	2.9	0.9	6.2	15.4	6.3	12.4
$LSD_{0.05}$		0.9	1.3	2.3	3.9	1.4	595	593	853	1.4

†Subjective rating 1 to 9, where 1 = excellent, 9 = poor.
‡SB = Sheath blight rating 0-9, where 0 = no disease, 9 = maximum disease possible.

Table 46. Agronomic performance and yield of 2004 Clearfield advanced yield trials, Pine Island, Vermilion Parish, LA.

Entry	Source	Seedling Vigor*	Days to 50% heading	Plant Height (inch)	Yield (lb/A @ 12%)
002	CLR 018	5	81	39	5448
022	CLPR 035	5	82	40	5145
010	CLRP 001	5	80	38	5142
006	CLR 012	5	83	41	5083
017	CLPR 029	6	85	41	5071
019	CLPR 036	4	83	39	4941
003	CLR 010	5	83	38	4913
004	CLR 014	5	83	40	4902
001	CLR 020	5	81	38	4873
020	CLPR 033	6	82	38	4861
005	CLR 008	5	83	38	4847
018	CLPR 028	5	85	39	4819
027	CL 161	4	84	39	4777
008	CLR 019	6	84	38	4723
012	CLRP 010	5	83	35	4636
007	CLR 011	4	83	38	4618
009	CLRP 002	5	83	35	4603
016	CLRP 019	5	82	39	4573
015	CLRP 037	5	83	34	4571
014	CLRP 018	6	84	38	4548
011	CLRP 022	5	84	39	4545
013	CLRP 007	5	83	36	4444
025	CLPR 027	5	86	38	4405
023	CLPR 021	4	86	40	3863
024	CLPR 025	5	84	39	3794
021	CLPR 023	6	83	38	3632
026	CL 121				
c.v.%		14.3	1.3	4.0	5.7
$LSD_{0.05}$		1.2	1.8	2.5	441

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

Table 47. Agronomic and milling performance of 2004 Clearfield advanced yield trials, Rice Research Station, Crowley, LA.

Entry	Source	Days to 50% heading	Plant Height (inch)	Milling (%)		Yield (lb/A) @ 12%	Ratoon (lb/A) @ 12%	Total (lb/A) @ 12%
				Whole	Total			
008	CLR 019	92	46	63.7	69.4	7050	3036	10086
010	CLRP 001	90	42	60.9	67.1	6844	2770	9614
022	CLPR 035	91	43	64.0	69.9	6866	2712	9578
019	CLPR 036	94	43	63.4	69.3	6629	2732	9361
001	03CLR 020	91	42	62.1	68.4	6743	2582	9325
006	CLR 012	94	46	65.0	69.9	6097	3171	9268
012	CLRP 010	94	40	64.9	70.5	6508	2694	9202
018	CLPR 028	91	43	63.5	70.7	6539	2610	9149
002	CLR 018	93	44	62.1	68.2	6210	2888	9098
005	CLR 008	95	44	66.1	70.9	6580	2383	8963
004	CLR 014	94	44	63.9	69.2	6699	2229	8928
009	CLRP 002	93	37	64.4	69.8	6524	2371	8895
025	CLPR 027	94	44	63.4	69.9	6219	2666	8885
014	CLRP 018	93	42	64.4	70.6	6144	2713	8857
007	CLR 011	95	43	64.6	69.7	6420	2340	8760
026	CL 121	90	38	63.9	70.4	6209	2514	8723
017	CLPR 029	93	44	52.5	66.6	6540	2107	8647
023	CLPR 021	96	45	56.2	66.2	6021	2617	8638
011	CLRP 022	94	45	62.8	68.6	6152	2416	8568
020	CLPR 033	92	40	55.1	67.4	6342	2219	8561
021	CLPR 023	91	43	59.9	68.0	6073	2457	8530
027	CL 161	95	46	61.7	67.7	6511	1998	8509
003	CLR 010	95	43	63.0	68.2	6067	2430	8497
016	CLRP 019	94	45	64.8	70.2	6002	2280	8282
013	CLRP 007	97	39	62.4	69.4	5405	2667	8072
024	CLPR 025	95	43	59.2	67.3	5444	2414	7858
015	CLRP 037	94	38	62.4	69.3	4765	2879	7644
c.v.%		1.4	3.4	3.0	1.9	7.8	17.9	7.0
$LSD_{0.05}$		2.2	2.4	3.9	2.7	798	748	1019

Table 48. Agronomic and milling performance of 2004 Clearfield preliminary yield trials, Group 1, Rice Research Station, Crowley, LA.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
003	0310155	82	39	66.4	70.7	8445
006	0310298	82	36	65.2	70.6	7784
025	CL 161	83	41	69.1	72.2	7693
004	0310261	81	38	67.0	70.5	7558
023	0352281	82	40	68.3	71.6	7512
021	0352230	83	40	67.6	71.2	7502
024	0352306	83	40	64.7	70.0	7165
022	0352255	83	39	68.3	71.7	7153
020	0352201	83	40	66.4	70.6	7033
008	0310344	82	41	67.9	71.2	7012
007	0310318	83	39	66.4	70.4	6995
012	0311064	83	33	67.7	71.0	6916
019	0352149	84	38	65.7	70.3	6698
001	0310009	81	32	69.1	73.1	6665
005	0310293	83	35	68.9	72.4	6584
002	0310143	80	37	68.2	70.9	6448
013	0311205	81	37	66.8	70.6	6167
010	0310441	85	37	64.3	70.5	5759
009	0310417	85	40	65.8	69.9	5719
018	0352097	84	39	64.3	70.1	5449
014	0311218	85	36	64.9	70.5	5363
011	0310450	75	36	66.2	71.1	5171
015	0311390					
016	0311425					
017	0311502					
c.v.%		4.5	3.7	1.6	1.3	5.0
$LSD_{0.05}$		6.1	2.3	2.2	1.9	560

Table 49. Agronomic and milling performance of 2004 Clearfield preliminary yield trials, Group 2, Rice Research Station, Crowley, LA.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
048	0352854	82	40	66.5	71.2	7579
043	0352801	83	42	67.1	71.0	7496
041	0352761	81	37	64.8	70.1	7356
044	0352806	80	41	68.4	72.4	7349
038	0352639	81	43	68.5	72.3	7343
039	0352681	80	40	66.7	71.9	7310
049	0352878	80	40	68.8	72.3	7296
027	0352348	83	41	67.1	71.2	7175
045	0352813	82	41	69.1	73.1	7117
046	0352826	80	40	66.9	72.1	7075
036	0352536	83	42	65.3	70.3	7073
035	0352507	83	39	67.5	71.8	6989
037	0352601	82	39	66.3	71.1	6870
031	0352429	82	38	66.6	71.7	6828
050	CLRP 002	80	36	66.4	71.4	6804
047	0352849	81	42	67.6	72.0	6780
042	0352799	83	37	66.0	71.6	6527
029	0352401	83	38	65.5	70.4	6419
040	0352728	81	37	65.0	71.5	6349
032	0352431	83	41	67.4	72.1	6342
030	0352404	82	35	65.5	70.8	6234
026	0352339	85	40	66	70.4	6096
034	0352485	82	42	63.4	68.9	5905
033	0352444	82	37	65.1	70.3	5586
028	0352369	86	41	59.7	65.9	5453
c.v.%		1.3	3.7	1.9	1.1	4.6
$LSD_{0.05}$		1.8	2.4	2.6	1.5	508

Table 50. Agronomic and milling performance of 2004 Clearfield preliminary yield trials, Group 3, Rice Research Station, Crowley, LA.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
069	0370012	82	43	65.5	70.4	7313
056	0369881	81	39	67.8	72.7	7233
065	0369981	83	44	64.7	69.5	7169
068	0370006	82	41	64.2	70.1	7065
061	0369937	82	41	68.1	71.5	7013
060	0369932	83	42	67.7	71.4	7010
063	0369953	82	41	66.1	70.5	6975
064	0369976	82	41	66.4	70.3	6967
059	0369928	81	46	67.3	71.5	6853
067	0370001	83	44	63.8	69.0	6847
062	0369946	82	41	67.5	71.2	6828
075	CLPR 029	82	40	66.6	71.6	6808
052	0369830	83	39	66.0	71.1	6756
073	0370066	82	42	66.4	70.9	6622
057	0369906	83	38	67.0	71.5	6610
074	0370074	82	43	66.2	71.3	5960
072	0370062	83	46	63.0	69.3	5678
070	0370022	83	37	65.7	71.0	5674
055	0369869	85	40	62.0	71.1	5607
051	0369823	85	40	63.9	69.2	5446
071	0370050	85	44	61.3	67.7	4836
058	0369913	86	42	63.9	68.8	4753
054	0369864	85	41	60.9	69.9	4522
053	0369835	87	42	61.3	68.0	4226
c.v.%		1.3	3.5	2.7	1.2	7.6
$LSD_{0.05}$		1.8	2.4	3.6	1.7	786

Table 51. Agronomic and milling performance of 2004 Clearfield preliminary yield trials, Group 4, Rice Research Station, Crowley, LA.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
094	0370249	81	41	64.9	69.9	7709
085	0370154	82	39	63.5	70.1	7673
090	0370213	82	41	65.8	71.9	7628
093	0370243	82	38	64.1	70.2	7589
098	0370281	80	40	66.8	71.8	7580
087	0370179	79	41	67.7	71.5	7563
099	0370286	82	40	65.9	70.7	7412
079	0370106	83	41	64.6	70.3	7397
095	0370255	81	39	63.3	70.1	7353
080	0370119	83	40	63.7	69.3	7068
086	0370165	84	42	63.7	68.9	7026
082	0370132	84	40	64.5	69.4	6988
089	0370192	82	36	65.1	70.6	6984
088	0370185	80	42	68.7	71.5	6809
081	0370127	82	39	61.5	68.6	6753
092	0370239	83	39	64.5	70.1	6599
084	0370149	83	41	62.9	68.5	6438
076	0370083	82	43	61.4	69.2	6423
100	CL 121	78	34	62.1	68.9	6407
077	0370085	82	42	58.4	65.9	6389
097	0370270	82	41	64.2	71.0	6339
078	0370098	83	45	57.9	66.0	6176
096	0370265	83	36	63.4	70.2	6063
091	0370227	85	38	61.6	69.3	5925
083	0370143	84	40	63.0	69.7	5855
c.v.%		1.7	3.8	2.1	1.1	5.7
$LSD_{0.05}$		2.3	2.5	2.7	1.5	644

* Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

Liberty Link Experimental Lines

These studies were conducted to evaluate the agronomic performance of transgenic lines that contain a gene for resistance to the herbicide glufosinate. The combination of the resistant line and the use of the herbicide can be used in a program to selectively eliminate red rice in a commercial rice field.

These lines were evaluated in a typical breeding project trial to measure yield, milling, and agronomic performance. However, the test was treated with the herbicide to evaluate the resistance level. In each of the studies, glufosinate was applied at a rate of 0.73 lb ai/A at the 3- to 4-leaf stage then again at the early tillering stage. Standard agronomic practice was used for each location.

The experiment design was a randomized complete block with two or three replications for each location. Plots size was 4.67 x 16 ft. All tests were planted as companion studies to the Commercial Advanced Tests at each corresponding location. Results are listed in tables 52-68.

Table 52. Agronomic and milling performance of Liberty Link lines (long-grain entries), Evangeline Parish, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
002	CO 14	86	41	68.7	72.3	9069
024	FRAN	86	43	63.7	71.8	8313
023	WELLS	88	43	63.5	73.3	7969
001	CO 10	86	41	67.8	72.4	7891
021	02 AMS 114-109	87	40	64.7	70.7	7609
003	CCDR	86	39	67.8	72.7	7524
015	02 AMS 34-99	88	39	64.9	71.7	7298
022	CHNR	88	38	68.5	73.8	7169
006	P 18	91	42	64.2	71.1	7111
019	02 ACS 19-116	82	40	55.1	71.5	7001
005	CPRS	89	40	67.9	72.2	6988
007	PSCL	88	43	64.5	71.1	6938
004	CY 13	88	39	66.7	72.5	6745
014	02 AMS 34-100	91	37	62.0	71.2	6592
013	02 AMS 4-69	88	38	64.5	72.4	6508
017	02 ACS 9-45	86	40	63.5	74.5	6474
016	02 ACS 9-19	86	38	61.9	74.4	6473
020	02 AMS 114-33	87	40	63.9	70.1	6441
009	02 AMS 8-112	82	40	55.1	68.4	6157
012	02 AMS 20-80	91	38	65.1	71.4	6127
010	02 ACS 17-58	89	37	64.7	71.0	6006
018	02 ACS 33-4	85	40	64.2	72.7	5762
008	L 16	93	39	68.1	73.4	5324
011	02 ACS 34-31	83	36	60.4	68.8	3803
c.v.%		1.3	3.4	3.0	1.6	9.1
$LSD_{0.05}$		1.8	2.2	3.9	2.4	1023

Table 53. Agronomic and milling performance of Liberty Link lines (long-grain entries), Pine Island, Vermilion Parish, LA, 2004.

Entry	Source	Vigor*	Days to 50% Heading	Plant Height (in)	Milling (%)		Yield (lb/A @12%)
					Whole	Total	
022	CHNR	4	81	36	59.9	69.0	5369
021	02 AMS 114-109	5	81	38	59.9	67.7	5327
009	02 AMS 8-112	4	78	40	57.7	67.2	5320
003	CCDR	4	79	37	58.6	67.8	5126
014	02 AMS 34-100	4	82	36	57.1	66.3	5007
002	CO 14	4	78	38	63.0	69.6	4971
019	02 ACS 19-116	4	76	40	50.6	64.7	4738
001	CO 10	5	78	39	59.7	67.8	4658
006	P 18	6	84	41	50.4	63.5	4573
024	FRAN	6	81	40	55.9	67.6	4563
023	WELLS	4	82	42	54.5	66.7	4439
012	02 AMS 20-80	5	84	36	59.7	67.2	4424
007	PSCL	6	80	40	58.9	67.6	4414
020	02 AMS 114-33	6	81	39	55.2	64.2	4348
010	02 ACS 17-58	5	81	37	58.7	67.3	4291
015	02 AMS 34-99	5	81	36	54.6	65.6	4073
005	CPRS	4	82	39	60.1	68.4	4068
013	02 AMS 4-69	4	81	36	56.6	66.4	4042
018	02 ACS 33-4	4	81	36	57.9	67.6	4013
016	02 ACS 9-19	5	81	37	58.9	68.4	3984
011	02 ACS 34-31	4	76	37	59.5	68.9	3893
004	CY 13	4	81	39	58.0	68.0	3893
017	02 ACS 9-45	5	79	40	59.6	69.8	3636
008	L 16	5	84	36	58.7	68.0	3492
c.v.%		15.6	1.8	4.5	5.0	2.1	9.4
$LSD_{0.05}$		1.2	2.3	2.8	6.0	2.9	690

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

Table 54. Agronomic and milling performance of long-grain Liberty Link lines (planted on April 16), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
024	FRAN	80	46	64.9	68.4	8792
002	CO 14	78	43	66.2	70.5	8401
001	CO 10	77	43	65.3	70.1	8344
015	02 AMS 34-99	79	39	65.8	69.8	8135
017	02 ACS 9-45	77	42	71.2	74.3	8130
023	WELLS	82	44	64.5	70.4	8086
022	CHNR	80	38	68.3	72.0	8049
003	CCDR	78	41	64.9	70.2	7936
021	02 AMS 114-109	81	40	65.2	69.2	7871
019	02 ACS 19-116	75	43	66.5	72.5	7654
007	PSCL	80	41	63.9	69.2	7608
006	P 18	82	42	63.9	69.3	7598
014	02 AMS 34-100	81	38	67.8	71.4	7450
013	02 AMS 4-69	79	38	65.7	71.3	7359
008	L 16	81	37	65.3	70.0	7319
005	CPRS	81	41	67.1	71.1	7297
020	02 AMS 114-33	80	43	63.3	66.9	7281
004	CY 13	80	43	66.1	70.1	6993
012	02 AMS 20-80	81	40	65.4	69.7	6781
016	02 ACS 9-19	76	41	71.5	74.9	6754
010	02 ACS 17-58	80	40	63.8	69.9	6682
018	02 ACS 33-4	78	42	69.3	71.7	6665
011	02 ACS 34-31	76	38	70.6	72.6	6646
009	02 AMS 8-112	75	42	68.8	71.8	6037
c.v.%		1.2	2.8	2.3	1.6	10.5
$LSD_{0.05}$		1.6	1.9	3.2	2.3	1281

Table 55. Agronomic and milling performance of Long-grain Liberty Link lines (planted on May 25), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
013	02 AMS 4-69	75	35	64.7	70.1	6688
002	CO 14	75	33	69.0	71.7	6393
023	WELLS	78	39	62.2	69.8	6271
003	CCDR	74	34	67.1	71.7	6242
018	02 ACS 33-4	74	35	66.5	72.6	6191
008	L 16	78	35	67.7	70.9	6128
005	CPRS	76	33	67.7	70.9	6104
021	02 AMS 114-109	76	35	61.6	67.7	6061
004	CY 13	76	38	66.1	70.5	6003
024	FRAN	75	38	59.4	68.6	5932
010	02 ACS 17-58	79	34	62.6	68.2	5924
007	PSCL	75	35	58.5	68.4	5875
009	02 AMS 8-112	74	34	58.8	70.4	5865
006	P 18	74	35	61.2	68.9	5774
022	CHNR	74	33	66.3	70.8	5763
019	02 ACS 19-116	74	33	55.2	70.4	5763
014	02 AMS 34-100	77	34	62.8	69.3	5756
012	02 AMS 20-80	73	35	60.1	70.7	5726
015	02 AMS 34-99	78	36	60.0	67.3	5719
016	02 ACS 9-19	76	34	63.0	69.5	5551
020	02 AMS 114-33	81	39	62.6	68.2	5466
017	02 ACS 9-45	74	37	66.9	72.2	5455
001	CO 10	74	34	66.9	70.9	5156
011	02 ACS 34-31	75	31	64.0	68.9	5014
c.v.%		2.6	5.3	5.5	2.2	10.8
$LSD_{0.05}$		3.2	3.0	7.2	3.2	1040

Table 56. Agronomic and milling performance of Liberty Link lines (medium-grain entries), Evangeline Parish, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
023	XP 712	90	47	65.6	71.8	9299
019	M21	90	42	59.5	72.2	7800
004	02 ACS 45-69	84	42	59.6	69.7	7606
024	JUPITER	90	40	67.0	72.0	7496
012	02 ACS 10-48	89	40	63.2	72.2	7188
013	02 ACS 10-40	91	41	64.7	72.8	7105
018	02 AMS 9-38	90	41	63.8	72.8	7102
021	BNGL	91	40	67.3	72.2	7083
015	02 AMS 9-112	88	43	65.3	74.5	7038
020	LL 001	90	38	69.4	73.7	7034
011	02 ACS 10-39	90	42	66.1	70.6	7029
005	02ACS 45-76	85	39	64.5	71.8	6869
009	02 ACS 11-106	86	43	67.4	71.0	6629
008	02 ACS 11-70	89	41	63.4	72.1	6478
006	02 ACS 45-63	91	39	64.8	71.7	6437
017	02 AMS 29-26	92	39	69.9	73.5	6428
016	02 ACS 42-112	90	48	68.1	72.5	6106
010	02 ACS 10-28	88	40	45.6	70.8	6088
022	MEDARK	90	39	69.0	72.6	5982
003	02 ACS 8-31	87	40	59.8	71.5	5884
014	02 ACS 45-120	87	41	51.6	70.3	5738
007	02 ACS 11-63	85	41	64.9	73.5	5551
002	02 ACS 47-81	82	38	51.7	70.6	5086
001	02 ACS 47-40	80	39	42.7	65.8	3389
c.v.%		1.2	3.3	2.4	1.9	11.0
$LSD_{0.05}$		1.7	2.2	3.1	2.8	1199

Table 57. Agronomic performance of Liberty Link lines (medium-grain entries), Pine Island, Vermilion Parish, LA, 2004.

Entry	Source	Vigor*	Days to 50% Heading	Plant Height (in)	Lodging (%)	Milling (%)		Yield (lb/A @12%)
						Whole	Total	
023	XP 712	5	80	49		61.1	67.8	6689
019	M21	4	83	44		48.6	64.2	6195
021	BNGL	4	82	40		60.0	66.7	5526
024	JUPITER	4	82	38		59.8	66.6	5170
008	02 ACS 11-70	4	81	38		58.8	67.1	5005
013	02 ACS 10-40	5	82	42		59.9	64.4	4896
017	02 AMS 29-26	4	82	37		62.3	67.7	4892
020	LL 001	4	83	36		62.4	68.8	4781
018	02 AMS 9-38	4	81	38		59.8	67.1	4728
011	02 ACS 10-39	5	81	39		56.2	63.9	4555
014	02 ACS 45-120	5	79	39		55.9	66.3	4551
010	02 ACS 10-28	4	80	37		49.9	66.1	4516
022	MEDARK	4	83	36		62.1	67.8	4512
004	02 ACS 45-69	4	74	37		57.2	69.0	4476
005	02ACS 45-76	4	76	36		59.0	65.9	4475
009	02 ACS 11-106	4	79	38		59.9	66.7	4432
006	02 ACS 45-63	4	81	35		56.6	68.5	4248
002	02 ACS 47-81	3	78	35		56.9	68.2	4211
012	02 ACS 10-48	4	82	38		61.8	68.3	4069
015	02 AMS 9-112	5	80	41		58.9	67.1	3946
003	02 ACS 8-31	5	79	38	10	58.5	68.5	3837
007	02 ACS 11-63	4	75	36	20	59.8	68.0	3768
016	02 ACS 42-112	3	82	41		61.9	68.9	3612
001	02 ACS 47-40	5	71	37		59.7	68.2	3331
c.v.%		14.8	2.0	5.0		5.8	1.5	10.1
$LSD_{0.05}$		1.0	2.6	3.1		7.0	2.1	766

*Subjective rating 1 to 9, where 1 = excellent, 9 = poor.

Table 58. Agronomic and milling performance of medium-grain Liberty Link lines (planted on April 16), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Plant Height (in)	Lodging (%)	Milling (%) Whole	Milling (%) Total	Yield (lb/A @12%)
023	XP 712	78	49		65.6	70.2	8697
024	JUPITER	80	42		64.6	68.9	7932
006	02 ACS 45-63	79	38		61.8	70.8	7770
018	02 AMS 9-38	81	43		62.4	69.3	7759
020	LL 001	80	40		62.4	71.0	7650
019	M21	83	45		51.6	68.9	7418
011	02 ACS 10-39	78	42		58.4	68.4	7323
017	02 AMS 29-26	80	40	17	61.4	68.0	7285
008	02 ACS 11-70	79	42		63.2	69.3	7246
021	BNGL	80	43		64.7	69.1	7213
022	MEDARK	79	40		63.2	68.6	7100
009	02 ACS 11-106	77	43		64.8	69.7	7067
016	02 ACS 42-112	80	49	40	67.6	70.0	6912
012	02 ACS 10-48	78	43		65.1	72.1	6790
010	02 ACS 10-28	78	40	3	55.9	71.2	6655
003	02 ACS 8-31	76	43		63.5	70.0	6564
013	02 ACS 10-40	80	39		47.2	70.0	6000
015	02 AMS 9-112	78	46	33	67.2	71.4	5833
014	02 ACS 45-120	78	44	17	62.9	71.0	5660
004	02 ACS 45-69	75	44	87	69.1	72.9	5542
007	02 ACS 11-63	75	43		62.0	72.8	5457
005	02ACS 45-76	75	41		64.1	68.6	5372
002	02 ACS 47-81	78	41		65.9	71.7	3920
001	02 ACS 47-40	75	41		44.4	60.8	2349
c.v.%		1.1	4.5		9.9	3.0	14.4
$LSD_{0.05}$		1.4	3.2		12.6	4.3	1551

Table 59. Agronomic and milling performance of medium-grain Liberty Link lines (planted on May 25), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
023	XP 712	76	40	64.9	70.2	8585
019	M21	83	38	50.8	69.6	8034
024	JUPITER	79	36	65.8	71.4	6927
022	MEDARK	78	33	65.8	70.6	6718
012	02 ACS 10-48	79	36	66.4	71.9	6691
013	02 ACS 10-40	81	37	67.5	72.2	6515
021	BNGL	79	33	63.7	70.3	6468
020	LL 001	79	34	67.7	71.1	6220
006	02 ACS 45-63	81	35	66.5	70.9	6193
017	02 AMS 29-26	81	35	66.7	70.4	6184
008	02 ACS 11-70	77	35	62.2	69.0	6170
011	02 ACS 10-39	78	36	62.1	68.6	6165
009	02 ACS 11-106	75	36	66.5	70.6	6124
016	02 ACS 42-112	79	42	65.7	69.9	6122
015	02 AMS 9-112	77	36	66.0	73.7	6031
018	02 AMS 9-38	79	36	64.3	71.5	5935
005	02ACS 45-76	74	32	57.8	67.9	5648
010	02 ACS 10-28	75	31	45.6	70.9	5621
004	02 ACS 45-69	73	37	67.0	72.1	5476
007	02 ACS 11-63	75	32	65.7	75.4	5354
014	02 ACS 45-120	77	35	54.3	67.3	4835
002	02 ACS 47-81	78	31	53.5	69.2	4582
003	02 ACS 8-31	77	33	49.2	65.9	4495
001	02 ACS 47-40	72	29	49.4	67.8	3470
c.v.%		1.9	5.8	5.4	2.1	5.3
$LSD_{0.05}$		2.5	3.3	6.9	3.1	526

Table 60. Agronomic and milling performance of Liberty Link lines (Preliminary group), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
037	CO 14	79	43	68.4	71.7	8235
025	BNGL/RICO//98PLL0401	81	40	66.6	70.4	8189
011	98PLL 0201/DREW	79	36	69.1	72.0	8171
012	98PLL 0201/DREW	80	38	66.2	71.4	8170
036	CO 10	78	41	68.0	72.0	8156
035	LL 001	81	41	60.9	68.2	7972
016	98PLL 0401/3/JKSN//990207X2	82	45	64.7	69.7	7898
015	98PLL 0401/3/JKSN//990207X2	82	43	63.4	69.0	7612
028	PY 678/98PLL0001	80	46	62.3	67.3	7596
034	CFX-24/LLCCDR	80	41	69.1	71.9	7593
014	98PLL 0401/3/JKSN//990207X2	77	37	72.0	73.9	7384
027	EARL/98PLL0401	80	40	63.4	68.6	7357
029	PY 678/98PLL0001	81	47	62.5	68.4	7326
030	PY 678/98PLL0001	81	46	63.7	68.2	7301
024	BNGL/RICO//98PLL0401	81	40	59.8	72.0	7228
017	98PLL 0401/3/JKSN//990207X2	76	33	69.6	72.1	7194
001	CFX-24/LLCCDR	79	40	68.5	71.8	7102
040	LLP 020	79	41	66.5	72.6	7065
003	CFX-24/LLCCDR	80	41	69.0	71.1	7061
023	BNGL/RICO//98PLL0401	80	41	63.8	67.8	7026
010	CCDR/98LL 0401	82	37	66.7	71.7	7012
038	CY 13	80	43	67.9	71.9	7006
021	BNGL 62/CPRS	82	38	67.1	70.8	7003
002	CFX-24/LLCCDR	79	37	68.8	71.8	6965
020	98PLL0001/9302065	82	39	65.9	70.7	6952
032	PY 678/98PLL0001	79	40	61.5	71.6	6800
033	EARL/98PLL0401	80	38	60.5	64.4	6783
008	98PLL 0601/CCDR	79	38	67.0	71.8	6730
039	LLP 072	80	37	67.8	72.5	6705
005	98PLL 0601/CCDR	78	39	69.2	73.3	6634
009	98PLL 0601/CCDR	80	38	69.6	73.4	6598
007	98PLL 0601/CCDR	81	39	68.6	71.0	6540
006	98PLL 0601/CCDR	79	38	67.1	73.2	6528
018	CCDR/98LL0401	82	38	68.2	71.4	6411
004	98PLL 0601/CCDR	79	38	70.0	72.5	6319
026	CPRS/98PLL0401	80	40	65.4	70.3	6287
031	PY 678/98PLL0001	80	40	63.4	67.2	6255
019	CCDR/98LL0401	80	39	68.8	72.2	5931
022	CPRS/BNGL 62	82	42	66.7	71.2	5647
013	98PLL 0401/3/JKSN//990207X2	81	37	62.6	67.8	5168
c.v.%		0.9	3.4	4.2	2.0	5.0
$LSD_{0.05}$		1.1	2.2	5.6	2.9	577

Table 61. Agronomic and milling performance of long-grain Liberty Link lines (Group EXP 100, planted on April 16), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Plant Height (in)	Lodging (%)	Milling (%)		Yield (lb/A @12%)
					Whole	Total	
024	FRAN	80	45		64.9	70.0	8331
023	WELLS	81	45		66.3	71.3	8215
021	CCDR	78	40		68.0	71.8	8184
022	CO 10	79	42		66.8	71.1	8135
020	02ACS 6-48	78	40		68.7	71.7	7691
015	02ACS 21-82	77	45		69.6	72.4	7344
007	02ACS 19-116	76	44		64.8	71.9	7289
016	02ACS 26-70	78	41		65.9	70.7	7269
017	02ACS 25-118	78	50	40	68.5	71.5	7152
018	02AMS 16-96	79	41		69.2	71.6	7057
009	02AMS 17-52	79	40		63.1	69.7	6941
006	02ACS 33-4	78	44		68.9	72.0	6529
012	02ACS 31-75	78	47	53	69.4	70.6	6386
003	02ACS 31-64	78	48	63	69.7	71.7	6307
004	02AMS 16-81	77	42		68.1	72.1	6293
019	02AMS 34-26	77	41		66.5	70.8	6284
011	02AMS 32-39	78	41		71.9	73.4	6220
014	02ACS 9-44	77	44		70.4	72.3	6188
002	02ACS 41-2	73	43		67.9	69.6	6111
010	02AMS 34-31	77	40		69.7	72.0	5808
001	02ACS 37-95	74	51	70	67.9	70.6	5500
008	02AMS 8-112	76	43		64.1	70.9	5337
005	02ACS 29-50	78	44	83	62.5	68.8	4861
013	02ACS 35-96	77	47	77	68.0	70.2	4730
c.v.%		1.0	4.1		2.0	0.9	9.3
$LSD_{0.05}$		1.3	2.9		2.7	1.4	1015

Table 62. Agronomic and milling performance of long-grain Liberty Link lines (Group EXP 100, planted on May 25), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
022	CO 10	73	37	66.6	70.5	7017
008	02AMS 8-112	75	37	60.3	71.5	6732
021	CCDR	72	33	68.0	72.1	6662
023	WELLS	74	43	63.1	70.3	6624
009	02AMS 17-52	74	34	63.3	69.4	6597
004	02AMS 16-81	73	35	68.1	72.1	6421
012	02ACS 31-75	74	44	68.9	70.5	6328
017	02ACS 25-118	73	41	66.8	72.5	6251
016	02ACS 26-70	75	38	63.5	71.4	6173
006	02ACS 33-4	75	39	66.9	71.1	6151
024	FRAN	73	42	59.0	68.0	6087
007	02ACS 19-116	74	38	63.5	70.5	5977
018	02AMS 16-96	75	37	63.1	69.4	5893
001	02ACS 37-95	74	41	66.1	70.9	5883
003	02ACS 31-64	74	44	67.7	70.3	5815
015	02ACS 21-82	75	39	65.7	70.5	5766
014	02ACS 9-44	74	39	66.0	71.3	5580
020	02ACS 6-48	75	35	59.2	67.5	5538
005	02ACS 29-50	73	41	60.4	67.1	5449
011	02AMS 32-39	74	35	71.1	74.5	5282
010	02AMS 34-31	73	34	64.5	70.2	5252
002	02ACS 41-2	72	34	66.8	69.4	4620
019	02AMS 34-26	74	36	53.4	66.2	4330
013	02ACS 35-96	74	37	52.2	58.5	3454
c.v.%		0.8	5.0	3.7	2.1	5.2
$LSD_{0.05}$		1.2	4.0	4.9	3.0	622

Table 63. Agronomic and milling performance of long-grain Liberty Link lines (Group EXP 200, planted on April 16), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Plant Height (in)	Lodging (%)	Milling (%)		Yield (lb/A @12%)
					Whole	Total	
224	FRAN	80	45		66.2	70.8	9147
221	CCDR	78	40		66.6	71.5	8459
223	WELLS	81	45		64.3	70.4	8285
222	CO 10	78	41		68.3	71.8	8271
213	02AMS 33-22	80	41		68.6	72.8	7986
208	02ACS 8-76	79	43		70.4	72.7	7949
219	02AMS 34-100	80	39		67.8	71.5	7883
205	02ACS 9-45	78	44		72.1	74.4	7632
214	02AMS 28-98	81	41		68.7	70.7	7406
215	02AMS 26-93	78	44		69.4	71.1	7293
201	02AMS 22-16	79	40		68.6	73.1	7208
207	02ACS 19-15	79	45	7	67.4	73.2	7161
212	02AMS 17-58	81	40		65.9	69.9	7083
217	02ACS 41-10	78	37		63.3	73.4	7074
216	02ACS 9-62	77	47		69.8	73.2	6893
202	02AMS 32-22	78	45		71.4	73.0	6732
220	02ACS 9-63	79	45		71.5	73.8	6608
210	02ACS 40-6	81	40		63.4	67.5	6407
203	02AMS 33-72	79	40		68.5	70.5	6403
218	02ACS 32-117	81	41		66.2	71.5	6393
206	02ACS 9-102	79	43		70.8	71.9	6245
209	02ACS 47-44	79	44	30	66.4	69.2	6134
204	02ACS 29-88	77	46	82	68.6	71.5	5825
211	02ACS 45-54	77	43	10	67.1	70.3	4700
c.v.%		0.9	3.4		2.0	0.7	8.2
$LSD_{0.05}$		1.2	2.4		2.8	1.0	957

Table 64. Agronomic and milling performance of long-grain Liberty Link lines (Group EXP 200, planted on May 25), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
224	FRAN	77	37	64.9	70.7	6755
222	CO 10	73	34	67.1	71.0	6452
223	WELLS	79	38	61.6	70.3	6366
208	02ACS 8-76	73	33	67.1	70.6	6269
207	02ACS 19-15	76	37	67.6	73.2	6201
221	CCDR	74	32	67.0	70.9	6094
212	02AMS 17-58	80	34	60.9	68.8	5967
218	02ACS 32-117	77	34	65.7	71.0	5866
219	02AMS 34-100	79	31	63.4	69.3	5856
215	02AMS 26-93	74	34	66.0	69.7	5787
206	02ACS 9-102	75	33	69.0	71.7	5745
204	02ACS 29-88	76	36	67.4	71.0	5626
214	02AMS 28-98	76	36	67.0	69.6	5603
203	02AMS 33-72	78	36	68.8	70.6	5554
216	02ACS 9-62	74	35	66.9	72.6	5523
217	02ACS 41-10	76	29	67.1	72.6	5369
220	02ACS 9-63	75	36	67.3	73.7	5361
202	02AMS 32-22	77	37	69.7	72.5	5186
201	02AMS 22-16	75	28	65.7	71.6	5175
205	02ACS 9-45	75	37	61.9	73.4	5108
209	02ACS 47-44	78	33	64.3	68.7	4914
213	02AMS 33-22	74	32	66.4	72.5	4704
210	02ACS 40-6	77	34	55.6	61.4	4444
211	02ACS 45-54	74	34	58.8	64.2	4433
c.v.%		1.0	4.7	4.1	1.5	5.4
$LSD_{0.05}$		1.6	3.3	5.6	2.1	629

Table 65. Agronomic and milling performance of Long-grain Liberty Link lines (Group EXP 300, planted on April 16), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Plant Height (in)	Lodging (%)	Milling (%)		Yield (lb/A @12%)
					Whole	Total	
324	FRAN	80	44		65.5	71.0	8456
321	CCDR	78	41		65.6	70.4	8416
322	CO 10	78	42		68.4	71.8	8316
310	02AMS 31-116	81	42		63.4	69.3	8188
313	02AMS 34-99	80	39		65.4	70.4	8160
323	WELLS	81	44		62.9	68.3	8028
320	02AMS 25-27	79	42		71.7	69.9	7936
307	02AMS 22-28	80	46		63.6	67.8	7632
312	02AMS 27-43	80	46	47	68.4	71.2	7614
304	02ACS 30-31	81	39		64.9	69.6	7541
309	02AMS 34-22	80	43		67.5	70.6	7500
303	02ACS 30-50	81	42		65.8	70.6	7406
319	02AMS 20-76	81	40		67.5	70.7	7168
301	02ACS 6-115	79	42		65.3	70.6	7053
314	02ACS 17-107	79	40		66.8	70.9	6985
316	02ACS 36-13	79	43		63.4	68.9	6927
311	02AMS 16-84	79	49		68.3	71.6	6921
302	02ACS 9-19	78	42		69.8	73.8	6800
306	02AMS 20-80	83	39		64.2	70.6	6579
315	02ACS 9-75	79	44		70.0	71.8	6510
308	02AMS 18-24	80	44		66.4	68.6	6394
318	02ACS 9-51	79	43		66.5	70.9	6172
305	02ACS 9-90	80	43		65.9	70.0	5892
317	02ACS 9-43	79	43		69.0	72.4	5868
c.v.%		1.0	3.7		2.5	1.5	5.2
$LSD_{0.05}$		1.3	2.6		3.5	2.1	621

Table 66. Agronomic and milling performance of long-grain Liberty Link lines (Group EXP 300, planted on May 25), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
320	02AMS 25-27	78	36	64.7	68.8	7017
322	CO 10	73	35	67.8	71.5	6895
306	02AMS 20-80	80	35	62.9	69.2	6759
319	02AMS 20-76	76	36	66.6	71.0	6427
311	02AMS 16-84	79	38	64.7	70.1	6385
321	CCDR	74	31	67.3	71.4	6335
304	02ACS 30-31	79	35	64.9	68.9	6316
312	02AMS 27-43	81	37	68.3	71.1	6293
303	02ACS 30-50	78	34	64.9	70.5	6246
324	FRAN	74	38	58.7	65.0	6206
309	02AMS 34-22	78	35	66.9	69.6	6102
313	02AMS 34-99	78	33	64.0	69.7	6077
310	02AMS 31-116	81	37	63.7	69.3	6063
323	WELLS	80	37	63.1	70.9	5990
315	02ACS 9-75	77	38	62.2	67.2	5930
302	02ACS 9-19	74	33	59.1	73.2	5773
316	02ACS 36-13	76	33	60.7	67.7	5680
317	02ACS 9-43	74	37	60.1	68.6	5563
314	02ACS 17-107	76	34	64.7	69.8	5027
307	02AMS 22-28	80	40	63.5	68.9	5018
308	02AMS 18-24	78	37	64.2	65.9	4864
301	02ACS 6-115	77	35	58.5	66.5	4844
305	02ACS 9-90	76	36	52.9	63.0	4622
318	02ACS 9-51	75	35	67.3	71.3	4457
c.v.%		1.3	2.7	3.1	1.7	4.7
$LSD_{0.05}$		2.1	2.0	4.1	2.4	566

Table 67. Agronomic and milling performance of long-grain Liberty Link lines (Group EXP 400, planted on April 16), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
424	FRAN	81	44	63.7	69.0	8901
421	CCDR	79	40	63.2	68.7	8340
407	02ACS 20-93	81	46	62.9	69.6	8270
409	02AMS 28-63	81	42	58.9	70.8	8254
422	CO 10	79	42	66.9	71.1	8198
423	WELLS	81	45	64.8	70.4	8076
413	02AMS 28-64	80	40	60.9	70.5	7829
412	02AMS 10-48	80	41	67.2	70.4	7717
415	02ACS 5-19	80	43	66.7	70.5	7716
410	02AMS 4-69	80	40	64.0	70.5	7705
419	02ACS 19-9	81	42	62.2	70.7	7663
418	02AMS 19-115	82	43	64.7	69.5	7645
405	02ACS 16-114	80	42	67.0	71.0	7605
416	02AMS 23-26	82	46	63.0	66.4	7456
403	02AMS 33-3	81	41	66.0	70.5	7365
404	02AMS 16-43	80	43	65.9	71.5	7314
402	02AMS 32-42	80	39	68.5	71.9	6989
406	02ACS 13-22	79	42	65.5	69.0	6849
417	02AMS 25-117	82	41	65.0	70.0	6551
420	02ACS 19-26	82	40	66.6	71.3	6517
408	02ACS 9-99	82	44	68.1	71.3	6266
401	02AMS 28-91	79	42	69.2	71.6	6191
414	02ACS 4-80	81	44	66.1	69.5	6026
411	02AMS 6-46	82	46	63.9	68.8	5798
c.v.%		0.9	3.1	2.6	1.5	5.1
$LSD_{0.05}$		1.2	2.2	3.5	2.2	615

Table 68. Agronomic and milling performance of long-grain Liberty Link lines (Group EXP 400, planted on May 25), Rice Research Station, Crowley, LA, 2004.

Entry	Source	Days to 50% Heading	Height (inch)	Milling (%)		Yield (lb/A @12%)
				Whole	Total	
407	02ACS 20-93	80	40	61.2	68.7	6930
416	02AMS 23-26	79	40	61.0	67.2	5672
411	02AMS 6-46	82	40	62.6	68.3	5762
417	02AMS 25-117	80	39	64.2	69.6	6616
423	WELLS	81	39	62.3	70.6	6171
424	FRAN	80	39	62.8	69.9	6198
418	02AMS 19-115	79	39	65.6	71.0	6189
420	02ACS 19-26	81	38	68.3	70.8	7114
409	02AMS 28-63	81	38	58.2	70.4	6497
404	02AMS 16-43	80	37	66.3	70.6	5800
414	02ACS 4-80	84	37	64.7	69.0	5657
408	02ACS 9-99	79	37	66.8	69.5	5324
422	CO 10	76	37	63.7	68.5	6731
419	02ACS 19-9	80	35	62.7	71.8	6349
401	02AMS 28-91	80	35	41.4	54.1	3170
403	02AMS 33-3	79	35	67.4	70.8	5060
415	02ACS 5-19	77	35	64.4	69.8	5826
412	02AMS 10-48	80	34	64.0	70.5	5907
402	02AMS 32-42	77	34	68.6	71.7	5359
413	02AMS 28-64	81	34	63.4	71.7	6154
405	02ACS 16-114	80	33	66.0	69.8	6052
410	02AMS 4-69	81	33	60.9	70.4	5990
421	CCDR	75	33	67.3	71.4	6362
406	02ACS 13-22	75	32	65.5	69.0	5827
c.v.%		1.3	4.8	2.9	1.9	5.1
$LSD_{0.05}$		2.2	3.6	3.8	2.7	625

DATE OF PLANTING STUDIES

S.D. Linscombe, X.Y. Sha, K.F. Bearb, C.A. Conner, B.W. Theunissen, B.J. Henry, and H.L. Hoffpauir

These studies are conducted to evaluate the effects of planting date on the yield, milling quality, and agronomic performance of major rice varieties and experimental lines. Information generated from these studies is important in evaluating the stability of rice lines under the various environmental conditions posed by different times of planting.

Experiment: Date of Planting

Location: Rice Research Station

Seeding Rate: 150 lb/A

Planting Method: Water-seeded

Fertilization: All planting dates: 20-60-60 lb/A (N-P_2O_5-K_2O) preplant incorporated; 138 lb/A pre permanent flood; 69 lb N/A midseason

Plot Size: 4.66 x 16 ft

Water Management: All tests were water seeded. Flood was removed then re-established as in a pinpoint flood system to evaluate seedling vigor. At the 2-leaf stage, the flood was removed and fields allowed to dry. Herbicide and fertilizer were applied on a dry soil surface and the flood was re-established at the 4-leaf stage. Tests were drained approximately 2 weeks prior to harvest.

Herbicides: Arrosolo (Propanil + molinate) 1 gal/A and Londax 1 oz/A

Insecticides: Icon (fipronil) applied as a seed treatment

Plant Date: Feb 27, Mar 15 (Lost to Newpath damage), Apr 1 and 15, May 2, 14 and 28, and July 4

Rice Lines: Cocodrie, Cypress, CL 161, CL 131, CL 029, Cheniere, Trenasse, Pirogue, CXL8, Bengal, Jupiter, and 0002140.

Experimental Design: Randomized complete block with three replications

Results: Tables 1-7.

Table 1. Grain yields of 12 rice lines planted over seven planting dates, 2004, Crowley, LA.

Entry	Planting Date							Mean
	February 27	April 1	April 15	May 2	May 14	May 28	July 4	
CL131	6130	7140	7012	5444	6983	3902	4224	5833
CL029	6508	7187	6957	6359	7366	4153	4913	6206
COCODRIE	6125	7028	7394	5311	7440	4854	4754	6129
CYPRESS	5787	6607	6366	5251	7398	4307	4490	5744
CHENIERE	5306	6331	7529	5614	7015	3777	4810	5769
TRENASSE	5797	5577	7390	4718	6395	4233	4681	5542
PIROGUE	5244	4863	7791	3255	5816	4183	4325	5068
BENGAL	5991	6286	6654	5110	6758	4798	4220	5688
CL161	5496	7197	7142	6392	7146	4739	4128	6034
LA2140	3887	3591	7034	3739	5355	4781	4662	4721
CLXL 8	8154	9901	9390	7803	8441	7099	3637	7775
Jupiter	5494	6484	7257	4191	7554	5189	4446	5802
Means	5826	6516	7326	5266	6972	4668	4441	5859
C.V. %	6.9	11.5	4.9	11.6	6.7	11.6	13.8	
$LSD_{0.05}$	636	1194	569	972	760	861	972	

Table 2. Days to 50% heading of 12 rice lines planted over seven planting dates, 2004, Crowley, LA.

Entry	Planting Date							Mean
	February 27	April 1	April 15	May 2	May 14	May 28	July 4	
CL 131	89	97	87	82	77	70	73	82
CL 029	89	99	88	82	78	69	74	83
COCODRIE	90	97	84	80	74	67	70	80
CYPRESS	92	100	88	84	78	73	78	85
CHENIERE	92	98	86	84	76	67	76	83
TRENASSE	83	95	80	78	70	64	63	76
PIROGUE	87	96	84	85	74	72	67	81
BENGAL	93	100	88	86	79	75	74	85
CL161	92	101	88	84	78	72	77	85
LA2140	94	98	83	80	74	74	69	82
CLXL 8	85	98	85	81	74	69	76	81
Jupiter	92	100	88	88	80	74	75	85
Means	90	98	86	83	76	71	73	82
C.V. %	1.2	1.1	1.2	1.5	1.1	1.7	1.2	
$LSD_{0.05}$	1.9	1.8	1.7	2.1	1.4	2.1	1.5	

Table 3. Plant height (inch) of 12 rice lines planted over seven planting dates, 2004, Crowley, LA.

Entry	Planting Date							Mean
	February 27	April 1	April 15	May 2	May 14	May 28	July 4	
CL 131	33	35	33	33	36	26	31	32
CL 029	34	40	38	35	39	28	34	35
COCODRIE	36	38	35	32	38	30	31	34
CYPRESS	36	39	36	33	38	31	33	35
CHENIERE	35	35	35	33	36	31	35	34
TRENASSE	35	40	40	33	39	31	34	36
PIROGUE	37	35	40	33	37	33	35	36
BENGAL	35	40	36	33	37	30	33	35
CL161	38	39	39	38	39	30	35	37
LA2140	34	36	38	30	36	31	32	34
CLXL 8	39	45	44	44	45	39	43	43
Jupiter	35	37	38	33	37	32	33	35
Means	35	38	38	34	38	31	34	36
C.V. %	4.3	5.2	3.8	4.7	4.9	4.4	0.9	
$LSD_{0.05}$	2.6	3.3	2.4	2.7	3.1	2.3	2.2	

Table 4. Milling yield (whole-total) of 12 rice lines planted over seven planting dates, 2004, Crowley, LA.

Entry	Planting Date							Mean
	Feb 27	April 1	April 15	May 2	May 14	May 28	July 4	
CL131	67.2-70.4	69.2-72.2	67.4-71.4	66.0-70.0	68.1-71.0	56.3-67.2	65.9-70.3	65.7-70.3
CL029	67.9-72.7	67.0-71.0	67.5-71.3	58.1-68.4	66.6-71.2	56.3-68.9	66.6-71.0	64.3-70.6
COCODRIE	65.4-71.2	64.9-70.1	65.2-71.0	57.1-67.9	66.0-71.0	60.8-67.9	65.5-69.6	63.5-69.8
CYPRESS	68.1-71.5	67.6-70.2	68.0-71.3	63.1-68.1	68.2-71.2	62.2-68.4	65.6-70.8	66.1-70.2
CHENIERE	64.4-70.9	66.9-71.1	66.9-71.1	67.7-71.7	65.1-70.2	62.5-69.6	63.6-69.1	65.3-70.5
TRENASSE	62.5-66.9	64.8-69.3	63.8-69.5	63.7-68.5	62.3-67.5	57.8-65.6	64.7-69.3	62.8-68.1
PIROGUE	65.7-70.4	66.4-69.8	63.9-69.4	66.6-69.8	63.3-68.8	62.5-68.0	61.0-70.6	64.2-69.5
BENGAL	68.4-72.0	66.1-70.1	64.2-68.3	66.6-69.9	61.9-69.2	58.6-68.1	61.5-69.4	63.9-69.6
CL161	66.7-70.2	67.2-70.2	63.1-68.3	65.1-69.1	67.1-70.6	62.8-70.1	63.4-68.8	65.0-69.6
LA2140	54.4-66.9	60.1-67.8	60.2-67.2	57.9-64.6	61.2-65.9	56.0-64.8	56.9-64.4	58.1-65.9
CLXL 8	60.7-69.5	63.0-70.2	60.5-69.0	59.5-68.5	61.3-68.4	59.7-69.0	56.9-67.1	60.2-68.8
Jupiter	66.9-70.3	63.8-68.3	62.5-69.3	64.7-69.0	61.0-68.1	58.5-67.1	59.0-66.1	62.3-68.3
Means	64.8-70.2	65.5-70.0	64.4-69.7	63.0-68.8	64.3-69.4	59.5-67.9	62.5-68.9	63.4-69.3
C.V. %	2.3-1.1	2.8-1.4	3.3-1.5	4.9-1.4	3.1-0.8	2.6-1.6	3.3-2.4	
$LSD_{0.05}$	3.2-1.7	4.0-2.1	4.7-2.4	6.7-2.2	4.4-1.3	3.5-2.4	4.6-3.7	

MEDIUM-GRAIN AND SPECIALTY PURPOSE RICE BREEDING

X.Y. Sha, S.D. Linscombe, K.F. Bearb, C.A. Conner, B.W. Theunissen, H.L. Hoffpauir, and B.J. Henry

This state project is designed to develop superior medium-grain rice varieties with emphasis on the improvement in yield potential, quality (milling, cooking, and processing), disease resistance, lodging resistance, seedling vigor, and early maturity. The other objective is to develop specialty rice varieties adapted to Louisiana and southern U.S. environmental conditions with superior cooking, agronomic, milling, and specific qualities, such as aroma and elongation. The emphasis is being placed on breeding for Jasmine-, Basmati-, and Della-type long-grain rice.

Field tests for 2004 included 135 transplanted F_1s (58 medium-grain and 77 specialty), 102 space-planted F_2 populations (51 medium-grain and 51 specialty), and 17,234 progeny rows (9,112 medium-grain, 7,122 specialty, and 1,000 genetic materials), ranging from F_3 to F_8. Out of those rows, 818 were harvested (406 medium-grain and 412 specialty) for the further evaluation. A total of 356 new crosses (203 long-grain and Clearfield, 85 medium-grain, and 68 specialty) were made. In September, additional 10 crosses with an average 1691 seeds a cross were made for a jointed study between the Rice Research Station and the CropDesign of Belgium.

Two hundred fifty-four breeding lines (185 medium-grain and 69 specialty) were included in the preliminary yield test, of those, 69 (46 medium-grain and 23 specialty) in replicated test (PY) and 185 (139 medium-grain and 46 specialty) in the single plot test (SP). Yield, milling, and agronomic performance of these lines are listed in Tables 32, 33, 34, 37, and 38 on pages 43-45 and 51-54. Seven advanced medium-grain lines were also tested in the URN. Test results of these lines (entries 028, 031, 134, 137, 140, 146, and 183) are presented in Tables 2, 6, and 7 on pages 6, 10, and 11. Three specialty entries were tested in the uniform regional nursery (URN). Specific specialty traits, such as aroma, elongation, cooking flavor, and texture, were placed at the first priority followed by yield and agronomic characteristics. Among these three lines, two were Jasmine types (entries 025 and 125) and one Della type (entry 131). Agronomic results are presented in Tables 2 and 6 on pages 6 and 10. Most of these lines were also tested in statewide multi-location commercial advanced (CA) yield trials. CA data are presented in Tables 8 to 17 on pages 12-27.

Grain quality and specialty traits, such as dimension, size, translucency, and aroma, are extremely important to this project. Our previous studies revealed that several such traits were highly inheritable and can be effectively selected in the mid- or even early generations. Such rigorous selection in the early and mid-generations enables us to efficiently use our limited resources by concentrating on the materials with the target traits. Extensive lab work was carried out to evaluate grain quality and/or aroma of 2004 field selections of 1095 medium-grain progenies, ranging from F_3 to F_5 and 877 specialty F_3 or F_4 progenies. About 25% of tested medium-grain progenies and 50% of tested specialty progenies have been discarded because of the poor grain quality or lack of strong aroma. Additional 275 bulked specialty rows, along with 225 bulked medium-grain rows, were also evaluated for seedling vigor, milling, grain quality, and/or aroma.

The Puerto Rico winter nursery is also critical to this project. In 2004, 2,500 progeny rows of both medium-grain and special purpose types were planted and selected. Even though most of these were F_3s for the generation advancement purpose, about 500 of these rows were planted to the medium-grain line LA 2183, which gives us the extra time for the seed purification and increase.

The medium-grain experimental line LA 2183 (RU0202183) continuously showed good yield potential, good milling and grain quality, and excellent overall disease resistance. It has been approved for release (November 2004) by LSU AgCenter.

RICE GENETICS AND GERMPLASM DEVELOPMENT

J.H. Oard, D. Groth, S.D. Linscombe, E. Webster, N. Zhang, S. Kadaru, W. Zhang, and J. Lee

Summary

Research in 2004 produced the following results. 1) Field and laboratory analyses showed that red rice occurring in commercial fields did hybridize with Clearfield rice within the first year of planting, but the overall rate of outcrossing was low at ~1%. These results have direct implications for management of the Clearfield herbicide technology. 2) Sheath blight-tolerant germplasm was developed that will be made available to the Rice Breeding Program. The LSU AgCenter, involving several rice researchers, developed germplasm for a multi-state USDA research effort to develop sheath blight-resistant varieties. 3) DNA molecular markers were identified to facilitate accelerated improvement of grain yield and other agronomic traits for Louisiana rice. 4) Proteins were identified in rice in response to infection by the sheath blight fungus. These results will provide new information and strategies to develop high levels of sheath blight resistance. 5) cDNA libraries were constructed to isolate rice genes associated with resistance to sheath blight infection. 6) A genomic library from a natural mutant of *Coreopsis tinctoria* has been constructed and is being screened to identify an ALS gene that confers resistance to both imidazolinone and sulfonylurea herbicides.

Objectives

The Rice Genetics Project, located at the LSU Agricultural Center, Department of Agronomy, was carried out under LAES Project 3295 in close cooperation with scientists at the Rice Research Station and the LSU Baton Rouge campus. The objectives of this project were as follows:

1) Assess risk of outcrossing between red rice and Clearfield rice

2) Develop sheath blight-tolerant germplasm with desirable agronomic traits

3) Identify molecular markers associated with high grain yield and other desirable economic traits for Louisiana rice

4) Identify proteins produced by rice in response to infection by the sheath blight fungus *Rhizoctonia solani*

5) Isolate rice genes for resistance to sheath blight by cDNA-AFLP method

6) Isolate the acetolactate synthase (ALS) herbicide resistance gene from *Coreopsis tinctoria*

Objective 1: Risk assessment of outcrossing between red rice and Clearfield rice

Previous research in 2002-2003 determined that outcrossing occurred between red rice and Clearfield rice in commercial fields at a low rate of <1%. We evaluated a second set of red rice and Clearfield varieties in 2003-2004 at 12 commercial Clearfield sites in south Louisiana to corroborate the initial results. In 2003, 100 red rice samples were collected from each of 12 locations growing CL161, CL121 or CLXL8. Seeds from each red rice biotype collected in 2003, along with Clearfield controls, were planted in 2004 at the Ben Hur Farm, Baton Rouge, LA. Seedlings at the two-leaf stage were sprayed with a 2X rate of Newpath herbicide, followed by the same treatment 14 days later. If outcrossing had occurred between red rice and Clearfield in 2003, we should observe Newpath-tolerant plants in this trial. The results are presented in Table 1. All Newpath-tolerant plants produced pubescent leaves with 51/327 exhibiting a purple leaf margin. This experiment was planted April 15, 2004, but the majority (246) of the red rice/Clearfield hybrids did not flower before September 15, while the Clearfield controls matured in August. High levels of seed shattering were observed from the remaining hybrid plants. The hybrids overall produced a wide range of values for most agronomic traits. For example, ~ 30 days was observed between the first and last heading dates. A wide range of tillers from 13 to 153 and panicle production from 9 to 101 were detected among the hybrids. Plant height showed extensive diversity, ranging from 62 cm to 142 cm. Similar results were detected for panicle length, seeds/panicle, spikelets/panicle, seed setting rate, and 100-grain weight.

The results in Table 1 show that 327/48,127 red rice plants survived the 2X Newpath treatments. The putative hybrids were verified using DNA molecular markers. The frequency of overall outcrossing between red rice and Clearfield across the 12 locations was calculated to be 0.7%. Three hybrids produced a tight, erect plant type, and short height (62-85 cm) that were distinct from all other Newpath-tolerant plants. The largest number of hybrids at a single site (85/327) was produced at Location 2 with an outcrossing rate of 3.2%, while no outcrossing was detected at Location 4. Results from this study confirm results of the 2002-2003 experiments. Outcrossing occurred in both years at an overall rate of ~1% that is consistent with previous studies, but a relatively high rate of 3% was detected at one location in 2003 where a high density of red rice infestation was observed. This study has direct implications for the long-term management of the Clearfield technology.

Controlled and natural crosses between red rice and Clearfield were made. F_2 progeny were analyzed for flowering date/heading date, plant height, seeds/panicle, spikelets/panicle, seed setting rate, and 100-grain weight at the Ben Hur Farm in 2004.

As expected, extensive variation for all traits was observed among the different F_2 hybrid populations. Genetic analyses showed that 35 of 44 F_2 populations derived from natural crosses and 21 out of 23 F_2 populations from controlled crosses produced the expected 3 pubescent:1 glabrous leaf ratio, indicating that this trait was controlled in a Mendelian fashion. Another 11 F_2 populations showed abnormal segregation. Greenhouse experiments were conducted to determine genetic control of Newpath tolerance from three pooled F_2 populations derived from natural outcrosses. Using the 2X Newpath rate, a 3 tolerant:1 susceptible segregation ratio was observed, indicating that Newpath resistance was controlled by a single, dominant Mendelian gene. Genetic analysis of the remaining traits is currently under way.

Table 1. Number of red rice plants tolerant to 2X field rate applications of Newpath herbicide, Ben Hur Farm, July 2004.

Location	No. seeds planted	No. of plants emerged	Germination rate (%)	No. of Newpath-tolerant plants
1	6193	815	13.16	1
2	6969	2634	37.8	85
3	5991	3310	55.25	50
4	6996	3784	54.09	0
5	7889	4665	59.13	4
6	8147	4117	50.53	24
7	9077	1690	18.62	5
8	11082	4098	36.98	24
9	9742	6542	67.15	17
10	11010	6828	62.02	44
11	9138	4626	50.62	45
12	10858	5018	46.21	28
Total	103092	48127		327

Objective 2: Develop sheath blight-tolerant germplasm with desirable agronomic traits

The primary goal of the traditional genetic studies was to develop improved germplasm lines for sheath blight resistance from both wild and domesticated sources by crossing to high yielding Louisiana varieties. Toward this end, 205 new hybrid combinations were produced to incorporate new sources of resistance from Louisiana, Mississippi, and China. F_1 plants derived from more than 150 crosses made in 2003 were evaluated and advanced for next year's field trials. A total of 66 of 2,100 F_2 to F_5 lines were identified with high levels of sheath blight tolerance (sheath blight rating of 5 or less) and improved agronomic characteristics. This material will be made available to the LSU AgCenter Rice Breeding Program. Dr. Oard cooperated with Drs. Chu, Groth, Linscombe, Rush, Sha, and Utomo to evaluate two sheath blight-tolerant genetic populations (developed by Drs. Chu and Rush) for analysis in the USDA-NRI Rice CAP Project.

Objective 3: Identify molecular markers associated with high grain yield and other desirable economic traits for Louisiana rice

Rice is one of the major crops in Louisiana, with nearly 0.45 million acres planted in 2003. It is the primary staple food for nearly half of the world's population. Apart from this, rice is considered a model monocot plant for molecular biology studies, and its complete genome sequence information is available for use by the scientific community. However, the U.S. rice industry has experienced a reduction of 28.5 million cwt in milled rice exports in 2003, and much of this reduction was due to milling quality of the rice grains. Thus, efforts to increase the rice grain yield and quality through genomics and breeding programs assume greater significance. Applied U.S. rice breeding generally exploits variation within a narrow genetic window, so detection of informative molecular markers for marker-aided selection is a formidable challenge. Modern fine mapping studies using single nucleotide polymorphism (SNP) markers are appropriate for this objective. At the same time, association studies involving this exploited variation and desired economical traits are equally important.

The potential of Discriminant Analysis (DA) as an association genetics tool to select markers was explored in adapted U.S. rice germplasm. For this work, phenotypic data for four traits were obtained from 192 elite U.S. inbred lines planted in 2000 in four states (AR, LA, MS, and TX). A total of 95 SSR molecular profiles for these same lines generated 595 alleles, with an average of six alleles/locus. DA successfully identified three new markers, along with the known RM190 locus, for percent amylose content. Ten alleles from the four amylose markers in the U.S. material were able to explain ~90% observed variation among a second set of 38 inbred lines of U.S. and Asian origin. New DA-selected markers were also identified for percent head rice, percent total rice, and grain yield that that mapped within or near traditional Quantitative Trait Loci (QTL) regions. DA-selected markers produced high levels of correct classification and R^2 values, indicating potential value of this approach in identification of informative alleles for marker-assisted selection. While some markers were common among two or more states, most of selected alleles were location specific. Results from this study suggest that DA can successfully complement traditional methods to identify markers associated with complex and economically important traits in rice.

The possibility of developing a gel-based, allele-specific, and semi high-throughput fine mapping technique for rice was also investigated using the S1 nuclease enzyme CEL I. The assay for CEL I is relatively simple and cheap compared with most modern costly SNP typing tools. The CEL I nuclease assay was successfully carried out to detect previously reported SNP variation in two grain quality-related loci (*alk* and *waxy* genes) among four rice cultivars (Jasmine-85, Teqing, LaGrue, and Cypress). This assay successfully validated one of the two reported SNPs (Ban II) in the *alk* gene in Jasmine-85 but did not detect any polymorphism for the reported SNP among four cultivars at the *waxy* locus. However, CEL1 detected a new haplotype consisting of a stretch of 8 SNPs within the first intron of the *waxy* gene. The conditions for scaling-up of the assay were optimized, and a survey of 60 U.S. and Asian rice lines was successfully carried out for the above two loci. Thirteen of the 60 lines carried a Ban II SNP and one line exhibited a Nla III SNP at the *alk* locus. The new haplotype in the waxy intron could not be resolved completely by the CEL 1 assay for the 60 rice lines because there were numerous fragments of similar size generated from the eight SNPs and two insertions/deletions (indels) in the survey region. Nevertheless, the CEL 1 method easily detected the possibility of haplotypes occurring at the locus that could be quickly resolved by sequencing. All results of the CEL 1 assay were further confirmed by sequencing the PCR products of the corresponding loci. Thus, these results demonstrated that the CEL 1 assay not only faithfully detects the reported SNPs existing at these loci but also has the potential to discover new SNPs and haplotypes for germplasm improvement in rice. We thank Dr. Bob Fjellstrom, USDA, Beaumont, TX, for valuable input and suggestions during the course of this work.

Discovery of molecular markers and candidate genes associated with complex traits in human and plant populations may be based on traditional linkage disequilibrium (LD) mapping strategies, but non-reproducibility and spurious associations often dilute the impact of this methodology. Robust, multivariate pattern recognition models, such as DA, may provide a viable alternative to LD for identification of markers and genes associated with simple and complex inherited traits in plants. The potential of DA was evaluated to detect candidate microsatellite markers associated with economically important traits in a large population of unrelated U.S. and Asian inbred lines of rice.

Associated marker alleles detected by DA mapped within the same genetic intervals when compared with previous traditional quantitative trait loci (QTL) mapping experiments that evaluated progeny derived from various controlled crosses. DA-selected markers collectively explained 54 to 99% of the observed variation for five traits while individual DA alleles explained 0.01 to 99% of the variation. These encouraging results suggest that DA should be evaluated in additional experiments and populations as a new bioinformatic tool for marker-trait associations in rice.

Objective 4: Identify proteins produced by rice in response to infection by the sheath blight fungus *Rhizoctonia solani*

The sheath blight disease caused by fungus *R. solani* is an economically important disease in the southern United States and can cause significant yield loss. Due to the lack of understanding of resistant mechanisms at the protein level, we have conducted a proteomic study that can ideally provide a 'global' snapshot of proteins involved or associated with plant defense mechanisms. The overall goal of this study was to identify proteins that are related to sheath blight resistance by comparing protein expression patterns between the susceptible, wild-type cultivar Labelle and the resistant, mutant line LSBR-5. We received valuable input and assistance from Dr. Chuck Rush during this study.

Protein samples, extracted 24 hr after inoculation of rice leaf sheaths, were loaded onto the BioRad 2-DE PAGE gel system. Two independently grown sample sets and three replicated gels from the same sample were made to eliminate bias resulting from different environmental and electrophoresis conditions. Approximately 1,000 protein spots stained with Sypro-Ruby were resolved in all six replicated gels. We conducted the comparison analysis of protein spot quantities between inoculated samples and non-inoculated samples with PDQUEST image analysis software. With MS/MS spectra produced by ESI-Q-TOF analysis, 27 proteins out of a total 36 detected from the comparison analysis were identified through NCBI nr and NCBI EST database searching with Mascot MS/MS Ion Search Software (Matrix Sciences). A total of 21 up-regulated and one down-regulated protein spots were detected in both the susceptible and resistant lines, suggesting a common stress response to infection by *R. solani*. Sixteen of the 21 proteins identified from the database searches are presented in Table 2. Fourteen defense-specific protein spots were significantly expressed only in the resistant LSBR5. Eleven of the 14 proteins were identified from the database search and are presented in Table 3. The presumed functions of the identified proteins were associated primarily with antifungal and antioxidant activity, photosynthesis, energy metabolism, respiration, protein folding, and signal transduction.

These results revealed several practical implications about the interaction of rice and *R. solani*. First, the infection process involved the elevated production of numerous proteins found in different pathways in the rice plant to mount a challenge to infection by the fungus.

Table 2. Proteins identified from NCBI database searches whose abundance significantly varied in the response of resistant LSBR5 and susceptible Labelle rice lines to challenge by *R. solani.*

Spot #	Protein identified by NCBI search	Accession number	Score[a]	Relative abundance[b] IL/NL[c]	I5/N5[d]	I5/IL	N5/NL
1	putative ACC oxidase [Oryza sativa (japonica cultivar-group)]	gi|52353464	100	1.71 ± 0.14[e)]	1.53 ± 0.03	N.S	N.S
2	glyceraldehyde-3-phosphate dehydrogenase [Oryza sativa]	gi|2331137	195	2.02 ± 0.65	2.78 ± 0.33	N.S	N.S
3	putative glutathione S-transferase [Oryza sativa (japonica cul0tivar-group)]	gi|50919661	119	2.22 ± 0.77	3.18 ± 0.54	N.S	N.S
4	glutathione S-transferase II [Oryza sativa (japonica cultivar-group)]	gi|34909798	103	2.55 ± 0.51	3.52 ± 0.61	N.S	N.S
5	thylakoid-bound ascorbate peroxidase [Oryza sativa (japonica cultivar-group)	gi|29616952	50	2.99 ± 0.80	5.17 ± 1.70	N.S	N.S
6	ribulose-bisphosphate carboxylase (EC 4.1.1.39) large chain precursor - rice chloroplast	gi|7436576	130	2.00 ± 0.67	3.27 ± 1.46	N.S	N.S
7	putative ascorbate peroxidase [Oryza sativa (japonica cultivar-group)]	gi|50920595	55	2.72 ± 0.90	3.65 ± 0.39	N.S	N.S
8	putative mitochondrial F0 ATP synthase D chain [Oryza sativa (japonica cultivar-group)]	gi|50946875	110	3.24 ± 1.36	4.89 ± 2.87	2.10 ± 1.35	N.S
9	ribulose bisphosphate carboxylase large chain precursor (RuBisCO large subunit)	gi|131978	120	2.22 ± 0.66	3.52 ± 1.13	1.95 ± 0.50	N.S
10	rubisco large subunit	gi|476752	113	2.00 ± 0.14	5.16 ± 1.13	2.07 ± 0.87	N.S
11	rubisco large subunit	gi|476752	190	1.68 ± 0.01	2.11 ± 0.05	2.27 ± 0.01	N.S
12	20S proteasome beta subunit [Oryza sativa (japonica cultivar-group)]	gi|50933089	83	1.53 ± 0.05	3.28 ± 1.13	1.50 ± 0.05	N.S
13	putative 26S proteasome non-ATPase regulatory subunit 14 [Oryza sativa (japonica cultivar-group)]	gi|54287494	142	2.28 ± 0.26	4.43 ± 1.26	2.39 ± 0.52	N.S
14	beta-1,3-glucanase [Oryza sativa]	gi|4884530	253	2.16 ± 0.07	3.90 ± 1.20	2.50 ± 0.27	N.S
15	ribulose-bisphosphate carboxylase (EC 4.1.1.39) large chain precursor - rice chloroplast [Oryza sativa]	gi|7436576	128	2.03 ± 0.48	4.13 ± 0.98	2.30 ± 0.18	N.S
16	putative germin protein [Oryza sativa (japonica cultivar-group)]	gi|34904670	53	0.64 ± 0.07	0.70 ± 0.05	2.12 ± 0.40	1.90 ± 0.27

a) The Score is given as S = -10*Log(P), where P is the probability that the observed match is a random event.
b) Data obtained from the analysis of the normalized spot quantity calculated with PDQUEST software.
c) IL : average of normalized spot quantities in the inoculated Labelle, NL: average of normalized spot quantities in the non-inoculated Labelle.
d) I5 : average of normalized spot quantities in the inoculated LSBR5, N5: average of normalized spot quantities in the non-inoculated LSBR5.
e) The values were calculated with average ratios of each sample set. ± = standard deviation (n=2).
f) non-significant

Table 3. Identified proteins from NCBI database searches whose abundance significantly varied only in the response of resistant LSBR5 to challenge of *R. solani.*

Spot #	Protein identified by NCBI search	Accession number	Score[a]	Relative abundance[b]			
				IL/NL[c]	I5/N5[d]	I5/IL	N5/NL
17	ribulose-1,5-bisphosphate carboxylase/oxygenase activase [Oryza sativa]	gi|1778414	70	N.S	3.91 ± 1.01[e)]	3.03 ± 0.94	N.S[f)]
18	ribulose bisphosphate carboxylase large chain (RuBisCO large subunit)	gi|6093918	53	N.S	5.19 ± 0.10	3.12 ± 0.18	N.S
19	putative chitinase [Oryza sativa (japonica cultivar-group)]	gi|55168113	55	N.S	4.79 ± 2.44	2.77 ± 1.70	N.S
20	unknown protein [Oryza sativa (japonica cultivar-group)] (putative 3-beta hydroxysteroid dehydrogenase/isomerase protein Arabidopsis thaliana].AAM61751	gi|34897418	213	N.S	2.76 ± 0.03	1.95 ± 0.18	N.S
21	putative chitinase [Oryza sativa (japonica cultivar-group)]	gi|55168113	179	N.S	2.91 ± 0.20	2.00 ± 0.30	N.S
22	glyceraldehyde 3-phosphate dehydrogenase A subunit [Arabidopsis thaliana]	gi|166702	168	N.S	2.76 ± 0.60	1.87 ± 0.50	N.S
23	putative alpha 1 subunit of 20S proteasome [Oryza sativa (japonica cultivar-group)]	gi|50920359	173	N.S	3.98 ± 0.98	2.44 ± 0.06	N.S
24	stromal ascorbate peroxidase [Oryza sativa (japonica cultivar-group)]	gi|32879781	45	N.S	5.41 ± 0.87	3.27 ± 1.27	N.S
25	putative chaperonin 60 beta precursor [Oryza sativa (japonica cultivar-group)]	gi|34897924	687	N.S	0.67 ± 0.10	1.94 ± 0.20	3.20 ± 0.20
26	14-3-3-like protein [Oryza sativa]	gi|7271253	190	N.S	0.60 ± 0.06	N.S	1.55 ± 0.08
27	endosperm lumenal binding protein [Oryza sativa]	gi|2267006	299	N.S	0.65 ± 0.01	1.82 ± 0.17	2.30 ± 0.30

a) The Mascot Score is given as S = -10*Log(P), where P is the probability that the observed match is a random event.
b) Data obtained from the analysis of the normalized spot quantity calculated with PDQUEST software.
c) IL : average of normalized spot quantities in the inoculated Labelle, NL: average of normalized spot quantities in the non-inoculated Labelle.
d) I5 : average of normalized spot quantities in the inoculated LSBR5, N5: average of normalized spot quantities in the non-inoculated LSBR5.
e) The values were calculated with average ratios of each sample set ± standard deviation (n=2).
f) non-significant.

This means that enhanced production of those proteins by rice identified in this study was a coordinated *quantitative* response rather than a categorical synthesis and activation of a few key compounds. All proteins identified in this study have been characterized in the past by other researchers as general stress-response factors. Therefore, while those proteins shown in Table 3 appear to be necessary for rice to present a resistant response and can serve as candidate proteins for further analysis, they most likely are not sufficient nor play a central role in the *initial* or *specific* regulation of resistance to *R. solani*.

Objective 5: Isolate rice genes for resistance to sheath blight by cDNA-AFLP method

Sheath blight of rice is caused by an aerial form of *R. solani*. This disease provides a good example of the difficulties in controlling disease caused by pathogens that are not host-specific but are capable of causing serious damage. Since the introduction of semidwarf, high-yielding, nitrogen-responsive rice cultivars, sheath blight has been a major constraint to rice production in Louisiana. All of the U.S. long-grain rice varieties grown in Louisiana are susceptible to sheath blight. Growers use fungicides to control this disease at a high per acre cost, so development of resistant varieties would significantly reduce production costs for the Louisiana rice industry.

Resistant rice cultivars have not been bred because of the low inherent level of resistance in rice to *R. solani*. Population biology studies based on molecular markers appear likely to provide clues to some of these vital questions and help in the development of suitable and sustainable management strategies. The initial symptoms of sheath blight include lesions on sheaths of lower leaves near the water line when plants are in the late tillering or early internode elongation stage of growth. These lesions usually develop just below the leaf collar as oval-to-elliptical, green-gray, water-soaked spots about 1/4 inch wide and 1/2 to 1 1/4 inch long. Disease development progresses very rapidly in the early heading and grain filling growth stages during periods of frequent rainfall and overcast skies. Plants heavily infected at these stages produce poorly filled grains, particularly in the lower portion of the panicle.

Disease resistance in plants often involves recognition of invading pathogens followed by activation of a defense response. By using cDNA-AFLP analysis, we are attempting to survey transcriptional changes with no prior assumptions about which genes might be induced or repressed. cDNA-AFLP analysis has advantages over other RNA fingerprinting techniques and DNA chip-based approaches. For example, DNA chips can be used only to analyze the expression of cloned genes, whereas cDNA-AFLP analysis can reveal altered expression of any gene that carries suitable restriction sites.

Development of rice cell culture in sheath blight-resistant lines

Seeds from Teqing and Jasmine 85 were plated on MS medium in petri dishes to generate callus cultures. To produce this material, seeds were surface-sterilized using commercial bleach and placed on the MS medium in the dark for approximately 3 to 4 weeks. The initial calli produced were transferred to new medium every 2 weeks for a total of 4 weeks. Calli were then placed in liquid MS medium and changed to fresh medium every 2 weeks during the first month, and if they were growing fast, transfers were made every week. Dr. M.C. Rush from the Department of Plant Pathology and Crop Physiology was consulted about media modifications to improve callus growth. Fine tuning of the *in vitro* culture process is still under way to enhance growth rate and callus quality for this component of the research.

RNA isolation from rice infected with R. solani and synthesis of the cDNA library

A randomized complete block design with a split-plot arrangement was used in greenhouse experiments. Jasmine 85 and Teqing are *indica* cultivars that are resistant to *R. solani*. These plants were grown in the greenhouse to the late tillering stage, which corresponds to the stage of initial infection by R. solani under field conditions. Plants were transferred to a high humidity chamber for the remainder of the study. *R. solani* was grown on potato dextrose (PD) solid medium in the dark at 28°C for 72 hr. Individual young, white scloretia were collected from the PD plates and placed underneath a leaf sheath at 5 PM. A total of nine leaf sheaths were inoculated for each cultivar. Three plants were placed in a 1-gal plastic pot. Approximately 500 grams of stem tissue, 2.5 cm above the leaf sheath from treated and untreated plants, were collected 0, 15, 24, and 72 hr after inoculation. This study was repeated during four separate experiments. Collected stem tissue was placed at -80°C until further analysis.

Total RNA was extracted from the collected tissue samples using the Qiagen RNease Midi Kit. Two columns were used for each sample to improve the total yield. The quantification of starting RNA was determined prior to Oligotex mRNA purification by measuring the absorbance at 260 nm (A_{260}). Poly(A) RNA was isolated from total RNA using Oligotex from Qiagen. It was necessary to determine the amount of Poly(A)RNA using a spectrophotometer to synthesize c-DNA. The cDNA was synthesized using Expand reverse transcriptase, RNase H, and DNA polymerase I. Kits for the cDNA synthesis were tested to generate the template for the cDNA-AFLP. It was decided to use a protocol proposed by Bachem with minor modifications.

Work is currently directed at generation of the cDNA-AFLPs, template preparation, Amplified Fragment Length Polymorphism (AFLP) reactions, and PAGE Analysis of Products. The template for cDNA-AFLP will be prepared according to Vos et al. and Bachem et al., using ApoI and MseI enzymes. Sequence of primers and adapters used for AFLP reactions will be performed according to the AFLP expression analysis kit from LiCor.

Objective 6: Isolate the acetolactate synthase (ALS) herbicide resistance gene from *Coreopsis tinctoria*

Dr. Dearl Sanders of the LSU Agricultural Center recently discovered *Coreopsis tinctoria* plants that were resistant to ALS/AHAS inhibiting herbicides. Unlike most other ALS mutants produced from chemical mutagenesis, the *C. tinctoria* plants are highly resistant to both sulfonylurea (sulfometuron methyl "Oust®"; chlorsulfuron "Glean®") and imidazolinone (imazapyr "Arsenal®"; imazapic "Plateau®") herbicides. Similar results were obtained when mutant- and wild-type *C. tinctoria* were sprayed with lethal doses of Oust, Glean, Arsenal, and Plateau in 2002 greenhouse experiments. The long-term goal of this research is to clone and engineer broad-spectrum herbicide resistance into Louisiana crops, such as rice, sugarcane, soybean, and cotton. This gene would also have immediate application to other agricultural crops grown in the United States.

The AHAS enzyme assay was performed with resistant and susceptible *C. tinctoria* by using sulfometuron methyl, chlorsulfuron, and imazapyr as inhibitors. The results suggested that the ALS/AHAS enzyme contributed to or was completely responsible for the herbicide resistance observed in the *C. tinctoria* mutant. Prior to this study, no sequence information of the ALS gene for *C. tinctoria* existed in any international sequence database. Alignment of the DNA and amino acid sequence information was peformed for ALS gene sequences of 15 different plants. Conserved homologous regions were identified by the NCBI BLAST method. The primers for optimal PCR fragment amplification were designed based on those conserved regions.

A 1.1-kb portion of the ALS gene was amplified with the designed primers described above using both mutant- and wild-type DNA as templates. The amplified ALS fragment was cloned via the TOPO TA Cloning® kit. Both mutant- and wild-type fragments were sequenced. Sequence of the clones was compared with known ALS sequences by NCBI BLAST procedures. The results proved that the 1.1 kb PCR fragment was actually derived from the ALS gene of *C. tinctoria.*

A copy-control fosmid library was constructed from randomly sheared mutant genomic DNA. Shearing the DNA leads to the generation of highly random DNA fragments in contrast to more biased libraries that result from fragmenting the DNA by partial restriction digests. The library contains 60,000 clones and each clone contains ~ a 40-kb DNA fragment. Current efforts are under way to use a pooling PCR strategy to screen the genomic library for isolation of the ALS gene from the resistant *Coreopsis* mutant.

CELLULAR AND CONVENTIONAL BREEDING APPROACHES TO THE DEVELOPMENT OF IMPROVED SALT-TOLERANT CALIFORNIA BULRUSH FOR USE IN EROSION CONTROL AND HABITAT RESTORATION

H.S. Utomo, I. Wenefrida, and M.D. Materne

Introduction

Coastal erosion and wetland deterioration are serious and widespread problems affecting all regions of the United States. The greatest loss occurs in the Louisiana coastal plains at an average rate of 1.0 ha an hour. It is possible to mitigate much of these losses by increasing marsh elevation with the introduction of new sediments and improved efficiency of existing sediments. California bulrush (*Schoenoplectus californicus*) has a significant potential for stabilizing these sediments. Commonly found in marshes, swamps, seeps, washes, and floodplains, along lake and stream margins, and in wet meadows, California bulrush can effectively trap sediment and serve as a buffer to dissipate wave energy, thus enhancing the establishment of other vegetation along the shorelines. It can be used to improve water quality in wetland construction and reconversion of degraded wetlands. It can also provide a favorable habitat for wildlife, including some endangered species. The potential of California bulrush for erosion control is limited because it is a freshwater marsh plant that can only tolerate salt concentrations of up to 6 ppt (parts per thousand). Greater salt tolerance in California bulrush will increase its role in preserving and restoring saltmarshes. A salt-tolerant trait is expressed at the cellular level. Therefore, it is amenable to cellular selection. The objective of this study was to develop salt-tolerant California bulrush populations for use in coastal erosion control and habitat restoration using molecular and conventional breeding approaches.

Cellular Selection

Five California bulrush accessions (NRCS-68) were used in this study. Cellular selection was carried out using calli and suspension cells. Calli were initially induced from immature flowers of 1 to 2 inches long using MS medium supplemented with 4 parts per million (ppm) of 2,4-D. Suspension culture was developed by culturing embryogenic calli in the modified General medium. Cellular selection was conducted by exposing calli, suspension cells, or protoplasts to a toxic salt concentration for 8 weeks. The surviving calli were rescued and regenerated. Plant regeneration was obtained on N6 medium containing 0.5 ppm NAA and 2 ppm BAP. A total of 54 plants have been recovered from cellular selection and currently are being evaluated in the greenhouse.

Greenhouse Evaluation for Salt Tolerance

Forty-eight California bulrush accessions were collected by NRCS from various growing regions in Louisiana that experienced high salinity. These accessions were evaluated in the greenhouse for salt tolerance using a randomized complete block design with three replicates. Each entry was grown under flooded conditions and continuously exposed to four salt concentrations of 0, 6, 12, and 18 ppt for 9 months. To simulate ocean conditions, salinity was created using "Instant Ocean Synthetic salt mix" (Premium Aquatics, Inc.). There was a significant difference in the salt-tolerant level among the accessions. Among 48 entries tested, eight accessions appear to possess higher salt tolerance. At a salt concentration of 18 ppt, most entries could not survive while the eight tolerant lines continued to produce small shoots at slow rates (Table 1). These lines are being increased at the Rice Research Station for multi-location tests.

Field Evaluation

The field evaluation of 48 NRCS accessions were conducted to obtain two separate objectives, (1) to select the most productive accession under a freshwater environment and (2) to identify the accession with the highest salt-tolerant level. Field evaluation of 48 accessions of California bulrush lines was, therefore, carried out in two locations. A plot at the Rice Research Station was used to evaluate these accessions under freshwater environments. An experimental site for moderate salinity was located near Pointe Aux Chenes, Houma. The freshwater evaluation was carried out using randomized complete block design, three replications per block. Data from the fresh water site will be used to analyze plant productivity and used to establish selection criteria for desirable agronomic characters. The best lines will be selected, clonally propagated, and used for further evaluation.

Salinity evaluation was carried out in two terraces. Two clones from each accession were planted randomly in each terrace with a 10-foot spacing. Salt concentrations at the sites were monitored using a WQC-24 Multi-

Parameter Water Quality Meter connected to a data logger to record levels of salinity throughout the growing period. In addition to salinity, the instrument was used to measure pH, temperature, dissolved oxygen, turbidity, conductivity, and TDS. In addition, the redox potential, electrical conductivity, salinity, and sulfide, ammonium, and nitrate concentrations were measured. Percent survival rate and plant growth parameters, including growth rate, spread, number of stems, plant height, chlorophyll content, and respiration rates have been collected for the first growing season. The same data will be recorded in two additional growing seasons. The most tolerant entry will be selected. Salt-tolerant lines with acceptable plant productivity and growth characteristics will be used as parental lines to produce even greater salt tolerance.

DNA Markers and Breeding Program

Choosing plant materials to develop an effective strategy for coastal erosion control and habitat restoration has been widely debated. The choices range from using cultivars, local plant sources, and mixtures of populations. Cultivars give immediate results by providing a sufficient ground cover quickly. However, cultivars often lack of resistance to local pests and pathogens. They are also likely to fail when dealing with extreme environmental fluctuation or events. Therefore, for long-term survival and ecological consideration, a mixture of superior genotypes from diverse genetic backgrounds rather than a single selected genotype is the best strategy to deal with widespread coastal erosion. Molecular data can be incorporated into conventional breeding programs to address these issues.

Marker analysis can provide a valuable input in developing effective conservation strategies. Markers can also be used to predict genetic risks of restoration in the form of strong founder effects, genetic swamping, and genetic divergence. Therefore, marker data are crucial in understanding demographic history, breeding structure, introgression, and population connectivity. Early on in our breeding program, markers were used to select parental lines to represent natural genetic pools targeted to preserve the existing diversity and address long-term survival and other ecological issues.

In addition to the main goal of controlling coastal erosion, rapid establishment of California bulrush populations on the newly created marshes should also be directed toward restoring ecosystem functions and processes. A better understanding of genetic diversity, population structure, and natural distribution of genetic pools will increase the likelihood of success in developing self-sustaining and long-term viable populations. Assisted by markers, synthetic or blend variety consisting of a mixture of superior lines that directly represent natural genetic pools found in the adjacent native California bulrush communities can be designed to preserve the ecological and genetic balances. The resulting population will strengthen the existing distribution of California bulrush ecotypes and provide better protection against fluctuating environmental factors. Our marker data suggested that a set of six accessions can potentially be used in developing a blend variety.

AFLP (Amplified Fragment Length Polymorphism) markers were used to analyze the genetic properties of the 48 accessions. Eight primer combinations amplified a total of 712 fragments, of which 537 were polymorphic. There were significant genetic differences among the accessions. The average pair-wise genetic similarity was 0.749 ± 0.027 and ranged from 0.59 to 0.94. The total gene diversity across all accessions (H_t) was 0.289.

Table 1. Performance of eight improved salt-tolerant accessions.

Accession #	**12 ppt [salt]**			**18 ppt [salt]‡**
	Selection rank†	Plant height (in.)	Number of tillers	Aboveground biomass
68326	1	43	12	***
68301	2	41	18	**
68275	3	47	12	***
68278	4	32	9	**
68283	5	41	14	**
68373	6	40	13	**
68329	7	33	21	*
68371	8	35	6	***

† Based on means of relative growth (dry weight), three replicates, five pots per entry.

‡***=best, **=good, and * fair, rated based on three replicates, five pots per entry.

APPLICATION OF DNA MARKERS TO GENETIC IMPROVEMENT OF SOUTHERN U.S. RICE

H.S. Utomo, S.D. Linscombe, D.E. Groth, X. Sha, and Q.R. Chu

Introduction

Marker-assisted selection (MAS) provides a direct link between genomics and applied breeding. Using the markers, valuable genes identified through genomics can directly be incorporated into elite lines for cultivar release. Markers are extremely useful when genetic variability is obscure, phenotypes are difficult or expensive to evaluate, or where detectable variation is a result of complex interactions of many genes and/or gene products. The efficiency of MAS relative to conventional phenotypic selection has been widely studied using both analytical and simulation approaches. In many situations, these studies showed that MAS could be more efficient than phenotypic selection.

Markers for a number of important traits are publicly available and can be used to develop improved breeding lines. Various two-way and multi-way crosses have been conducted involving donor line and well adapted parental lines.

The objectives of this study were (1) to utilize available markers to develop breeding lines adapted to southern U.S. conditions; (2) to develop mapping populations to identify markers for grain elongation, aroma, and water weevil tolerance; and (3) to develop simpler and more economical microsatellite marker detection.

Marker-Assisted Breeding

Marker-assisted breeding (MAB) is being carried out to accumulate blast resistance genes, *Pi-ta*^{2}, *Pi-b*, and *Pi-z*. Accumulation of these three genes will provide wider protection against major blast races causing problems in Louisiana production. MAB, along with phenotypic selection for agronomic characters, were conducted in about 600 rows of F_2 lines derived from multi-way crosses in the summer of 2004. About 200 lines from each cross were selected based on their desirable phenotypic performance then screened for the presence of the marker. Lines that did not carry the marker were discarded. Hundreds of lines were recovered, and these lines will be advanced and subjected to further selection. The *Pi-ta*^{2} marker is being used also to improve the blast tolerance level in Clearfield rice CL161. Line 9302065 carrying *Pi-ta*^{2} gene was used as a source for the blast resistance gene. A total of 200 rows of F_2 lines were planted last summer. About 400 plants with desirable characteristics were selected from these rows. A marker screening identified 124 lines carrying *Pi-ta*^{2} marker. These lines will be advanced and subjected to further evaluation.

To expedite the development of double haploid lines, anther culture was conducted in a limited number of F_2 lines that had been previously screened for the marker. Hundreds of plantlets were regenerated. Before transplanting to the greenhouse, these plantlets were screened for the marker. Plantlets that did not carry the marker were discarded. A total of 260 double haploid plantlets were grown in the greenhouse. Because of its unique potential, a combination of marker screening and anther culture will be conducted in a larger scale this summer.

Mapping Populations

Mapping populations for aroma and water weevil tolerance are being advanced through selfing both in the field and greenhouse. Six mapping populations for water weevil tolerance were derived from crosses between two tolerant parents, cultivars Jefferson and line 321310, and three susceptible parental lines 413958, 321310, and 321264. Mapping populations for aroma was derived from a cross between non-aromatic Jodon and aromatic Goolara.

Simple and Economical Microsatellite Marker Detection

DNA marker technology is a powerful tool that will undoubtedly have significant influence in plant breeding programs. In the last few years, MAS procedures already offer opportunities for reducing costs, saving time, and accomplishing breeding tasks that cannot be achieved using conventional methods. However, despite many advantages of the technology, the potential of MAS has not yet been fully realized. Markers for traits most important to the breeders, such as yield and yield components, remain the most challenging to develop. Also, marker development requires substantial initial investment before it can be applied for practical purposes. This year, multi-state effort has been initiated to address several more complex traits important to the breeders. This kind of research trend will eventually improve the role of MAS. For practical purposes, laboratory efforts have been directed to establish a simple and economical microsatellite marker detection that is critical for successful and widespread adoption of marker technology in the breeding program. A non-automated marker detection protocol, which is fast, reliable, and cost effective for routine work, has been developed in our lab requiring minimal/standard molecular laboratory equipment. The protocol consists of a leaf sampling method for 96-well plates, tissue grinding using a bead-based grinder, DNA extraction using a modified heating method, and a marker detection using polyacrylamid gel electrophoresis in the MegaGel dual high throughput vertical system. One person can produce at least 200 data points in a single day, including sample preparation, DNA extraction, PCR run, electrophoresis, and data recording. We will continue refining our method to provide a solid foundation for marker-assisted selection as a part of the rice breeding program.

RICE AGRONOMY[1]

J.A. Bond, J.P. Leonards, R.P. Regan, G.R. Romero, and D.M. Walker

INTRODUCTION

The following two sections of this report document research conducted in the areas of rice plant nutrition and cultural management. Rice plant nutrition experiments were conducted at the Rice Research Station in Crowley and in on-farm experiments in East Carroll, Morehouse, Richland, and Vermilion parishes. Cultural management studies were conducted at the Rice Research Station and the on-farm location in Vermilion Parish.

We express our sincere appreciation to the following off-station cooperators for their assistance in conducting this research. Our efforts would not be successful without their support:

Buford and Lamar Perry- East Carroll Parish
Errol and Kent Lounsberry- Vermilion Parish
Zaunbrecher Farm and Roland Crymes- Morehouse Parish
Woodsland Plantation- Morgan Smith, Todd Bridges, and Des Woods- Richland Parish

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Common Abbreviations Used in Agronomic Research at the Rice Research Station.

A	Acre
Ca	Calcium
Fe	Iron
ft	Feet
gal/A	Gallons product per acre
Head	Rice heading
Head Rice	Percent of unbroken kernels left after milling
in	Inches
lb	Pounds
lb/A	Pounds per acre
lb ai/A	Pounds active ingredient per acre
Ldg-Rate	Lodging rate in percent
Ldg-Type	Lodging type on a scale of 1 to 5; 1 = slightly leaning, 5 = complete
K	Potassium
Main	Main-crop growth stage prior to harvest
Mg	Magnesium
mg/kg	Milligrams per kilogram
oz/A	Ounces product per acre
N	Nitrogen
Na	Sodium
P	Phosphorus
PD	Panicle differentiation
PF	Preflood
PFN	Preflood nitrogen applied prior to permanent flood establishment
PPI	Preplant incorporated
PPN	Preplant incorporated nitrogen
ppm	Parts per million
pl/sq ft	Plant densities measured in a randomly selected area in each plot
Postharvest	Application made immediately following main-crop harvest
pt/A	Pints product per acre
qt/A	Quarts product per acre
Ratoon	Ratoon-crop growth after harvest of main crop
RRS	Rice Research Station, Crowley, LA
S	Sulfur
Total	Sum of main-crop and ratoon-crop grain yields
Total Mill	Percent of rice kernels left after milling
T/sq ft	Ratoon tiller densities measured in a randomly selected area in each plot
Zn	Zinc
5% heading	Application made at the beginning of panicle exertion from the leaf sheath
50% Head	Number of days from effective seeding date to 50% panicle exertion

Crop Protection Chemicals Used in Agronomic Research at the Rice Research Station in 2004.

Herbicides

Trade name	Formulation	Common name	Manufacturer
Aim	2 EC	carfentrazone ethyl	FMC
Arrosolo	3-3 EC	propanil + molinate	RiceCo
Basagran	4 SL	bentazon	BASF
Clincher	2.4 EC	cyhalofop	Dow Agro Sciences
Command	3 ME	clomazone	FMC
Duet	60 DF	propanil + bensulfuron	RiceCo
Facet	75 DF	quinclorac	BASF
Gramoxone Max	3 SL	paraquat	Syngenta
Grandstand	3 SL	triclopyr	Dow Agro Sciences
Londax	60 DF	benulfuron	DuPont
Newpath	2 lb	imazethapyr	BASF
Permit	75 WSG	halosulfuron	Monsanto
Prowl	3.3 EC	pendimethalin	BASF
Regiment	80 WP	bispyribac-sodium	Valent
Roundup Weathermax	5.5 L	glyphosate	Monsanto
Stam M4	4 EC	propanil	Dow Agro Sciences
Stam	80 EDF	propanil	Dow Agro Sciences
Weedar 64	3.8 L	2,4-D	Nufarm Americas

Insecticides

Trade name	Formulation	Common name	Manufacturer
Icon	6.2 FS	fipronil	Aventis
Karate Z	2.08 SC	cyhalothrin	Syngenta

Fungicides

Trade name	Formulation	Common name	Manufacturer
Dithane	75 DF	mancozeb	Dow Agro Sciences
Quadris	2.08 F	azoxystrobin	Syngenta

RICE NUTRITION EXPERIMENTS

J.A. Bond, J.P. Leonards, R.P. Regan, G.R. Romero, and D.M. Walker

Variety/Hybrid by Nitrogen Rate Experiments

Variety and/or hybrid by nitrogen (N) rate experiments are conducted throughout Louisiana each year to establish the N requirements for new commercial varieties, advanced experimental lines, and hybrids. The N requirement, plant height, days to 50% heading, lodging susceptibility, grain yield (including ratoon crop in southwest LA), and milling yield are determined. Rice varieties and hybrids may differ in their response to the amount and timing of applied N. Optimum yields of many varieties may occur over a wide range of N rates, depending on factors such as lodging, disease susceptibility, and inherent N utilization efficiency. Environmental influences, such as soil type, growing conditions, pest pressure, and weather, may influence varietal performance. Conducting field research in the major rice-producing areas of Louisiana provides valuable information for developing fertilization and management strategies for new varieties.

In 2004, variety by N rate experiments included short-, medium-, and long-grain rice varieties, as well as conventional and herbicide-resistant varieties. A special purpose variety evaluation conducted only at the Rice Research Station included entries with unique characteristics, such as aroma or different cooking qualities. A select number of commercial varieties were evaluated in variety by N rate experiments at the Rice Research Station in drill- and water-seeded cultural systems employing stale seedbed tillage practices. In hybrid by N rate experiments, entries were grouped according to grain type. The response of three long-grain rice hybrids and two medium-grain rice hybrids to different rates and application timings of N was evaluated statewide. The ratoon response of selected varieties and hybrids was also evaluated in variety/hybrid by N rate experiments in which various rates of N were applied immediately following main crop harvest.

At the Rice Research Station and in East Carroll and Vermilion parishes, Pirogue produced higher grain yields than all other varieties. CL161 and the experimental medium-grain entry, 2183, produced the highest grain yields in Morehouse and Richland parishes, respectively. Optimum rice grain yields were achieved for varieties following 180 lb N/A at the Rice Research Station, 210 lb N/A in East Carroll Parish, 150 lb N/A in Morehouse Parish, and 180 lb N/A in Richland Parish. Optimum rice grain yields were achieved for hybrids following 150 lb N/A statewide, regardless of application timing. In stale seedbed experiments, the optimum N rate was 180 lb N/A in either a drill- or water-seeded cultural system. Greatest ratoon crop grain yield responses were observed when N was applied at 60 to 90 lb/A to either varieties or hybrids.

Nitrogen Source and/or Application Timing Experiments

Experiments were continued in 2004 to determine the effects of late-season N applications (5% heading) on Francis, Wells, Cocodrie, Cheniere, Cypress, and Wells rice varieties. Preflood N was applied at 75 and 150 lb/A, and heading N was applied at 0, 30, and 60 lb/A. Days to 50% heading, plant height, grain yield (including ratoon crop at the Rice Research Station), and main crop milling were determined. Rice yields and milling were not affected by a heading application of N at either location. Milling was highly influenced by the preflood N rate in East Carroll Parish.

Agrotain was evaluated in drill-seeded rice with emphasis on application timing in separate experiments employing conventional tillage and stale seedbed systems. A total of 150 lb N/A was applied as urea or as Agrotain-treated urea at application timings, including 15, 10, 5, and 0 days preflood. Days to 50% heading, plant height, and grain yield were determined. Using Agrotain-treated urea produced higher grain yields at all application timings in the conventional tillage experiment. In the stale seedbed experiment, grain yields following all treatments were low because of herbicide injury. Only application timings significantly influenced grain yield in the stale seedbed experiment. However, a strong numerical trend indicated a benefit to using Agrotain-treated urea.

A liquid slow-release N fertilizer (GP4350) was evaluated as an N source for rice in conventional and stale seedbed tillage systems. Nitrogen as urea or GP4350 was applied at 75 and 150 lb/A preplant and preflood to drill-seeded Cocodrie rice. Days to 50% heading, plant height, and grain yield were determined. Rice yields following all treatments were low because of herbicide injury. Tillage system had no effect on main crop rice yields. Preflood applications produced higher main crop rice yields than preplant applications. Urea was superior to GP4350 as an N source for rice.

Miscellaneous Rice Nutrition Experiments

Rice response to boron at different application timings was determined in a drill-seeded study at the Rice Research Station. Boron at 0.33 lb/A was applied preflood, late-tillering, and at booting to Wells rice. Days to 50% heading, plant height, grain yields, boron content at panicle initiation and flag leaf growth stages, and milling yield were determined. Boron application timing had no effect on the parameters measured.

Applications of calcium chloride (N-Cal) were evaluated on drill-seeded CL161 rice. N-Cal was applied at 5, 10, and 15 gal/A alone and at the same rates as a carrier for Newpath herbicide. Days to 50% heading, plant height, main crop grain yields, calcium content at panicle differentiation, and milling yield were determined. N-Cal had no effect on the parameters measured.

Variety x Nitrogen Rate 1

Experiment number:	VXN104
Location:	Rice Research Station
Experimental design:	Randomized complete block with a factorial arrangement of 12 rice entries and five preflood Nrates
Number of reps:	4
Plot size:	7 x 25 ft (175 ft^2)
Row width/Rows per plot:	7 in/12
Soil type:	Crowley silt loam
% OM:	1.58
pH:	6.7
Extractable nutrients:	P-25, K-68, Na-104, Ca-1170, Mg-271, Zn-1.9, S-5.5, Fe-68 mg/kg
Crop/Variety:	Cocodrie, Francis, Wells, Pirogue, Cheniere, CL161, Cybonnet, Banks, Medark, 2183, 1093, 2008
Seeding rate:	40 seeds/ft^2
Planting method:	Drill-seeded
Planting date:	March 24
Emergence date:	Variable
Harvest date:	Main crop, August 3; ratoon crop, November 1
Fertilization:	0-60-60 PPI, March 24; variable PFN, April 24; 90 lb/A ratoon N, August 4
Water management:	Flush, March 30, April 16; flood, April 26; harvest drain, July 16; ratoon flood, August 5; ratoon harvest drain, October 18
Pest management:	
Herbicides:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides:	None

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 1

Trial ID: VXN104
Location: Rice Research Station

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1 1	Cocodrie Urea	60	lb ai/A	Preflood	83	31	5716	2634	8349		
2 2	Cocodrie Urea	90	lb ai/A	Preflood	84	32	6760	2648	9408	62	70
3 3	Cocodrie Urea	120	lb ai/A	Preflood	85	33	7957	2588	10544		
4 4	Cocodrie Urea	150	lb ai/A	Preflood	86	34	7963	2349	10311		
5 5	Cocodrie Urea	180	lb ai/A	Preflood	88	35	8525	2632	11157		
6 6	Francis Urea	60	lb ai/A	Preflood	83	33	5314	2997	8311		
7 7	Francis Urea	90	lb ai/A	Preflood	85	34	5980	2539	8519	53	70
8 8	Francis Urea	120	lb ai/A	Preflood	86	36	7655	2981	10636		
9 9	Francis Urea	150	lb ai/A	Preflood	88	38	7685	3120	10804		
10 10	Francis Urea	180	lb ai/A	Preflood	91	39	8108	2797	10905		
11 11	Wells Urea	60	lb ai/A	Preflood	83	34	5278	3215	8493		
12 12	Wells Urea	90	lb ai/A	Preflood	85	34	6324	3369	9693	48	70
13 13	Wells Urea	120	lb ai/A	Preflood	87	38	6845	3360	10205		
14 14	Wells Urea	150	lb ai/A	Preflood	89	38	7502	3555	11057		
15 15	Wells Urea	180	lb ai/A	Preflood	90	39	7961	3362	11323		
16 16 16	Pirogue (short-grain) Urea	60	lb ai/A	Preflood	92	33	6410	3668	10078		
17 17 17	Pirogue (short-grain) Urea	90	lb ai/A	Preflood	92	35	6986	3237	10223	52	65

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 1

Trial ID: VXN104
Location: Rice Research Station

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
18	Pirogue				92	36	8202	3588	11790		
18	(short-grain)										
18	Urea	120	lb ai/A	Preflood							
19	Pirogue				93	39	8637	2857	11493		
19	(short-grain)										
19	Urea	150	lb ai/A	Preflood							
20	Pirogue				93	39	8812	2937	11748		
20	(short-grain)										
20	Urea	180	lb ai/A	Preflood							
21	Cheniere				86	32	5380	1802	7182		
21	Urea	60	lb ai/A	Preflood							
22	Cheniere				87	31	6410	1818	8228	59	70
22	Urea	90	lb ai/A	Preflood							
23	Cheniere				88	33	7310	2015	9325		
23	Urea	120	lb ai/A	Preflood							
24	Cheniere				90	35	8004	1886	9890		
24	Urea	150	lb ai/A	Preflood							
25	Cheniere				91	35	8356	1954	10309		
25	Urea	180	lb ai/A	Preflood							
26	CL161				87	33	5794	2696	8490		
26	Urea	60	lb ai/A	Preflood							
27	CL161				89	34	6616	2569	9185	63	70
27	Urea	90	lb ai/A	Preflood							
28	CL161				89	36	7436	2470	9906		
28	Urea	120	lb ai/A	Preflood							
29	CL161				90	37	7390	2708	10098		
29	Urea	150	lb ai/A	Preflood							
30	CL161				91	39	7893	2684	10576		
30	Urea	180	lb ai/A	Preflood							
31	Cybonnet				83	33	4785	2844	7629		
31	Urea	60	lb ai/A	Preflood							
32	Cybonnet				83	33	5713	2776	8489	66	71
32	Urea	90	lb ai/A	Preflood							
33	Cybonnet				85	35	6726	3024	9750		
33	Urea	120	lb ai/A	Preflood							

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 1

Trial ID: VXN104
Location: Rice Research Station

Crop Name / Rating Data Type / Rating Unit / Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
34	Cybonnet				87	37	7284	2836	10119		
34	Urea	150	lb ai/A	Preflood							
35	Cybonnet				89	38	8060	2903	10963		
35	Urea	180	lb ai/A	Preflood							
36	Banks				85	35	5351	2372	7723		
36	Urea	60	lb ai/A	Preflood							
37	Banks				86	37	6367	2283	8650	53	67
37	Urea	90	lb ai/A	Preflood							
38	Banks				89	38	7489	2308	9797		
38	Urea	120	lb ai/A	Preflood							
39	Banks				89	41	8105	2512	10618		
39	Urea	150	lb ai/A	Preflood							
40	Banks				91	42	8247	2714	10961		
40	Urea	180	lb ai/A	Preflood							
41	Medark				89	31	5541	3535	9076		
41	(medium-grain)										
41	Urea	60	lb ai/A	Preflood							
42	Medark				89	32	6656	3020	9676	61	66
42	(medium-grain)										
42	Urea	90	lb ai/A	Preflood							
43	Medark				90	35	7116	3472	10588		
43	(medium-grain)										
43	Urea	120	lb ai/A	Preflood							
44	Medark				90	36	7484	3708	11192		
44	(medium-grain)										
44	Urea	150	lb ai/A	Preflood							
45	Medark				91	38	8177	3354	11530		
45	(medium-grain)										
45	Urea	180	lb ai/A	Preflood							
46	2183				92	32	5677	3231	8908		
46	(medium-grain)										
46	Urea	60	lb ai/A	Preflood							
47	2183				92	32	6504	3351	9854	61	65
47	(medium-grain)										
47	Urea	90	lb ai/A	Preflood							
48	2183				92	35	7499	3264	10763		
48	(medium-grain)										
48	Urea	120	lb ai/A	Preflood							

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 1

Trial ID: VXN104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
49	2183				92	39	8112	3838	11951		
49	(medium-grain)										
49	Urea	150	lb ai/A	Preflood							
50	2183				92	37	8808	3578	12386		
50	(medium-grain)										
50	Urea	180	lb ai/A	Preflood							
51	1093				79	36	4454	3030	7484		
51	Urea	60	lb ai/A	Preflood							
52	1093				78	36	4984	3044	8029	52	71
52	Urea	90	lb ai/A	Preflood							
53	1093				79	39	6443	3717	10160		
53	Urea	120	lb ai/A	Preflood							
54	1093				80	41	6739	3573	10311		
54	Urea	150	lb ai/A	Preflood							
55	1093				80	41	7332	3230	10561		
55	Urea	180	lb ai/A	Preflood							
56	2008				79	34	4756	2597	7352		
56	Urea	60	lb ai/A	Preflood							
57	2008				80	38	5509	2946	8455	63	71
57	Urea	90	lb ai/A	Preflood							
58	2008				80	40	6337	3237	9574		
58	Urea	120	lb ai/A	Preflood							
59	2008				82	40	7064	3354	10418		
59	Urea	150	lb ai/A	Preflood							
60	2008				83	40	7689	3036	10725		
60	Urea	180	lb ai/A	Preflood							
LSD (P=.05)					1.3	3.0	740.5	528.4	1095.2	3.0	2.2
Standard Deviation					0.9	2.1	528.9	377.4	782.2	1.8	1.3
CV					1.05	5.98	7.62	12.89	7.93	3.05	1.91
Grand Mean					86.84	35.78	6936.79	2928.57	9865.38	57.64	68.82

Variety x Nitrogen Rate 2

Experiment number ....:	VXN304
Location..:	Vermilion Parish, Errol Lounsberry Farm
Experimental design....................................:	Randomized complete block with a factorial arrangement of 10 rice entries and five preflood N rates
Number of reps ....:	4
Plot size...:	7 x 20 ft (140 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	1.10
pH...:	5.4
Extractable nutrients............................:	P-57, K-109, Na-47, Ca-1527, Mg-283, Zn-1.0, S-8.4, Fe-131 mg/kg
Crop/Variety ....:	Cocodrie, Francis, Wells, Pirogue, Cheniere, CL161, Cybonnet, Banks, Medark, 2183
Seeding rate...:	40 seeds/ft^2
Planting method....................................:	Drill-seeded
Planting date ....:	March 23
Emergence date.....................................:	Variable
Harvest date ....:	Main crop, August 9; ratoon crop, November 8
Fertilization ....:	0-52-52 PPI, January; variable PFN, May 6; 90 lb/A ratoon N, August 9
Water management ....:	Flush, March 26, April 7, April 17; flood, May 8; harvest drain, July 29; ratoon flood, August 11; ratoon harvest drain, October 19
Pest management	
Herbicides..:	1 gal/A Arrosolo + 1 oz/A Permit, May 6
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, July 9
Fungicides ....:	12 oz/A Quadris, June 18 and July 1

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 2

Trial ID: VXN304
Location: Vermilion Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	Cocodrie				99	37	7573	3006	11032		
1	Urea	60	lb ai/A	Preflood							
2	Cocodrie				99	40	8123	3410	11783	64	71
2	Urea	90	lb ai/A	Preflood							
3	Cocodrie				100	37	7729	3183	11089		
3	Urea	120	lb ai/A	Preflood							
4	Cocodrie				99	41	8569	2830	10831		
4	Urea	150	lb ai/A	Preflood							
5	Cocodrie				100	37	7690	2927	10478		
5	Urea	180	lb ai/A	Preflood							
6	Francis				99	40	7655	3574	11115		
6	Urea	60	lb ai/A	Preflood							
7	Francis				98	38	8139	3368	10533	64	71
7	Urea	90	lb ai/A	Preflood							
8	Francis				101	42	8518	3765	11397		
8	Urea	120	lb ai/A	Preflood							
9	Francis				99	38	7814	3716	11576		
9	Urea	150	lb ai/A	Preflood							
10	Francis				99	40	8333	3643	11465		
10	Urea	180	lb ai/A	Preflood							
11	Wells				99	39	7107	3942	11526		
11	Urea	60	lb ai/A	Preflood							
12	Wells				101	41	7436	3882	11711	60	71
12	Urea	90	lb ai/A	Preflood							
13	Wells				100	39	8002	3878	11552		
13	Urea	120	lb ai/A	Preflood							
14	Wells				98	40	8407	4015	11999		
14	Urea	150	lb ai/A	Preflood							
15	Wells				102	41	7611	4065	12201		
15	Urea	180	lb ai/A	Preflood							
16	Pirogue				100	38	7440	5458	15272		
16	(short-grain)										
16	Urea	60	lb ai/A	Preflood							
17	Pirogue				100	40	7932	5600	14906	64	69
17	(short-grain)										
17	Urea	90	lb ai/A	Preflood							

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 2

Trial ID: VXN304
Location: Vermilion Parish

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
18	Pirogue				101	41	7781	5649	14929		
18	(short-grain)										
18	Urea	120	lb ai/A	Preflood							
19	Pirogue				101	41	7987	5594	14851		
19	(short-grain)										
19	Urea	150	lb ai/A	Preflood							
20	Pirogue				99	40	8260	5413	14473		
20	(short-grain)										
20	Urea	180	lb ai/A	Preflood							
21	Cheniere				100	40	7467	3262	10652		
21	Urea	60	lb ai/A	Preflood							
22	Cheniere				100	37	7193	3727	11548	65	72
22	Urea	90	lb ai/A	Preflood							
23	Cheniere				99	41	7664	4184	11558		
23	Urea	120	lb ai/A	Preflood							
24	Cheniere				99	39	7565	3474	11087		
24	Urea	150	lb ai/A	Preflood							
25	Cheniere				99	38	7551	3274	10545		
25	Urea	180	lb ai/A	Preflood							
26	CL161				101	40	8010	3450	10933		
26	Urea	60	lb ai/A	Preflood							
27	CL161				100	41	8702	3397	10856	66	71
27	Urea	90	lb ai/A	Preflood							
28	CL161				101	39	7544	3315	10300		
28	Urea	120	lb ai/A	Preflood							
29	CL161				100	39	8444	3117	10074		
29	Urea	150	lb ai/A	Preflood							
30	CL161				99	40	8280	3049	10293		
30	Urea	180	lb ai/A	Preflood							
31	Cybonnet				101	40	8147	3675	10470		
31	Urea	60	lb ai/A	Preflood							
32	Cybonnet				100	39	7792	4033	11358	69	72
32	Urea	90	lb ai/A	Preflood							
33	Cybonnet				100	39	7573	3354	9873		
33	Urea	120	lb ai/A	Preflood							

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 2

Trial ID: VXN304
Location: Vermilion Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
34	Cybonnet				100	40	8009	3581	10358		
34	Urea	150	lb ai/A	Preflood							
35	Cybonnet				99	39	8350	3300	9744		
35	Urea	180	lb ai/A	Preflood							
36	Banks				101	38	7570	3919	11555		
36	Urea	60	lb ai/A	Preflood							
37	Banks				101	38	7605	4087	11264	61	69
37	Urea	90	lb ai/A	Preflood							
38	Banks				99	41	8308	3664	11640		
38	Urea	120	lb ai/A	Preflood							
39	Banks				100	40	8022	3508	11056		
39	Urea	150	lb ai/A	Preflood							
40	Banks				98	38	7393	3932	11396		
40	Urea	180	lb ai/A	Preflood							
41	Medark				101	42	7433	5217	13563		
41	(medium-grain)										
41	Urea	60	lb ai/A	Preflood							
42	Medark				98	39	8013	5437	13947	66	70
42	(medium-grain)										
42	Urea	90	lb ai/A	Preflood							
43	Medark				99	41	7630	5051	12907		
43	(medium-grain)										
43	Urea	120	lb ai/A	Preflood							
44	Medark				100	38	8266	5126	13208		
44	(medium-grain)										
44	Urea	150	lb ai/A	Preflood							
45	Medark				102	41	7991	4992	12823		
45	(medium-grain)										
45	Urea	180	lb ai/A	Preflood							
46	2183				99	39	8874	5826	15091		
46	(medium-grain)										
46	Urea	60	lb ai/A	Preflood							
47	2183				100	40	8664	5895	14371	63	70
47	(medium-grain)										
47	Urea	90	lb ai/A	Preflood							
48	2183				102	39	7229	5037	14050		
48	(medium-grain)										
48	Urea	120	lb ai/A	Preflood							

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 2

Trial ID: VXN304
Location: Vermilion Parish

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
49	2183				101	42	7478	5955	15253		
49	(medium-grain)										
49	Urea	150	lb ai/A	Preflood							
50	2183				99	39	8104	6225	15459		
50	(medium-grain)										
50	Urea	180	lb ai/A	Preflood							
LSD (P=.05)					3.1	3.9	1168.4	606.0	1216.6	2.9	1.2
Standard Deviation					2.2	2.8	834.5	432.9	868.9	1.7	0.7
CV					2.21	7.06	10.56	10.46	7.22	2.6	0.96
Grand Mean					99.65	39.34	7899.42	4139.47	12038.89	64.27	70.61

Variety x Nitrogen Rate 3

Experiment number ....:	VXN204
Location..:	East Carroll Parish, Buford Perry Farm
Experimental design....................................:	Randomized complete block with a factorial arrangement of 12 rice entries and five preflood N rates
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Sharkey clay
% OM..:	1.90
pH...:	6.9
Extractable nutrients............................:	P-101, K-437, Na-69, Ca-5150, Mg-1440, Zn-2.4, S-10, Fe-84 mg/kg
Crop/Variety...:	Cocodrie, Francis, Wells, Pirogue, Cheniere, CL161, Cybonnet, Banks, Medark, 2183, 1093, 2008
Seeding rate...:	40 seeds/ft^2
Planting method....................................:	Drill-seeded
Planting date...:	April 21
Emergence date.....................................:	Cocodrie, Wells, Cheniere, CL161, Cybonnet, Banks, 1093, 2008, April 28; Francis, Medark, April 29; Pirogue, 2183, April 30
Harvest date..:	September 8
Fertilization..:	Variable PFN, May 25
Water management.....................................:	Flush, May 7; flood, May 30; drain, June 2; flood, June 5; harvest drain, August 10
Pest management	
Herbicides...:	1 qt/A Roundup, April 23; 1 gal/A Arrosolo + 0.33 lb/A Facet + 1 oz/A Permit, May 6; 4 lb/A Stam 80 DF + 1.3 oz/A Permit, May 28
Insecticides..:	1 oz Icon seed treatment; 2 oz/A Karate, August 3
Fungicides...:	12 oz/A Quadris, July 14

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 3

Trial ID: VXN204
Location: East Carroll Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1 1	Cocodrie Urea	90	lb ai/A	Preflood	70	26	6419	63	70
2 2	Cocodrie Urea	120	lb ai/A	Preflood	71	27	7367		
3 3	Cocodrie Urea	150	lb ai/A	Preflood	73	29	7684		
4 4	Cocodrie Urea	180	lb ai/A	Preflood	73	29	8038		
5 5	Cocodrie Urea	210	lb ai/A	Preflood	74	30	7795		
6 6	Francis Urea	90	lb ai/A	Preflood	73	31	7407	53	67
7 7	Francis Urea	120	lb ai/A	Preflood	73	32	8074		
8 8	Francis Urea	150	lb ai/A	Preflood	74	31	8265		
9 9	Francis Urea	180	lb ai/A	Preflood	75	32	7837		
10 10	Francis Urea	210	lb ai/A	Preflood	75	34	8659		
11 11	Wells Urea	90	lb ai/A	Preflood	74	30	6896	51	69
12 12	Wells Urea	120	lb ai/A	Preflood	75	32	7562		
13 13	Wells Urea	150	lb ai/A	Preflood	77	34	7984		
14 14	Wells Urea	180	lb ai/A	Preflood	77	33	8116		
15 15	Wells Urea	210	lb ai/A	Preflood	78	34	7954		
16 16 16	Pirogue (short-grain) Urea	90	lb ai/A	Preflood	73	30	7596	69	72
17 17 17	Pirogue (short-grain) Urea	120	lb ai/A	Preflood	74	32	9084		

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 3

Trial ID: VXN204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
18	Pirogue				73	31	8512		
18	(short-grain)								
18	Urea	150	lb ai/A	Preflood					
19	Pirogue				75	34	9347		
19	(short-grain)								
19	Urea	180	lb ai/A	Preflood					
20	Pirogue				75	36	10027		
20	(short-grain)								
20	Urea	210	lb ai/A	Preflood					
21	Cheniere				75	28	6520	59	70
21	Urea	90	lb ai/A	Preflood					
22	Cheniere				76	28	6758		
22	Urea	120	lb ai/A	Preflood					
23	Cheniere				76	29	6910		
23	Urea	150	lb ai/A	Preflood					
24	Cheniere				77	30	7779		
24	Urea	180	lb ai/A	Preflood					
25	Cheniere				78	31	7709		
25	Urea	210	lb ai/A	Preflood					
26	CL161				73	29	6769	60	70
26	Urea	90	lb ai/A	Preflood					
27	CL161				74	30	6878		
27	Urea	120	lb ai/A	Preflood					
28	CL161				76	32	7295		
28	Urea	150	lb ai/A	Preflood					
29	CL161				77	32	7037		
29	Urea	180	lb ai/A	Preflood					
30	CL161				78	34	7162		
30	Urea	210	lb ai/A	Preflood					
31	Cybonnet				73	27	6077	63	71
31	Urea	90	lb ai/A	Preflood					
32	Cybonnet				74	29	7027		
32	Urea	120	lb ai/A	Preflood					
33	Cybonnet				75	29	6281		
33	Urea	150	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 3

Trial ID: VXN204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
34	Cybonnet				76	31	6981		
34	Urea	180	lb ai/A	Preflood					
35	Cybonnet				77	32	7488		
35	Urea	210	lb ai/A	Preflood					
36	Banks				75	32	6494	49	66
36	Urea	90	lb ai/A	Preflood					
37	Banks				76	35	7065		
37	Urea	120	lb ai/A	Preflood					
38	Banks				76	36	7698		
38	Urea	150	lb ai/A	Preflood					
39	Banks				77	39	8266		
39	Urea	180	lb ai/A	Preflood					
40	Banks				77	38	8153		
40	Urea	210	lb ai/A	Preflood					
41	Medark				72	25	6918	61	70
41	(medium-grain)								
41	Urea	90	lb ai/A	Preflood					
42	Medark				72	30	8370		
42	(medium-grain)								
42	Urea	120	lb ai/A	Preflood					
43	Medark				73	30	8584		
43	(medium-grain)								
43	Urea	150	lb ai/A	Preflood					
44	Medark				73	30	8583		
44	(medium-grain)								
44	Urea	180	lb ai/A	Preflood					
45	Medark				74	31	9364		
45	(medium-grain)								
45	Urea	210	lb ai/A	Preflood					
46	2183				73	31	8249	65	70
46	(medium-grain)								
46	Urea	90	lb ai/A	Preflood					
47	2183				73	33	9288		
47	(medium-grain)								
47	Urea	120	lb ai/A	Preflood					
48	2183				74	31	9068		
48	(medium-grain)								
48	Urea	150	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 3

Trial ID: VXN204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
49	2183				75	34	9420		
49	(medium-grain)								
49	Urea	180	lb ai/A	Preflood					
50	2183				75	35	10002		
50	(medium-grain)								
50	Urea	210	lb ai/A	Preflood					
51	1093				67	32	5220	61	70
51	Urea	90	lb ai/A	Preflood					
52	1093				68	32	5186		
52	Urea	120	lb ai/A	Preflood					
53	1093				68	36	6634		
53	Urea	150	lb ai/A	Preflood					
54	1093				68	37	6901		
54	Urea	180	lb ai/A	Preflood					
55	1093				68	39	7781		
55	Urea	210	lb ai/A	Preflood					
56	2008				67	31	6569	59	70
56	Urea	90	lb ai/A	Preflood					
57	2008				68	33	7182		
57	Urea	120	lb ai/A	Preflood					
58	2008				68	32	7291		
58	Urea	150	lb ai/A	Preflood					
59	2008				69	33	7672		
59	Urea	180	lb ai/A	Preflood					
60	2008				69	33	7840		
60	Urea	210	lb ai/A	Preflood					
LSD (P=.05)					0.9	2.1	941.5	2.9	0.9
Standard Deviation					0.7	1.5	672.5	1.7	0.5
CV					0.92	4.76	8.79	2.9	0.76
Grand Mean					73.4	31.63	7651.39	59.38	69.56

Variety x Nitrogen Rate 4

Experiment number ....:	VXN504
Location...:	Morehouse Parish, Zaunbrecher Farm (Roland Crymes cooperating)
Experimental design....................................:	Randomized complete block with a factorial arrangement of 10 rice entries and five preflood N rates
Number of reps ....:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type ....:	Hebert silty clay
% OM ....:	1.62
pH...:	6.4
Extractable nutrients...........................:	P-80, K-292, Na-174, Ca-2985, Mg-870, Zn-4, S-22, Fe-140 mg/kg
Crop/Variety ....:	Cocodrie, Francis, Wells, Pirogue, Cheniere, CL161, Cybonnet, Banks, Medark, 2183
Seeding rate...:	40 seeds/ft^2
Planting method....................................:	Drill-seeded
Planting date ....:	April 20
Emergence date.....................................:	Cheniere, CL161, Cybonnet, April 28; Cocodrie, Francis, Wells, Pirogue, Banks, Medark, 2183, April 30
Harvest date ....:	September 7
Fertilization..:	Variable PFN, May 24
Water management ....:	Flush, May 6; flood, May 28, harvest drain, August 16
Pest management	
Herbicides..:	1 qt/A Roundup, April 21; 1 gal/A Arrosolo + 0.33 lb/A Facet + 1 oz/A Londax, April 29; 15 oz/A Clincher, May 27
Insecticides ....:	1 oz Icon seed treatment
Fungicides ....:	12 oz/A Quadris, July 14

LSUAgCenter
Rice Research Station
Variety x Nitrogen Rate 4

Trial ID: VXN504
Location: Morehouse Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	Cocodrie				76	33	7994	69	73
1	Urea	90	lb ai/A	Preflood					
2	Cocodrie				76	35	8694		
2	Urea	120	lb ai/A	Preflood					
3	Cocodrie				77	36	9053		
3	Urea	150	lb ai/A	Preflood					
4	Cocodrie				77	36	8683		
4	Urea	180	lb ai/A	Preflood					
5	Cocodrie				77	35	8740		
5	Urea	210	lb ai/A	Preflood					
6	Francis				79	36	8280	64	70
6	Urea	90	lb ai/A	Preflood					
7	Francis				77	32	8461		
7	Urea	120	lb ai/A	Preflood					
8	Francis				79	37	8764		
8	Urea	150	lb ai/A	Preflood					
9	Francis				78	33	7698		
9	Urea	180	lb ai/A	Preflood					
10	Francis				78	36	8776		
10	Urea	210	lb ai/A	Preflood					
11	Wells				77	34	8420	62	71
11	Urea	90	lb ai/A	Preflood					
12	Wells				79	38	8707		
12	Urea	120	lb ai/A	Preflood					
13	Wells				78	35	8466		
13	Urea	150	lb ai/A	Preflood					
14	Wells				78	35	8764		
14	Urea	180	lb ai/A	Preflood					
15	Wells				80	37	8429		
15	Urea	210	lb ai/A	Preflood					
16	Pirogue				77	34	8325	64	69
16	(short-grain)								
16	Urea	90	lb ai/A	Preflood					
17	Pirogue				79	35	8231		
17	(short-grain)								
17	Urea	120	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 4

Trial ID: VXN504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
18	Pirogue				79	37	8387		
18	(short-grain)								
18	Urea	150	lb ai/A	Preflood					
19	Pirogue				79	37	8677		
19	(short-grain)								
19	Urea	180	lb ai/A	Preflood					
20	Pirogue				78	36	9259		
20	(short-grain)								
20	Urea	210	lb ai/A	Preflood					
21	Cheniere				77	36	8794	65	71
21	Urea	90	lb ai/A	Preflood					
22	Cheniere				76	34	8647		
22	Urea	120	lb ai/A	Preflood					
23	Cheniere				77	34	8677		
23	Urea	150	lb ai/A	Preflood					
24	Cheniere				77	33	8956		
24	Urea	180	lb ai/A	Preflood					
25	Cheniere				76	33	8515		
25	Urea	210	lb ai/A	Preflood					
26	CL161				76	38	9003	65	70
26	Urea	90	lb ai/A	Preflood					
27	CL161				78	37	9520		
27	Urea	120	lb ai/A	Preflood					
28	CL161				77	37	9289		
28	Urea	150	lb ai/A	Preflood					
29	CL161				77	35	9136		
29	Urea	180	lb ai/A	Preflood					
30	CL161				76	34	8605		
30	Urea	210	lb ai/A	Preflood					
31	Cybonnet				78	36	9146	69	72
31	Urea	90	lb ai/A	Preflood					
32	Cybonnet				77	35	8766		
32	Urea	120	lb ai/A	Preflood					
33	Cybonnet				78	36	8521		
33	Urea	150	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 4

Trial ID: VXN504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
34	Cybonnet				77	36	9144		
34	Urea	180	lb ai/A	Preflood					
35	Cybonnet				79	35	9233		
35	Urea	210	lb ai/A	Preflood					
36	Banks				78	36	8825	61	68
36	Urea	90	lb ai/A	Preflood					
37	Banks				78	35	8881		
37	Urea	120	lb ai/A	Preflood					
38	Banks				77	36	9040		
38	Urea	150	lb ai/A	Preflood					
39	Banks				80	35	8928		
39	Urea	180	lb ai/A	Preflood					
40	Banks				78	35	9003		
40	Urea	210	lb ai/A	Preflood					
41	Medark				78	38	8338	61	69
41	(medium-grain)								
41	Urea	90	lb ai/A	Preflood					
42	Medark				76	34	8458		
42	(medium-grain)								
42	Urea	120	lb ai/A	Preflood					
43	Medark				78	36	8527		
43	(medium-grain)								
43	Urea	150	lb ai/A	Preflood					
44	Medark				77	35	8694		
44	(medium-grain)								
44	Urea	180	lb ai/A	Preflood					
45	Medark				80	38	8671		
45	(medium-grain)								
45	Urea	210	lb ai/A	Preflood					
46	2183				76	34	8694	64	69
46	(medium-grain)								
46	Urea	90	lb ai/A	Preflood					
47	2183				77	35	9048		
47	(medium-grain)								
47	Urea	120	lb ai/A	Preflood					
48	2183				79	37	8362		
48	(medium-grain)								
48	Urea	150	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 4

Trial ID: VXN504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
49	2183				77	38	8681		
49	(medium-grain)								
49	Urea	180	lb ai/A	Preflood					
50	2183				78	35	8451		
50	(medium-grain)								
50	Urea	210	lb ai/A	Preflood					
LSD (P=.05)					3.0	4.2	805.8	2.7	1.4
Standard Deviation					2.2	3.0	575.6	1.6	0.8
CV					2.78	8.4	6.61	2.42	1.16
Grand Mean					77.56	35.33	8707.2	64.29	70.32

Variety x Nitrogen Rate 5

Experiment number ....:	VXN604
Location..:	Richland Parish, Woodsland Plantation
Experimental design....................................:	Randomized complete block with a factorial arrangement of 10 rice entries and five preflood N rates
Number of reps ....:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type ....:	Hebert silty clay
% OM ....:	1.33
pH...:	5.4
Extractable nutrients............................:	P-142, K-174, Na-84, Ca-1949, Mg-694, Zn-1, S-19, Fe-241 mg/kg
Crop/Variety ....:	Cocodrie, Francis, Wells, Pirogue, Cheniere, CL161, Cybonnet, Banks, Medark, 2183
Seeding rate...:	40 seeds/ft^2
Planting method....................................:	Drill-seeded
Planting date ....:	May 24
Emergence date.....................................:	Cocodrie, Francis, Wells, Cheniere, CL161, Cybonnet, Banks, Medark, May 28; Pirogue, 2183, May 30
Harvest date ....:	October 27
Fertilization..:	18-46-0 PPI, May 11; variable PFN, July 6
Water management ....:	Flush, June 13; flood, July 8; harvest drain, September 26
Pest management	
Herbicides..:	1 qt/A Roundup, May 10; 1pt/A Command, May 15; 1 gal/A Duet + 1 pt/A COC, June 11; 0.4 oz/A Regiment + 1 oz/A Permit, July 3; 15 oz/A Clincher, July 17
Insecticides ....:	1 oz Icon seed treatment; 2 oz Karate/A, August 13
Fungicides ....:	12 oz/A Quadris, August 13

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 5

Trial ID: VXN604
Location: Richland Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Ldg rate % Main	Rice Ldg type 1-5 Main	Rice Yield lb/A Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	Cocodrie				67	27	0	0	7242
1	Urea	90	lb ai/A	Preflood					
2	Cocodrie				71	28	0	0	7842
2	Urea	120	lb ai/A	Preflood					
3	Cocodrie				73	28	0	0	7548
3	Urea	150	lb ai/A	Preflood					
4	Cocodrie				71	29	0	0	7709
4	Urea	180	lb ai/A	Preflood					
5	Cocodrie				71	28	0	0	7713
5	Urea	210	lb ai/A	Preflood					
6	Francis				67	30	0	0	6530
6	Urea	90	lb ai/A	Preflood					
7	Francis				69	32	0	0	6859
7	Urea	120	lb ai/A	Preflood					
8	Francis				68	32	0	0	7648
8	Urea	150	lb ai/A	Preflood					
9	Francis				72	32	0	0	7590
9	Urea	180	lb ai/A	Preflood					
10	Francis				73	33	0	0	8182
10	Urea	210	lb ai/A	Preflood					
11	Wells				75	31	0	0	7070
11	Urea	90	lb ai/A	Preflood					
12	Wells				78	33	0	0	7655
12	Urea	120	lb ai/A	Preflood					
13	Wells				81	33	0	0	7826
13	Urea	150	lb ai/A	Preflood					
14	Wells				80	34	0	0	8177
14	Urea	180	lb ai/A	Preflood					
15	Wells				83	35	0	0	8447
15	Urea	210	lb ai/A	Preflood					
16	Pirogue				79	31	0	0	9179
16	(short-grain)								
16	Urea	90	lb ai/A	Preflood					
17	Pirogue				80	31	0	0	9537
17	(short-grain)								
17	Urea	120	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 5

Trial ID: VXN604
Location: Richland Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Ldg rate	Ldg type	Yield
Rating Unit					days	inches	%	1-5	lb/A
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
18	Pirogue				80	32	0	0	9524
18	(short-grain)								
18	Urea	150	lb ai/A	Preflood					
19	Pirogue				81	33	0	0	9614
19	(short-grain)								
19	Urea	180	lb ai/A	Preflood					
20	Pirogue				82	30	0	0	9395
20	(short-grain)								
20	Urea	210	lb ai/A	Preflood					
21	Cheniere				81	29	0	0	8224
21	Urea	90	lb ai/A	Preflood					
22	Cheniere				81	29	0	0	8386
22	Urea	120	lb ai/A	Preflood					
23	Cheniere				81	29	0	0	8477
23	Urea	150	lb ai/A	Preflood					
24	Cheniere				82	29	0	0	8581
24	Urea	180	lb ai/A	Preflood					
25	Cheniere				85	29	0	0	8346
25	Urea	210	lb ai/A	Preflood					
26	CL161				81	29	0	0	7058
26	Urea	90	lb ai/A	Preflood					
27	CL161				83	29	0	0	7463
27	Urea	120	lb ai/A	Preflood					
28	CL161				83	30	0	0	7394
28	Urea	150	lb ai/A	Preflood					
29	CL161				84	29	5	1	7352
29	Urea	180	lb ai/A	Preflood					
30	CL161				86	30	15	1	7189
30	Urea	210	lb ai/A	Preflood					
31	Cybonnet				66	28	0	0	5909
31	Urea	90	lb ai/A	Preflood					
32	Cybonnet				66	28	0	0	6223
32	Urea	120	lb ai/A	Preflood					
33	Cybonnet				66	29	0	0	6447
33	Urea	150	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 5

Trial ID: VXN604
Location: Richland Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Ldg rate % Main	Rice Ldg type 1-5 Main	Rice Yield lb/A Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
34	Cybonnet				71	29	0	0	6511
34	Urea	180	lb ai/A	Preflood					
35	Cybonnet				68	29	0	0	6466
35	Urea	210	lb ai/A	Preflood					
36	Banks				83	35	0	0	7872
36	Urea	90	lb ai/A	Preflood					
37	Banks				82	35	0	0	8056
37	Urea	120	lb ai/A	Preflood					
38	Banks				83	35	0	0	7975
38	Urea	150	lb ai/A	Preflood					
39	Banks				87	36	0	0	8476
39	Urea	180	lb ai/A	Preflood					
40	Banks				88	37	18	1	8468
40	Urea	210	lb ai/A	Preflood					
41	Medark				78	29	0	0	8646
41	(medium-grain)								
41	Urea	90	lb ai/A	Preflood					
42	Medark				79	28	0	0	8893
42	(medium-grain)								
42	Urea	120	lb ai/A	Preflood					
43	Medark				82	29	0	0	9097
43	(medium-grain)								
43	Urea	150	lb ai/A	Preflood					
44	Medark				80	29	0	0	9720
44	(medium-grain)								
44	Urea	180	lb ai/A	Preflood					
45	Medark				82	29	23	1	9014
45	(medium-grain)								
45	Urea	210	lb ai/A	Preflood					
46	2183				82	30	0	0	9261
46	(medium-grain)								
46	Urea	90	lb ai/A	Preflood					
47	2183				81	31	0	0	9498
47	(medium-grain)								
47	Urea	120	lb ai/A	Preflood					
48	2183				83	30	0	0	9912
48	(medium-grain)								
48	Urea	150	lb ai/A	Preflood					

Continued.

LSU AgCenter
Rice Research Station
Variety x Nitrogen Rate 5

Trial ID: VXN604
Location: Richland Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Ldg rate	Ldg type	Yield
Rating Unit					days	inches	%	1-5	lb/A
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
49	2183				84	31	0	0	10152
49	(medium-grain)								
49	Urea	180	lb ai/A	Preflood					
50	2183				85	31	0	0	10465
50	(medium-grain)								
50	Urea	210	lb ai/A	Preflood					
LSD (P=.05)					5.4	1.4	12.7	0.9	575.3
Standard Deviation					3.8	1.0	9.1	0.6	410.9
CV					4.91	3.37	754.87	703.21	5.05
Grand Mean					78.01	30.46	1.2	0.09	8136.22

Special Purpose Variety x Nitrogen Rate

Experiment number	SPV104
Location	Rice Research Station
Experimental design	Randomized complete block with a factorial arrangement of five rice entries and five preflood N rates
Number of reps	4
Plot size	7 x 25 ft (175 ft^2)
Row width/Rows per plot	7 in/12
Soil type	Crowley silt loam
% OM	1.80
pH	7.3
Extractable nutrients	P-25, K-68, Na-104, Ca-1170, Mg-271, Zn-1.9, S-5.5, Fe-68 mg/kg
Crop/Variety	2125, 2140, 2131, 1123, Cheniere
Seeding rate	40 seeds/ft^2
Planting method	Drill-seeded
Planting date	March 24
Emergence date	Variable
Harvest date	August 3
Fertilization	0-60-60 PPI, March 24; variable PFN, April 28; 90 lb/A ratoon N, August 5
Water management	Flush, March 30, April 16; flood, April 30; harvest drain, July 16; ratoon flood, August 5; ratoon harvest drain, October 18
Pest management	
Herbicides	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides	None

LSU AgCenter
Rice Research Station
Special Purpose Variety x Nitrogen Rate

Trial ID: SPV104
Location: Rice Research Station

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	LA0302125				90	34	6570	2024	6579		
1	Urea	60	lb ai/A	Preflood							
2	LA0302125				90	31	6053	2306	8319	68	85
2	Urea	90	lb ai/A	Preflood							
3	LA0302125				87	33	6457	1922	8053		
3	Urea	120	lb ai/A	Preflood							
4	LA0302125				89	34	6355	1482	8960		
4	Urea	150	lb ai/A	Preflood							
5	LA0302125				69	35	6782	2357	9647		
5	Urea	180	lb ai/A	Preflood							
6	LA0002140				92	35	5814	2237	6847		
6	Urea	60	lb ai/A	Preflood							
7	LA0002140				90	33	6316	1941	7011	37	79
7	Urea	90	lb ai/A	Preflood							
8	LA0002140				90	35	6079	1772	7428		
8	Urea	120	lb ai/A	Preflood							
9	LA0002140				89	36	5622	2236	8377		
9	Urea	150	lb ai/A	Preflood							
10	LA0002140				92	32	6506	1576	8403		
10	Urea	180	lb ai/A	Preflood							
11	LA0302131				88	37	5436	1769	6175		
11	Urea	60	lb ai/A	Preflood							
12	LA0302131				87	33	7406	2296	8109	64	86
12	Urea	90	lb ai/A	Preflood							
13	LA0302131				87	33	5298	2214	8625		
13	Urea	120	lb ai/A	Preflood							
14	LA0302131				89	34	5800	1574	8377		
14	Urea	150	lb ai/A	Preflood							
15	LA0302131				90	32	6343	2215	9340		
15	Urea	180	lb ai/A	Preflood							
16	TX1123				85	32	5560	2073	6815		
16	Urea	60	lb ai/A	Preflood							
17	TX1123				90	33	6648	1819	8294	76	86
17	Urea	90	lb ai/A	Preflood							

Continued.

LSU AgCenter
Rice Research Station
Special Purpose Variety x Nitrogen Rate

Trial ID: SPV104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
18	TX1123				91	34	6616	1907	9035		
18	Urea	120	lb ai/A	Preflood							
19	TX1123				91	35	6929	1776	8910		
19	Urea	150	lb ai/A	Preflood							
20	TX1123				86	34	6707	1835	9772		
20	Urea	180	lb ai/A	Preflood							
21	Cheniere				68	33	5876	1859	6524		
21	Urea	60	lb ai/A	Preflood							
22	Cheniere				67	33	7281	1560	7724	66	88
22	Urea	90	lb ai/A	Preflood							
23	Cheniere				87	33	6472	1565	8024		
23	Urea	120	lb ai/A	Preflood							
24	Cheniere				91	36	6645	1768	9335		
24	Urea	150	lb ai/A	Preflood							
25	Cheniere				88	34	6083	1853	9641		
25	Urea	180	lb ai/A	Preflood							
LSD (P=.05)					22.8	4.5	1775.8	795.7	1280.6	9.7	2.3
Standard Deviation					16.1	3.2	1255.7	562.6	905.5	5.2	1.2
CV					18.65	9.48	19.91	29.34	11.08	8.32	1.41
Grand Mean					86.4	33.69	6306.01	1917.36	8172.89	62.2	84.87

Drill-Seeded Variety x Nitrogen Rate in a Stale Seedbed Production System

Experiment number ....:	VNTD104
Location ....:	Rice Research Station, South Unit
Experimental design ....:	Randomized complete block with a factorial arrangement of five rice entries and five preflood N rates
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	1.61
pH ....:	6.5
Extractable nutrients ....:	P-33, K-98, Na-147, Ca-1300, Mg-295, Zn-3.6, S-5.1, Fe-77 mg/kg
Crop/Variety ....:	Cocodrie, Wells, Francis, CL161, Cheniere
Seeding rate ....:	40 seeds/ft^2
Planting method ....:	Drill-seeded
Planting date ....:	March 27
Emergence date ....:	Variable
Harvest date ....:	Main crop, August 11; ratoon crop, October 30
Fertilization ....:	0-60-60 PPI, fall 2003; variable PFN, May 10; 90 lb/A ratoon N, August 11
Water management ....:	Flush, March 30, April 5, April 16, May 6; flood, May 11; drain, June 3; flood, June 9; harvest drain, July 28; ratoon flood, August 12; ratoon harvest drain, October 18
Pest management	
Herbicides ....:	1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 1.5 pt/A Gramoxone Max, March 27; 1 gal/A Arrosolo + 1 oz/A Permit, April 15; 15 oz/A Clincher, April 29; 3 qt/A Arrosolo + 1.5 pt/A Basagran; 2 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Drill-Seeded Variety x Nitrogen Rate in a Stale Seedbed Production System

Trial ID: VNTD104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1 1	Cocodrie Urea	 90	 lb ai/A	 Preflood	82	34	6855	2489	9344	62	70
2 2	Cocodrie Urea	 120	 lb ai/A	 Preflood	83	35	7414	2313	9727		
3 3	Cocodrie Urea	 150	 lb ai/A	 Preflood	84	35	7904	2585	10489		
4 4	Cocodrie Urea	 180	 lb ai/A	 Preflood	85	36	8154	2241	10395		
5 5	Cocodrie Urea	 210	 lb ai/A	 Preflood	85	36	8213	2425	10638		
6 6	Wells Urea	 90	 lb ai/A	 Preflood	86	35	5748	2886	8635	56	71
7 7	Wells Urea	 120	 lb ai/A	 Preflood	86	36	6165	3062	9226		
8 8	Wells Urea	 150	 lb ai/A	 Preflood	89	40	6981	2928	9908		
9 9	Wells Urea	 180	 lb ai/A	 Preflood	89	39	7562	2926	10489		
10 10	Wells Urea	 210	 lb ai/A	 Preflood	90	39	6267	2424	8691		
11 11	Francis Urea	 90	 lb ai/A	 Preflood	85	34	6097	2364	8461	59	70
12 12	Francis Urea	 120	 lb ai/A	 Preflood	85	38	7460	2201	9661		
13 13	Francis Urea	 150	 lb ai/A	 Preflood	86	38	7825	2514	10338		
14 14	Francis Urea	 180	 lb ai/A	 Preflood	86	40	8062	2467	10529		
15 15	Francis Urea	 210	 lb ai/A	 Preflood	89	40	8438	2669	11108		
16 16	CL161 Urea	 90	 lb ai/A	 Preflood	85	36	6798	2813	9611	66	70
17 17	CL161 Urea	 120	 lb ai/A	 Preflood	86	37	7504	2894	10398		

Continued.

LSU AgCenter
Rice Research Station
Drill-Seeded Variety x Nitrogen Rate in a Stale Seedbed Production System

Trial ID: VNTD104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
18	CL161				86	38	7505	2676	10181		
18	Urea	150	lb ai/A	Preflood							
19	CL161				87	38	7866	2700	10566		
19	Urea	180	lb ai/A	Preflood							
20	CL161				88	41	7660	2319	9978		
20	Urea	210	lb ai/A	Preflood							
21	Cheniere				84	35	6377	2310	8687	62	70
21	Urea	90	lb ai/A	Preflood							
22	Cheniere				85	35	7148	2233	9381		
22	Urea	120	lb ai/A	Preflood							
23	Cheniere				86	36	7763	2185	9948		
23	Urea	150	lb ai/A	Preflood							
24	Cheniere				86	37	8182	2517	10699		
24	Urea	180	lb ai/A	Preflood							
25	Cheniere				86	38	8514	2372	10886		
25	Urea	210	lb ai/A	Preflood							
LSD (P=.05)					1.2	2.3	1021.6	545.8	1421.9	1.7	0.9
Standard Deviation					0.8	1.4	722.4	386.0	1005.5	0.9	0.5
CV					0.95	3.69	9.79	15.19	10.14	1.45	0.69
Grand Mean					85.8	37.0	7378.36	2540.34	9918.71	61.12	70.08

Water-Seeded Variety x Nitrogen Rate in a Stale Seedbed Production System

Experiment number ....:	VNTW104
Location..:	Rice Research Station, South Unit
Experimental design....................................:	Randomized complete block with a factorial arrangement of five rice entries and five preflood N rates
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	
Soil type ....:	Crowley silt loam
% OM...:	2.82
pH...:	6.3
Extractable nutrients............................:	P-33, K-98, Na-147, Ca-1300, Mg-295, Zn-3.6, S-5.1, Fe-77 mg/kg
Crop/Variety ....:	Cocodrie, Wells, Francis, CL161, Cheniere
Seeding rate..:	60 seeds/ft^2
Planting method....................................:	Water-seeded
Planting date ....:	April 1
Emergence date.....................................:	Variable
Harvest date ....:	Main crop, July 29; ratoon crop, November 5
Fertilization..:	0-60-60 PPI, fall 2003; variable PPN, March 27; 90 lb/A ratoon N, August 11
Water management ....:	Flood, March 29; drain, April 5; flood, April 8; drain, April 26; flood, April 30; drain, June 3; flood, June 9; harvest drain, July 16; ratoon flood, August 12; ratoon harvest drain, October 18
Pest management	
Herbicides..:	1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 1.5 pt/A Gramoxone Max, March 27; 15 oz/A Clincher, April 29; 2 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Water-Seeded Variety x Nitrogen Rate in a Stale Seedbed Production System

Trial ID: VNTW104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	Cocodrie				75	30	7540	3405	10944	65	73
1	Urea	90	lb ai/A	Preflood							
2	Cocodrie				77	32	7389	3255	10644		
2	Urea	120	lb ai/A	Preflood							
3	Cocodrie				78	33	7957	3315	11272		
3	Urea	150	lb ai/A	Preflood							
4	Cocodrie				81	33	7463	3120	10583		
4	Urea	180	lb ai/A	Preflood							
5	Cocodrie				81	35	8162	2883	11045		
5	Urea	210	lb ai/A	Preflood							
6	Wells				76	34	6803	4991	11794	49	73
6	Urea	90	lb ai/A	Preflood							
7	Wells				76	36	7492	4594	12086		
7	Urea	120	lb ai/A	Preflood							
8	Wells				77	37	8063	4507	12570		
8	Urea	150	lb ai/A	Preflood							
9	Wells				80	38	8815	4400	13215		
9	Urea	180	lb ai/A	Preflood							
10	Wells				81	40	9097	4141	13238		
10	Urea	210	lb ai/A	Preflood							
11	Francis				77	32	5496	3405	8901	53	71
11	Urea	90	lb ai/A	Preflood							
12	Francis				79	35	7089	3683	10771		
12	Urea	120	lb ai/A	Preflood							
13	Francis				82	36	7340	3739	11079		
13	Urea	150	lb ai/A	Preflood							
14	Francis				82	38	7575	3738	11313		
14	Urea	180	lb ai/A	Preflood							
15	Francis				83	38	8115	3651	11766		
15	Urea	210	lb ai/A	Preflood							
16	CL161				80	33	6857	3844	10700	67	72
16	Urea	90	lb ai/A	Preflood							
17	CL161				81	34	7408	3366	10773		
17	Urea	120	lb ai/A	Preflood							

Continued.

LSU AgCenter
Rice Research Station
Water-Seeded Variety x Nitrogen Rate in a Stale Seedbed Production System

Trial ID: VNTW104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
18	CL161				83	36	7625	3462	11086		
18	Urea	150	lb ai/A	Preflood							
19	CL161				83	38	8481	3362	11843		
19	Urea	180	lb ai/A	Preflood							
20	CL161				84	38	7557	3255	10812		
20	Urea	210	lb ai/A	Preflood							
21	Cheniere				77	31	6994	3393	10388	65	73
21	Urea	90	lb ai/A	Preflood							
22	Cheniere				79	32	7463	3234	10697		
22	Urea	120	lb ai/A	Preflood							
23	Cheniere				80	33	7645	2842	10487		
23	Urea	150	lb ai/A	Preflood							
24	Cheniere				81	35	8126	3000	11125		
24	Urea	180	lb ai/A	Preflood							
25	Cheniere				82	35	8015	2895	10910		
25	Urea	210	lb ai/A	Preflood							
LSD (P=.05)					1.9	1.6	1070.6	661.4	1494.6	5.5	1.2
Standard Deviation					1.3	1.1	757.0	467.7	1056.8	2.9	0.6
CV					1.68	3.3	9.93	13.07	9.43	4.93	0.86
Grand Mean					79.83	34.83	7622.53	3579.04	11201.55	59.73	72.32

Hybrid Long-Grain x Nitrogen Rate 1

Experiment number ....: HL104

Location..: Rice Research Station

Experimental design....................................: Randomized complete block with a factorial arrangement of three long-grain rice hybrids and nine N treatments
Number of reps.....................................: 4
Plot size..: 7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................: 7 in/12

Soil type...: Crowley silt loam
% OM...: 3.44
pH...: 7.3
Extractable nutrients............................: P-23, K-65, Na-104, Ca-1334, Mg-244, Zn-1.3, S-5, Fe-43 mg/kg

Crop/Variety...: CLXL8, XP710, XP723, Cocodrie
Seeding rate..: CLXL8, XP710, XP723, 30 lb/A; Cocodrie, 75 lb/A
Planting method....................................: Drill-seeded
Planting date..: March 24
Emergence date.....................................: March 31
Harvest date...: Main crop, August 4; ratoon crop, October 20

Fertilization..: 0-60-60 PPI, March 24; variable PFN and 5% heading N according to treatment schedule; 90 lb/A ratoon N, August 5

Water management.....................................: Flush, March 30, April 16; flood, April 30; harvest drain, July 20; ratoon flood, August 5; ratoon harvest drain, October 4

Pest management
Herbicides...: 3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides...: 1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides..: None

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 1

Trial ID: HL104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	CLXL8				83	38	5473	2142	7615	60	69
1	Urea	60	lb ai/A	Preflood							
2	CLXL8				83	36	6195	2346	8540	59	69
2	Urea	60	lb ai/A	Preflood							
2	Urea	30	lb ai/A	5% heading							
3	CLXL8				84	39	7015	2637	9652	58	69
3	Urea	90	lb ai/A	Preflood							
4	CLXL8				85	39	8028	1800	9828	55	68
4	Urea	120	lb ai/A	Preflood							
5	CLXL8				84	39	6974	2344	9318	61	69
5	Urea	90	lb ai/A	Preflood							
5	Urea	30	lb ai/A	5% heading							
6	CLXL8				84	38	7672	2670	10341	59	69
6	Urea	90	lb ai/A	Preflood							
6	Urea	60	lb ai/A	5% heading							
7	CLXL8				85	42	8061	2512	10572	58	69
7	Urea	120	lb ai/A	Preflood							
7	Urea	30	lb ai/A	5% heading							
8	CLXL8				86	42	8653	1814	10467	56	68
8	Urea	150	lb ai/A	Preflood							
9	CLXL8				85	41	8303	2357	10660	57	68
9	Urea	120	lb ai/A	Preflood							
9	Urea	60	lb ai/A	5% heading							
10	Cocodrie				85	35	7985	1698	9683	63	67
10	Urea	120	lb ai/A	Preflood							
10	Urea	60	lb ai/A	5% heading							
11	XP710				84	37	6534	1994	8528	44	65
11	Urea	60	lb ai/A	Preflood							
12	XP710				84	39	7250	2549	9799	49	67
12	Urea	60	lb ai/A	Preflood							
12	Urea	30	lb ai/A	5% heading							
13	XP710				87	42	8048	2090	10138	46	66
13	Urea	90	lb ai/A	Preflood							
14	XP710				88	41	9172	2069	11240	51	66
14	Urea	120	lb ai/A	Preflood							
15	XP710				86	40	8283	2533	10817	51	68
15	Urea	90	lb ai/A	Preflood							
15	Urea	30	lb ai/A	5% heading							

Continued.

LSU Ag Center
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 1

Trial ID: HL104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
16	XP710				85	39	8250	2673	10922	48	68
16	Urea	90	lb ai/A	Preflood							
16	Urea	60	lb ai/A	5% heading							
17	XP710				86	39	9378	2433	11811	52	68
17	Urea	120	lb ai/A	Preflood							
17	Urea	30	lb ai/A	5% heading							
18	XP710				88	43	10053	2366	12418	51	66
18	Urea	150	lb ai/A	Preflood							
19	XP710				86	39	9807	2879	12686	54	68
19	Urea	120	lb ai/A	Preflood							
19	Urea	60	lb ai/A	5% heading							
20	Cocodrie				85	38	8069	1619	9689	64	67
20	Urea	120	lb ai/A	Preflood							
20	Urea	60	lb ai/A	5% heading							
21	XP723				80	37	5375	2373	7748	61	69
21	Urea	60	lb ai/A	Preflood							
22	XP723				80	38	5189	2304	7494	62	69
22	Urea	60	lb ai/A	Preflood							
22	Urea	30	lb ai/A	5% heading							
23	XP723				82	39	6978	2399	9377	63	69
23	Urea	90	lb ai/A	Preflood							
24	XP723				84	39	7822	3038	10861	62	70
24	Urea	120	lb ai/A	Preflood							
25	XP723				83	39	6766	2796	9561	64	70
25	Urea	90	lb ai/A	Preflood							
25	Urea	30	lb ai/A	5% heading							
26	XP723				81	40	6809	2698	9507	66	70
26	Urea	90	lb ai/A	Preflood							
26	Urea	60	lb ai/A	5% heading							
27	XP723				83	40	7946	3035	10980	66	70
27	Urea	120	lb ai/A	Preflood							
27	Urea	30	lb ai/A	5% heading							
28	XP723				85	40	8466	2954	11420	64	70
28	Urea	150	lb ai/A	Preflood							
29	XP723				84	40	7883	3289	11172	65	71
29	Urea	120	lb ai/A	Preflood							
29	Urea	60	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 1

Trial ID: HL104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
30	Cocodrie				84	35	7722	1712	9434	63	67
30	Urea	120	lb ai/A	Preflood							
30	Urea	60	lb ai/A	5% heading							
LSD (P=.05)					1.6	3.4	508.4	652.1	938.5	6.4	2.3
Standard Deviation					1.2	2.4	359.5	461.1	663.6	3.1	1.1
CV					1.37	6.1	4.69	19.18	6.59	5.39	1.65
Grand Mean					84.12	38.93	7671.83	2403.97	10075.78	57.71	68.3

Hybrid Medium-Grain x Nitrogen Rate 1

Experiment number ....:	HM104
Location...:	Rice Research Station
Experimental design....................................:	Randomized complete block with a factorial arrangement of two medium-grain rice hybrids and nine N treatments
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Crowley silt loam
% OM...:	2.03
pH..:	6.9
Extractable nutrients............................:	P-23, K-65, Na-104, Ca-1334, Mg-244, Zn-1.3, S-5, Fe-43 mg/kg
Crop/Variety..:	XP712, XP716, Bengal
Seeding rate..:	XP712, XP716, 30 lb/A; Bengal, 75 lb/A
Planting method....................................:	Drill-seeded
Planting date..:	March 24
Emergence date.....................................:	March 31
Harvest date...:	Main crop, August 5; ratoon crop, October 20
Fertilization...:	0-60-60 PPI, March 24; variable PFN and 5% heading N according to treatment schedule; 90 lb/A ratoon N, August 5
Water management......................................:	Flush, March 30, April 16; flood, April 30; harvest drain, July 20; ratoon flood, August 5; ratoon harvest drain, October 4
Pest management	
Herbicides...:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides...:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides..:	None

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 1

Trial ID: HM104
Location: Rice Research Station

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	XP712				89	37	6458	3253	9711	56	68
1	Urea	60	lb ai/A	Preflood							
2	XP712				89	40	6879	4049	10927	55	69
2	Urea	60	lb ai/A	Preflood							
2	Urea	30	lb ai/A	5% heading							
3	XP712				89	40	7619	3356	10975	51	68
3	Urea	90	lb ai/A	Preflood							
4	XP712				89	43	8310	3844	12154	53	67
4	Urea	120	lb ai/A	Preflood							
5	XP712				89	39	7905	3934	11839	56	69
5	Urea	90	lb ai/A	Preflood							
5	Urea	30	lb ai/A	5% heading							
6	XP712				89	39	8018	4289	12307	57	70
6	Urea	90	lb ai/A	Preflood							
6	Urea	60	lb ai/A	5% heading							
7	XP712				89	42	8597	4150	12747	56	69
7	Urea	120	lb ai/A	Preflood							
7	Urea	30	lb ai/A	5% heading							
8	XP712				90	43	9332	3886	13218	57	68
8	Urea	150	lb ai/A	Preflood							
9	XP712				89	40	8322	3808	12130	58	70
9	Urea	120	lb ai/A	Preflood							
9	Urea	60	lb ai/A	5% heading							
10	Bengal				91	37	7950	2269	10219	61	68
10	Urea	120	lb ai/A	Preflood							
10	Urea	60	lb ai/A	5% heading							
11	XP716				91	37	5928	2797	8725	61	69
11	Urea	60	lb ai/A	Preflood							
12	XP716				90	40	5975	2850	8824	61	70
12	Urea	60	lb ai/A	Preflood							
12	Urea	30	lb ai/A	5% heading							
13	XP716				92	40	7024	3378	10401	59	70
13	Urea	90	lb ai/A	Preflood							
14	XP716				92	40	7776	3470	11247	60	69
14	Urea	120	lb ai/A	Preflood							
15	XP716				91	38	6977	3178	10155	63	70
15	Urea	90	lb ai/A	Preflood							
15	Urea	30	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 1

Trial ID: HM104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
16	XP716				91	40	7092	3303	10395	63	69
16	Urea	90	lb ai/A	Preflood							
16	Urea	60	lb ai/A	5% heading							
17	XP716				92	42	7965	3540	11505	54	69
17	Urea	120	lb ai/A	Preflood							
17	Urea	30	lb ai/A	5% heading							
18	XP716				92	42	8479	3635	12114	60	68
18	Urea	150	lb ai/A	Preflood							
19	XP716				92	41	8093	3414	11507	62	69
19	Urea	120	lb ai/A	Preflood							
19	Urea	60	lb ai/A	5% heading							
20	Bengal				91	38	8341	2533	10875	64	70
20	Urea	120	lb ai/A	Preflood							
20	Urea	60	lb ai/A	5% heading							
LSD (P=.05)					1.1	2.7	685.6	684.2	1173.5	7.8	1.7
Standard Deviation					0.7	1.9	484.8	483.8	829.8	3.7	0.8
CV					0.83	4.84	6.34	14.04	7.48	6.36	1.2
Grand Mean					90.26	39.76	7651.94	3446.68	11098.56	58.38	68.95

Hybrid Long-Grain x Nitrogen Rate 2

Experiment number ....: HL304

Location..: Vermilion Parish, Errol Lounsberry Farm

Experimental design....................................: Randomized complete block with a factorial arrangement of three long-grain rice hybrids and nine N treatments
Number of reps.....................................: 4
Plot size..: 7 x 20 ft (140 ft^2)
Row width/Rows per plot.....................: 7 in/12

Soil type...: Crowley silt loam
% OM..: 1.13
pH...: 5.8
Extractable nutrients............................: P-45, K-105, Na-109, Ca-1367, Mg-289, Zn-1.1, S-8, Fe-85 mg/kg

Crop/Variety...: CLXL8, XP710, XP723, Cocodrie
Seeding rate..: CLXL8, XP710, XP723, 30 lb/A; Cocodrie, 75 lb/A
Planting method....................................: Drill-seeded
Planting date..: March 23
Emergence date.....................................: Variable
Harvest date...: Main crop, August 9; ratoon crop, November 8

Fertilization...: 0-52-52 PPI, January; variable PFN and 5% heading N according to treatment schedule; 90 lb/A ratoon N, August 9

Water management......................................: Flush, March 26, April 7, April 17; flood May 8; harvest drain, July 29; ratoon flood, August 11, ratoon harvest drain, October 19

Pest management
Herbicides...: 1 gal/A Arrosolo + 1 oz/A Permit, May 6
Insecticides...: 1 oz Icon seed treatment; 2 oz/A Karate, July 9
Fungicides..: 12 oz/A Quadris, June 18 and July 1

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 2

Trial ID: HL304
Location: Vermilion Parish

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	CLXL8				96	43	8710	4104	12814	61	71
1	Urea	60	lb ai/A	Preflood							
2	CLXL8				96	42	9601	4808	14409	60	70
2	Urea	60	lb ai/A	Preflood							
2	Urea	30	lb ai/A	5% heading							
3	CLXL8				97	43	9083	4828	13911	61	71
3	Urea	90	lb ai/A	Preflood							
4	CLXL8				97	40	9122	5074	14195	61	71
4	Urea	120	lb ai/A	Preflood							
5	CLXL8				97	44	9435	4691	14126	59	70
5	Urea	90	lb ai/A	Preflood							
5	Urea	30	lb ai/A	5% heading							
6	CLXL8				97	44	9759	5042	14801	62	71
6	Urea	90	lb ai/A	Preflood							
6	Urea	60	lb ai/A	5% heading							
7	CLXL8				98	43	9016	4830	13846	62	71
7	Urea	120	lb ai/A	Preflood							
7	Urea	30	lb ai/A	5% heading							
8	CLXL8				98	43	9711	4866	14577	62	71
8	Urea	150	lb ai/A	Preflood							
9	CLXL8				97	44	9633	4973	14606	60	70
9	Urea	120	lb ai/A	Preflood							
9	Urea	60	lb ai/A	5% heading							
10	Cocodrie				98	39	7506	3249	10756	66	71
10	Urea	120	lb ai/A	Preflood							
10	Urea	60	lb ai/A	5% heading							
11	XP710				100	42	9632	5840	15472	53	69
11	Urea	60	lb ai/A	Preflood							
12	XP710				100	41	10287	5731	16018	55	69
12	Urea	60	lb ai/A	Preflood							
12	Urea	30	lb ai/A	5% heading							
13	XP710				101	43	9690	5748	15438	56	69
13	Urea	90	lb ai/A	Preflood							
14	XP710				101	43	9770	4704	14474	56	69
14	Urea	120	lb ai/A	Preflood							
15	XP710				102	44	9452	5012	14463	54	69
15	Urea	90	lb ai/A	Preflood							
15	Urea	30	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 2

Trial ID: HL304
Location: Vermilion Parish

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
16	XP710				100	43	10136	6043	16179	55	71
16	Urea	90	lb ai/A	Preflood							
16	Urea	60	lb ai/A	5% heading							
17	XP710				101	43	9636	5750	15386	57	71
17	Urea	120	lb ai/A	Preflood							
17	Urea	30	lb ai/A	5% heading							
18	XP710				102	45	9482	5556	15038	55	69
18	Urea	150	lb ai/A	Preflood							
19	XP710				102	42	9665	6127	15792	56	70
19	Urea	120	lb ai/A	Preflood							
19	Urea	60	lb ai/A	5% heading							
20	Cocodrie				99	39	7191	2984	10176	66	71
20	Urea	120	lb ai/A	Preflood							
20	Urea	60	lb ai/A	5% heading							
21	XP723				95	43	10141	5388	15529	64	71
21	Urea	60	lb ai/A	Preflood							
22	XP723				94	43	10354	5452	15805	64	71
22	Urea	60	lb ai/A	Preflood							
22	Urea	30	lb ai/A	5% heading							
23	XP723				95	44	10575	5465	16040	63	71
23	Urea	90	lb ai/A	Preflood							
24	XP723				97	44	9950	5617	15566	65	71
24	Urea	120	lb ai/A	Preflood							
25	XP723				95	45	10563	5671	16234	64	71
25	Urea	90	lb ai/A	Preflood							
25	Urea	30	lb ai/A	5% heading							
26	XP723				96	44	10023	5310	15332	64	70
26	Urea	90	lb ai/A	Preflood							
26	Urea	60	lb ai/A	5% heading							
27	XP723				96	45	10405	6032	16436	64	71
27	Urea	120	lb ai/A	Preflood							
27	Urea	30	lb ai/A	5% heading							
28	XP723				99	45	9902	5579	15481	67	71
28	Urea	150	lb ai/A	Preflood							
29	XP723				97	45	10133	5613	15746	63	71
29	Urea	120	lb ai/A	Preflood							
29	Urea	60	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 2

Trial ID: HL304
Location: Vermilion Parish

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
30	Cocodrie				99	39	7343	3057	10401	67	71
30	Urea	120	lb ai/A	Preflood							
30	Urea	60	lb ai/A	5% heading							
LSD (P=.05)					1.6	3.1	634.8	685.8	1095.0	2.2	1.2
Standard Deviation					1.1	2.2	448.8	484.9	774.3	1.1	0.6
CV					1.16	5.21	4.71	9.5	5.29	1.77	0.85
Grand Mean					97.96	42.7	9530.06	5104.73	14634.78	60.65	70.44

Hybrid Medium-Grain x Nitrogen Rate 2

Experiment number ....:	HM304
Location..:	Vermilion Parish, Errol Lounsberry Farm
Experimental design....................................:	Randomized complete block with a factorial arrangement of two medium-grain rice hybrids and nine N treatments
Number of reps ....:	4
Plot size...:	7 x 20 ft (140 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	1.66
pH..:	6.0
Extractable nutrients............................:	P-45, K-105, Na-109, Ca-1367, Mg-289, Zn-1.1, S-8, Fe-85 mg/kg
Crop/Variety ....:	XP712, XP716, Bengal
Seeding rate..:	XP712, XP716, 30 lb/A; Bengal, 75 lb/A
Planting method....................................:	Drill-seeded
Planting date ....:	March 23
Emergence date.....................................:	Variable
Harvest date ....:	Main crop, August 9; ratoon crop, November 8
Fertilization..:	0-52-52 PPI, January; variable PFN and 5% heading N according to treatment schedule; 90 lb/A ratoon N, August 9
Water management ....:	Flush, March 26, April 7, April 17; flood, May 8; harvest drain, July 29; ratoon flood, August 11; ratoon harvest drain, October 19
Pest management	
Herbicides...:	1 gal/A Arrosolo + 1 oz/A Permit, May 6
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, July 9
Fungicides ....:	12 oz/A Quadris, June 18 and July 1

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 2

Trial ID: HM304
Location: Vermilion Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	XP712				97	46	9048	5849	14897	61	71
1	Urea	60	lb ai/A	Preflood							
2	XP712				97	45	9579	5749	15327	63	70
2	Urea	60	lb ai/A	Preflood							
2	Urea	30	lb ai/A	5% heading							
3	XP712				98	45	9245	5620	14865	63	71
3	Urea	90	lb ai/A	Preflood							
4	XP712				98	45	9920	6079	15999	62	70
4	Urea	120	lb ai/A	Preflood							
5	XP712				97	45	9465	5841	15307	64	71
5	Urea	90	lb ai/A	Preflood							
5	Urea	30	lb ai/A	5% heading							
6	XP712				97	44	9801	5865	15665	65	71
6	Urea	90	lb ai/A	Preflood							
6	Urea	60	lb ai/A	5% heading							
7	XP712				98	45	9528	5776	15304	64	71
7	Urea	120	lb ai/A	Preflood							
7	Urea	30	lb ai/A	5% heading							
8	XP712				98	46	9737	6102	15838	64	71
8	Urea	150	lb ai/A	Preflood							
9	XP712				98	43	9286	5840	15125	66	72
9	Urea	120	lb ai/A	Preflood							
9	Urea	60	lb ai/A	5% heading							
10	Bengal				99	41	8217	5383	13599	67	72
10	Urea	120	lb ai/A	Preflood							
10	Urea	60	lb ai/A	5% heading							
11	XP716				99	46	8717	5739	14456	64	71
11	Urea	60	lb ai/A	Preflood							
12	XP716				99	45	9196	6027	15223	62	68
12	Urea	60	lb ai/A	Preflood							
12	Urea	30	lb ai/A	5% heading							
13	XP716				99	46	8783	5880	14663	65	70
13	Urea	90	lb ai/A	Preflood							
14	XP716				100	47	8973	6086	15059	55	70
14	Urea	120	lb ai/A	Preflood							
15	XP716				99	46	9126	6041	15167	63	71
15	Urea	90	lb ai/A	Preflood							
15	Urea	30	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 2

Trial ID: HM304
Location: Vermilion Parish

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
16	XP716				100	47	9256	5962	15218	66	71
16	Urea	90	lb ai/A	Preflood							
16	Urea	60	lb ai/A	5% heading							
17	XP716				101	46	8922	5742	14664	60	70
17	Urea	120	lb ai/A	Preflood							
17	Urea	30	lb ai/A	5% heading							
18	XP716				101	47	9065	6126	15190	64	70
18	Urea	150	lb ai/A	Preflood							
19	XP716				100	44	8886	5988	14874	60	72
19	Urea	120	lb ai/A	Preflood							
19	Urea	60	lb ai/A	5% heading							
20	Bengal				100	38	8385	5171	13556	66	71
20	Urea	120	lb ai/A	Preflood							
20	Urea	60	lb ai/A	5% heading							
LSD (P=.05)					0.8	3.1	670.9	454.7	961.9	8.7	2.5
Standard Deviation					0.6	2.2	474.4	321.5	680.1	4.2	1.2
CV					0.56	4.83	5.18	5.5	4.53	6.59	1.71
Grand Mean					98.73	44.73	9156.63	5843.13	14999.76	63.16	70.63

Hybrid Long-Grain x Nitrogen Rate 3

Experiment number ....:	HL204
Location..:	East Carroll Parish, Buford Perry Farm
Experimental design....................................:	Randomized complete block with a factorial arrangement of three long-grain rice hybrids and nine N treatments
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Sharkey clay
% OM..:	2.38
pH...:	6.8
Extractable nutrients............................:	P-64, K-431, Na-74, Ca-5465, Mg-1496, Zn-2.1, S-6, Fe-75 mg/kg
Crop/Variety...:	CLXL8, XP710, XP723, Cocodrie
Seeding rate..:	CLXL8, XP710, XP723, 30 lb/A; Cocodrie, 75 lb/A
Planting method....................................:	Drill-seeded
Planting date..:	April 20
Emergence date.....................................:	April 29
Harvest date...:	September 8
Fertilization..:	Variable PFN and 5% heading N according to treatment schedule
Water management.....................................:	Flush, May 7; flood, May 30; drain, June 2; flood, June 5; harvest drain, August 10
Pest management	
Herbicides..:	1 qt/A Roundup, April 23; 4 lb/A Stam 80 DF + 1.3 oz/A Permit, May 28; 1 qt/A Basagran, June 4
Insecticides...:	1 oz Icon seed treatment; 2 oz/A Karate, August 3
Fungicides..:	12 oz/A Quadris, July 14

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 3

Trial ID: HL204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	YIeld	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	CLXL8				70	35	7461	49	67
1	Urea	60	lb ai/A	Preflood					
2	CLXL8				70	33	7369	56	70
2	Urea	60	lb ai/A	Preflood					
2	Urea	30	lb ai/A	5% heading					
3	CLXL8				70	35	8618	51	69
3	Urea	90	lb ai/A	Preflood					
4	CLXL8				71	37	9382	54	68
4	Urea	120	lb ai/A	Preflood					
5	CLXL8				70	36	8337	55	69
5	Urea	90	lb ai/A	Preflood					
5	Urea	30	lb ai/A	5% heading					
6	CLXL8				71	36	8803	53	70
6	Urea	90	lb ai/A	Preflood					
6	Urea	60	lb ai/A	5% heading					
7	CLXL8				71	35	8796	56	69
7	Urea	120	lb ai/A	Preflood					
7	Urea	30	lb ai/A	5% heading					
8	CLXL8				72	37	9811	52	68
8	Urea	150	lb ai/A	Preflood					
9	CLXL8				72	36	8754	44	70
9	Urea	120	lb ai/A	Preflood					
9	Urea	60	lb ai/A	5% heading					
10	Cocodrie				73	29	7523	65	71
10	Urea	120	lb ai/A	Preflood					
10	Urea	60	lb ai/A	5% heading					
11	XP710				75	33	6731	57	70
11	Urea	60	lb ai/A	Preflood					
12	XP710				76	33	6968	56	70
12	Urea	60	lb ai/A	Preflood					
12	Urea	30	lb ai/A	5% heading					
13	XP710				77	35	7077	59	69
13	Urea	90	lb ai/A	Preflood					
14	XP710				79	36	7286	61	70
14	Urea	120	lb ai/A	Preflood					
15	XP710				78	35	7076	59	70
15	Urea	90	lb ai/A	Preflood					
15	Urea	30	lb ai/A	5% heading					

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 3

Trial ID: HL204
Location: East Carroll Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice YIeld lb/A Main	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
16	XP710				77	36	7508	60	70
16	Urea	90	lb ai/A	Preflood					
16	Urea	60	lb ai/A	5% heading					
17	XP710				79	37	7451	61	70
17	Urea	120	lb ai/A	Preflood					
17	Urea	30	lb ai/A	5% heading					
18	XP710				80	38	6964	61	70
18	Urea	150	lb ai/A	Preflood					
19	XP710				80	36	7454	61	71
19	Urea	120	lb ai/A	Preflood					
19	Urea	60	lb ai/A	5% heading					
20	Cocodrie				73	30	7055	66	73
20	Urea	120	lb ai/A	Preflood					
20	Urea	60	lb ai/A	5% heading					
21	XP723				68	35	6927	58	69
21	Urea	60	lb ai/A	Preflood					
22	XP723				68	35	7062	58	70
22	Urea	60	lb ai/A	Preflood					
22	Urea	30	lb ai/A	5% heading					
23	XP723				70	36	8209	58	70
23	Urea	90	lb ai/A	Preflood					
24	XP723				70	36	8631	59	70
24	Urea	120	lb ai/A	Preflood					
25	XP723				69	36	8270	62	70
25	Urea	90	lb ai/A	Preflood					
25	Urea	30	lb ai/A	5% heading					
26	XP723				69	36	8282	61	71
26	Urea	90	lb ai/A	Preflood					
26	Urea	60	lb ai/A	5% heading					
27	XP723				71	38	8876	59	70
27	Urea	120	lb ai/A	Preflood					
27	Urea	30	lb ai/A	5% heading					
28	XP723				71	38	9306	61	70
28	Urea	150	lb ai/A	Preflood					
29	XP723				70	36	8728	62	71
29	Urea	120	lb ai/A	Preflood					
29	Urea	60	lb ai/A	5% heading					

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 3

Trial ID: HL204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	YIeld	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
30	Cocodrie				73	30	7074	67	70
30	Urea	120	lb ai/A	Preflood					
30	Urea	60	lb ai/A	5% heading					
LSD (P=.05)					1.0	1.8	596.1	6.6	2.2
Standard Deviation					0.7	1.3	421.5	3.2	1.1
CV					0.98	3.71	5.32	5.6	1.57
Grand Mean					72.78	35.09	7926.24	58.04	69.8

Hybrid Medium-Grain x Nitrogen Rate 3

Experiment number ....:	HM204
Location..:	East Carroll Parish, Buford Perry Farm
Experimental design....................................:	Randomized complete block with a factorial arrangement of two medium-grain rice hybrids and nine N treatments
Number of reps ....:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type ....:	Sharkey clay
% OM ....:	1.85
pH...:	6.8
Extractable nutrients............................:	P-64, K-431, Na-74, Ca-5465, Mg-1496, Zn-2.1, S-6, Fe-75 mg/kg
Crop/Variety ....:	XP712, XP716, Bengal
Seeding rate..:	XP712, XP716, 30 lb/A; Bengal, 75 lb/A
Planting method....................................:	Drill-seeded
Planting date ....:	April 20
Emergence date.....................................:	April 29
Harvest date ....:	September 8
Fertilization..:	Variable PFN and 5% heading N according to treatment schedule
Water management ....:	Flush, May 7; flood, May 30; drain, June 2; flood, June 5; harvest drain, August 10
Pest management	
Herbicides..:	1 qt/A Roundup, April 23; 1 gal/A Arrosolo + 0.33 lb/A Facet + 1 oz/A Permit, May 6; 4 lb/A Stam 80 DF + 1.3 oz/A Permit, May 28; 1 qt/A Basagran, June 4
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, August 3
Fungicides ....:	12 oz/A Quadris, July 14

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 3

Trial ID: HM204
Location: East Carroll Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	XP712				71	32	6218	47	69
1	Urea	60	lb ai/A	Preflood					
2	XP712				71	31	6916	50	69
2	Urea	60	lb ai/A	Preflood					
2	Urea	30	lb ai/A	5% heading					
3	XP712				71	33	7333	50	69
3	Urea	90	lb ai/A	Preflood					
4	XP712				71	36	7952	50	69
4	Urea	120	lb ai/A	Preflood					
5	XP712				71	34	7343	51	69
5	Urea	90	lb ai/A	Preflood					
5	Urea	30	lb ai/A	5% heading					
6	XP712				71	35	7652	52	70
6	Urea	90	lb ai/A	Preflood					
6	Urea	60	lb ai/A	5% heading					
7	XP712				71	35	8109	50	69
7	Urea	120	lb ai/A	Preflood					
7	Urea	30	lb ai/A	5% heading					
8	XP712				72	36	8683	49	68
8	Urea	150	lb ai/A	Preflood					
9	XP712				71	35	7645	49	69
9	Urea	120	lb ai/A	Preflood					
9	Urea	60	lb ai/A	5% heading					
10	Bengal				73	30	8688	62	70
10	Urea	120	lb ai/A	Preflood					
10	Urea	60	lb ai/A	5% heading					
11	XP716				72	31	5277	45	68
11	Urea	60	lb ai/A	Preflood					
12	XP716				72	31	6032	50	67
12	Urea	60	lb ai/A	Preflood					
12	Urea	30	lb ai/A	5% heading					
13	XP716				73	35	6546	57	68
13	Urea	90	lb ai/A	Preflood					
14	XP716				74	36	7141	55	69
14	Urea	120	lb ai/A	Preflood					
15	XP716				73	35	6583	59	69
15	Urea	90	lb ai/A	Preflood					
15	Urea	30	lb ai/A	5% heading					

Continued.

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 3

Trial ID: HM204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
16	XP716				74	34	6912	53	67
16	Urea	90	lb ai/A	Preflood					
16	Urea	60	lb ai/A	5% heading					
17	XP716				74	36	6695	64	70
17	Urea	120	lb ai/A	Preflood					
17	Urea	30	lb ai/A	5% heading					
18	XP716				75	38	8010	64	70
18	Urea	150	lb ai/A	Preflood					
19	XP716				73	36	6941	65	70
19	Urea	120	lb ai/A	Preflood					
19	Urea	60	lb ai/A	5% heading					
20	Bengal				73	31	9284	62	71
20	Urea	120	lb ai/A	Preflood					
20	Urea	60	lb ai/A	5% heading					
LSD (P=.05)					0.8	2.4	470.4	8.1	1.9
Standard Deviation					0.5	1.7	332.6	3.9	0.9
CV					0.74	5.05	4.56	7.15	1.3
Grand Mean					72.08	33.83	7298.0	54.28	69.02

Hybrid Long-Grain x Nitrogen Rate 4

Experiment number ....:	HL504
Location..:	Morehouse Parish, Zaunbrecher Farm (Roland Crymes cooperating)
Experimental design....................................:	Randomized complete block with a factorial arrangement of three long-grain rice hybrids and nine N treatments
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Hebert silty clay
% OM...:	1.67
pH...:	6.3
Extractable nutrients............................:	P-60, K-285, Na-195, Ca-2900, Mg-930, Zn-3.4, S-18, Fe-130 mg/kg
Crop/Variety ....:	CLXL8, XP710, XP723, Cocodrie
Seeding rate...:	CLXL8, XP710, XP723, 30 lb/A; Cocodrie, 75 lb/A
Planting method....................................:	Drill-seeded
Planting date...:	April 20
Emergence date.....................................:	May 1
Harvest date..:	September 7
Fertilization..:	Variable PFN and 5% heading N according to treatment schedule
Water management.....................................:	Flush, May 6; flood, May 28; harvest drain, August 16
Pest management	
Herbicides..:	1 gal/A Arrosolo + 0.33 lb/A Facet + 1 oz/A Londax, April 29; 15 oz/A Clincher, May 27
Insecticides..:	1 oz Icon seed treatment; 2 oz/A Karate, July 28
Fungicides..:	12 oz/A Quadris, July 14

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 4

Trial ID: HL504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	CLXL8				74	36	8634	49	69
1	Urea	60	lb ai/A	Preflood					
2	CLXL8				73	37	8988	53	70
2	Urea	60	lb ai/A	Preflood					
2	Urea	30	lb ai/A	5% heading					
3	CLXL8				75	39	9734	49	68
3	Urea	90	lb ai/A	Preflood					
4	CLXL8				76	40	11069	56	71
4	Urea	120	lb ai/A	Preflood					
5	CLXL8				75	39	9970	57	70
5	Urea	90	lb ai/A	Preflood					
5	Urea	30	lb ai/A	5% heading					
6	CLXL8				75	39	10368	58	71
6	Urea	90	lb ai/A	Preflood					
6	Urea	60	lb ai/A	5% heading					
7	CLXL8				76	40	10650	57	70
7	Urea	120	lb ai/A	Preflood					
7	Urea	30	lb ai/A	5% heading					
8	CLXL8				77	41	11417	57	70
8	Urea	150	lb ai/A	Preflood					
9	CLXL8				76	40	10703	63	72
9	Urea	120	lb ai/A	Preflood					
9	Urea	60	lb ai/A	5% heading					
10	Cocodrie				77	34	9022	65	71
10	Urea	120	lb ai/A	Preflood					
10	Urea	60	lb ai/A	5% heading					
11	XP710				78	36	10194	49	67
11	Urea	60	lb ai/A	Preflood					
12	XP710				77	36	10185	52	69
12	Urea	60	lb ai/A	Preflood					
12	Urea	30	lb ai/A	5% heading					
13	XP710				79	38	11368	52	40
13	Urea	90	lb ai/A	Preflood					
14	XP710				80	39	11796	53	68
14	Urea	120	lb ai/A	Preflood					
15	XP710				79	38	11605	51	69
15	Urea	90	lb ai/A	Preflood					
15	Urea	30	lb ai/A	5% heading					

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 4

Trial ID: HL504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
16	XP710				78	39	11389	53	70
16	Urea	90	lb ai/A	Preflood					
16	Urea	60	lb ai/A	5% heading					
17	XP710				80	40	11512	54	69
17	Urea	120	lb ai/A	Preflood					
17	Urea	30	lb ai/A	5% heading					
18	XP710				81	41	11376	51	68
18	Urea	150	lb ai/A	Preflood					
19	XP710				80	40	11716	54	69
19	Urea	120	lb ai/A	Preflood					
19	Urea	60	lb ai/A	5% heading					
20	Cocodrie				77	35	8675	63	70
20	Urea	120	lb ai/A	Preflood					
20	Urea	60	lb ai/A	5% heading					
21	XP723				71	35	8524	54	70
21	Urea	60	lb ai/A	Preflood					
22	XP723				71	37	8885	58	71
22	Urea	60	lb ai/A	Preflood					
22	Urea	30	lb ai/A	5% heading					
23	XP723				73	38	10018	59	71
23	Urea	90	lb ai/A	Preflood					
24	XP723				74	40	10734	61	71
24	Urea	120	lb ai/A	Preflood					
25	XP723				73	37	10109	62	71
25	Urea	90	lb ai/A	Preflood					
25	Urea	30	lb ai/A	5% heading					
26	XP723				73	39	10374	61	71
26	Urea	90	lb ai/A	Preflood					
26	Urea	60	lb ai/A	5% heading					
27	XP723				74	40	10847	63	71
27	Urea	120	lb ai/A	Preflood					
27	Urea	30	lb ai/A	5% heading					
28	XP723				75	41	11487	60	70
28	Urea	150	lb ai/A	Preflood					
29	XP723				74	39	10585	63	72
29	Urea	120	lb ai/A	Preflood					
29	Urea	60	lb ai/A	5% heading					

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 4

Trial ID: HL504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
30	Cocodrie				77	34	8753	62	70
30	Urea	120	lb ai/A	Preflood					
30	Urea	60	lb ai/A	5% heading					
LSD (P=.05)					1.0	2.1	494.3	3.6	17.4
Standard Deviation					0.7	1.5	349.5	1.8	8.5
CV					0.95	3.89	3.38	3.15	12.34
Grand Mean					75.81	38.1	10356.07	56.62	68.93

Hybrid Medium-Grain x Nitrogen Rate 4

Experiment number ....:	HM504
Location..:	Morehouse Parish, Zaunbrecher Farm (Roland Crymes cooperating)
Experimental design....................................:	Randomized complete block with a factorial arrangement of two medium-grain rice hybrids and nine N treatments
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Hebert silty clay
% OM..:	1.82
pH...:	6.4
Extractable nutrients............................:	P-60, K-285, Na-195, Ca-2900, Mg-930, Zn-3.4, S-18, Fe-130 mg/kg
Crop/Variety...:	XP712, XP716, Bengal
Seeding rate...:	XP712, XP716, 30 lb/A; Bengal, 75 lb/A
Planting method....................................:	Drill-seeded
Planting date...:	April 20
Emergence date.....................................:	May 1
Harvest date..:	September 7
Fertilization..:	Variable PFN and 5% heading N according to treatment schedule
Water management.....................................:	Flush, May 6; flood, May 28; harvest drain, August 16
Pest management	
Herbicides..:	1 gal/A Arrosolo + 0.33 lb/A Facet + 1 oz/A Londax, April 29; 15 oz/A Clincher, May 27
Insecticides...:	1 oz Icon seed treatment; 2 oz/A Karate, July 28
Fungicides..:	12 oz/A Quadris, July 14

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 4

Trial ID: HM504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	XP712				73	35	7735	57	70
1	Urea	60	lb ai/A	Preflood					
2	XP712				73	35	7927	58	71
2	Urea	60	lb ai/A	Preflood					
2	Urea	30	lb ai/A	5% heading					
3	XP712				73	38	9359	58	71
3	Urea	90	lb ai/A	Preflood					
4	XP712				74	40	9369	59	70
4	Urea	120	lb ai/A	Preflood					
5	XP712				74	38	8841	61	71
5	Urea	90	lb ai/A	Preflood					
5	Urea	30	lb ai/A	5% heading					
6	XP712				74	38	9175	60	71
6	Urea	90	lb ai/A	Preflood					
6	Urea	60	lb ai/A	5% heading					
7	XP712				74	39	9263	61	71
7	Urea	120	lb ai/A	Preflood					
7	Urea	30	lb ai/A	5% heading					
8	XP712				75	40	10118	61	71
8	Urea	150	lb ai/A	Preflood					
9	XP712				74	40	9431	61	71
9	Urea	120	lb ai/A	Preflood					
9	Urea	60	lb ai/A	5% heading					
10	Bengal				77	36	9068	65	70
10	Urea	120	lb ai/A	Preflood					
10	Urea	60	lb ai/A	5% heading					
11	XP716				75	37	7713	64	70
11	Urea	60	lb ai/A	Preflood					
12	XP716				75	37	7879	62	70
12	Urea	60	lb ai/A	Preflood					
12	Urea	30	lb ai/A	5% heading					
13	XP716				76	42	9352	65	71
13	Urea	90	lb ai/A	Preflood					
14	XP716				77	41	9757	66	71
14	Urea	120	lb ai/A	Preflood					
15	XP716				77	41	9279	66	71
15	Urea	90	lb ai/A	Preflood					
15	Urea	30	lb ai/A	5% heading					

Continued.

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 4

Trial ID: HM504
Location: Morehouse Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
16	XP716				76	40	9146	65	71
16	Urea	90	lb ai/A	Preflood					
16	Urea	60	lb ai/A	5% heading					
17	XP716				77	41	9643	67	71
17	Urea	120	lb ai/A	Preflood					
17	Urea	30	lb ai/A	5% heading					
18	XP716				78	43	10338	64	71
18	Urea	150	lb ai/A	Preflood					
19	XP716				77	43	9631	65	71
19	Urea	120	lb ai/A	Preflood					
19	Urea	60	lb ai/A	5% heading					
20	Bengal				77	35	9640	66	71
20	Urea	120	lb ai/A	Preflood					
20	Urea	60	lb ai/A	5% heading					
LSD (P=.05)					0.8	1.7	546.1	2.9	0.8
Standard Deviation					0.6	1.2	386.1	1.4	0.4
CV					0.75	3.14	4.23	2.21	0.53
Grand Mean					75.11	38.81	9133.11	62.62	70.71

Hybrid Long-Grain x Nitrogen Rate 5

Experiment number ....:	HL604
Location ....:	Richland Parish, Woodsland Plantation
Experimental design ....:	Randomized complete block with a factorial arrangement of three long-grain rice hybrids and nine N treatments
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Hebert silty clay
% OM ....:	1.52
pH ....:	5.3
Extractable nutrients ....:	P-130, K-185, Na-90, Ca-2100, Mg-865, Zn-2.1, S-22, Fe-175 mg/kg
Crop/Variety ....:	CLXL8, XP710, XP723, Cocodrie
Seeding rate ....:	CLXL8, XP710, XP723, 30 lb/A; Cocodrie, 75 lb/A
Planting method ....:	Drill-seeded
Planting date ....:	May 24
Emergence date ....:	May 30
Harvest date ....:	October 26
Fertilization ....:	18-46-0 PPI, May 11; variable PFN and 5% heading N according to treatment schedule
Water management ....:	Flush, June 13; flood, July 8; harvest drain, September 26
Pest management	
Herbicides ....:	1 qt/A Roundup, May 10; 1 pt/A Command, May 15; 1 gal/A Duet, June 11; 0.4 oz/A Regiment + 1 oz/A Permit, July 3; 15 oz/A Clincher, July 17
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, August 13
Fungicides ....:	12 oz/A Quadris, August 13

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 5

Trial ID: HL604
Location: Richland Parish

Crop Name Rating Data Type Rating Unit Crop Stage					RIce 50% Head days Main	RIce Height inches Main	RIce Ldg-Rate % Main	Rice Ldg-Type 1-5 Main	Rice Yield lb/A Main	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	CLXL8				83	36	100	5	9078	55	67
1	Urea	60	lb ai/A	Preflood							
2	CLXL8				82	35	100	5	9299	52	63
2	Urea	60	lb ai/A	Preflood							
2	Urea	30	lb ai/A	5% heading							
3	CLXL8				85	36	100	5	10022	56	67
3	Urea	90	lb ai/A	Preflood							
4	CLXL8				84	37	100	5	10961	56	67
4	Urea	120	lb ai/A	Preflood							
5	CLXL8				84	36	100	5	9654	56	67
5	Urea	90	lb ai/A	Preflood							
5	Urea	30	lb ai/A	5% heading							
6	CLXL8				82	37	100	5	10961	57	68
6	Urea	90	lb ai/A	Preflood							
6	Urea	60	lb ai/A	5% heading							
7	CLXL8				83	36	100	5	9871	55	68
7	Urea	120	lb ai/A	Preflood							
7	Urea	30	lb ai/A	5% heading							
8	CLXL8				86	36	100	5	10311	54	67
8	Urea	150	lb ai/A	Preflood							
9	CLXL8				86	35	100	5	9864	56	68
9	Urea	120	lb ai/A	Preflood							
9	Urea	60	lb ai/A	5% heading							
10	Cocodrie				83	29	0	0	9768	61	69
10	Urea	120	lb ai/A	Preflood							
10	Urea	60	lb ai/A	5% heading							
11	XP710				78	33	0	0	9444	58	69
11	Urea	60	lb ai/A	Preflood							
12	XP710				80	34	0	0	10186	56	67
12	Urea	60	lb ai/A	Preflood							
12	Urea	30	lb ai/A	5% heading							
13	XP710				81	34	0	0	8855	58	68
13	Urea	90	lb ai/A	Preflood							
14	XP710				83	34	0	0	9945	58	68
14	Urea	120	lb ai/A	Preflood							
15	XP710				83	35	0	0	9682	57	68
15	Urea	90	lb ai/A	Preflood							
15	Urea	30	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 5

Trial ID: HL604
Location: Richland Parish

Crop Name Rating Data Type Rating Unit Crop Stage					RIce 50% Head days Main	RIce Height inches Main	RIce Ldg-Rate % Main	Rice Ldg-Type 1-5 Main	Rice Yield lb/A Main	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
16	XP710				82	35	0	0	9682	59	69
16	Urea	90	lb ai/A	Preflood							
16	Urea	60	lb ai/A	5% heading							
17	XP710				80	34	0	0	9055	56	69
17	Urea	120	lb ai/A	Preflood							
17	Urea	30	lb ai/A	5% heading							
18	XP710				82	35	0	0	9225	55	69
18	Urea	150	lb ai/A	Preflood							
19	XP710				82	35	0	0	10266	56	68
19	Urea	120	lb ai/A	Preflood							
19	Urea	60	lb ai/A	5% heading							
20	Cocodrie				81	28	0	0	8588	64	70
20	Urea	120	lb ai/A	Preflood							
20	Urea	60	lb ai/A	5% heading							
21	XP723				75	33	0	0	8687	60	69
21	Urea	60	lb ai/A	Preflood							
22	XP723				76	34	18	1	9402	60	68
22	Urea	60	lb ai/A	Preflood							
22	Urea	30	lb ai/A	5% heading							
23	XP723				76	35	8	1	9437	62	70
23	Urea	90	lb ai/A	Preflood							
24	XP723				79	36	10	1	9263	61	70
24	Urea	120	lb ai/A	Preflood							
25	XP723				76	35	13	1	9636	59	70
25	Urea	90	lb ai/A	Preflood							
25	Urea	30	lb ai/A	5% heading							
26	XP723				77	35	18	0	9322	64	71
26	Urea	90	lb ai/A	Preflood							
26	Urea	60	lb ai/A	5% heading							
27	XP723				78	35	45	2	9004	61	70
27	Urea	120	lb ai/A	Preflood							
27	Urea	30	lb ai/A	5% heading							
28	XP723				79	36	10	1	10292	60	70
28	Urea	150	lb ai/A	Preflood							
29	XP723				79	35	48	4	8789	57	68
29	Urea	120	lb ai/A	Preflood							
29	Urea	60	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Long-Grain x Nitrogen Rate 5

Trial ID: HL604
Location: Richland Parish

Crop Name					RIce	RIce	RIce	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Ldg-Rate	Ldg-Type	Yield	Head Rice	Total Mill
Rating Unit					days	inches	%	1-5	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
30	Cocodrie				80	29	0	0	8488	63	70
30	Urea	120	lb ai/A	Preflood							
30	Urea	60	lb ai/A	5% heading							
LSD (P=.05)					3.7	1.4	18.5	1.0	1079.2	5.8	3.4
Standard Deviation					2.6	1.0	13.1	0.7	763.1	2.9	1.6
CV					3.27	2.93	36.86	39.08	7.98	4.93	2.41
Grand Mean					80.7	34.33	35.58	1.84	9567.8	58.01	68.37

Hybrid Medium-Grain x Nitrogen Rate 5

Experiment number ....:	HM604
Location..:	Richland Parish, Woodsland Plantation
Experimental design....................................:	Randomized complete block with a factorial arrangement of two medium-grain rice hybrids and nine N treatments
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Hebert silty clay
% OM..:	1.36
pH...:	5.4
Extractable nutrients............................:	P-130, K-185, Na-90, Ca-2100, Mg-865, Zn-2.1, S-22, Fe-175 mg/kg
Crop/Variety...:	XP712, XP716, Bengal
Seeding rate...:	XP712, XP716, 30 lb/A; Bengal, 75 lb/A
Planting method....................................:	Drill-seeded
Planting date...:	May 24
Emergence date.....................................:	May 30
Harvest date..:	October 26
Fertilization..:	18-46-0 PPI, May 11; variable PFN and 5% heading N according to treatment schedule
Water management.....................................:	Flush, June 13; flood, July 8; harvest drain, September 26
Pest management	
Herbicides...:	1 qt/A Roundup, May 10; 1 pt/A Command, May 15; 1 gal/A Duet, June 11; 0.4 oz/A Regiment + 1 oz/A Permit, July 3; 15 oz/A Clincher, July 17
Insecticides...:	1 oz Icon seed treatment; 2 oz/A Karate, August 13
Fungicides...:	12 oz/A Quadris, August 13

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 5

Trial ID: HM604
Location: Richland Parish

Crop Name					Rice	Rice	Rice	RIce	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Ldg-Rate	Ldg-Type	Yield	Head Rice	Total Mill
Rating Unit					days	inches	%	1-5	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	XP712				84	38	68	3	8690	58	66
1	Urea	60	lb ai/A	Preflood							
2	XP712				85	36	68	4	9981	57	65
2	Urea	60	lb ai/A	Preflood							
2	Urea	30	lb ai/A	5% heading							
3	XP712				86	38	50	3	9170	57	66
3	Urea	90	lb ai/A	Preflood							
4	XP712				88	39	68	3	8600	58	66
4	Urea	120	lb ai/A	Preflood							
5	XP712				87	37	73	3	8946	59	68
5	Urea	90	lb ai/A	Preflood							
5	Urea	30	lb ai/A	5% heading							
6	XP712				86	38	60	3	9974	60	69
6	Urea	90	lb ai/A	Preflood							
6	Urea	60	lb ai/A	5% heading							
7	XP712				88	39	68	3	9325	60	68
7	Urea	120	lb ai/A	Preflood							
7	Urea	30	lb ai/A	5% heading							
8	XP712				89	40	63	3	9486	58	68
8	Urea	150	lb ai/A	Preflood							
9	XP712				88	39	60	3	9107	57	67
9	Urea	120	lb ai/A	Preflood							
9	Urea	60	lb ai/A	5% heading							
10	Bengal				88	31	0	0	8657	64	70
10	Urea	120	lb ai/A	Preflood							
10	Urea	60	lb ai/A	5% heading							
11	XP716				87	39	0	0	7740	60	66
11	Urea	60	lb ai/A	Preflood							
12	XP716				87	39	0	0	7618	62	68
12	Urea	60	lb ai/A	Preflood							
12	Urea	30	lb ai/A	5% heading							
13	XP716				89	40	13	1	7487	59	66
13	Urea	90	lb ai/A	Preflood							
14	XP716				89	40	0	0	7256	61	68
14	Urea	120	lb ai/A	Preflood							
15	XP716				88	40	0	0	7247	53	60
15	Urea	90	lb ai/A	Preflood							
15	Urea	30	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Hybrid Medium-Grain x Nitrogen Rate 5

Trial ID: HM604
Location: Richland Parish

Crop Name					Rice	Rice	Rice	RIce	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Ldg-Rate	Ldg-Type	Yield	Head Rice	Total Mill
Rating Unit					days	inches	%	1-5	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
16	XP716				88	40	0	0	7207	66	71
16	Urea	90	lb ai/A	Preflood							
16	Urea	60	lb ai/A	5% heading							
17	XP716				89	40	8	1	7272	62	70
17	Urea	120	lb ai/A	Preflood							
17	Urea	30	lb ai/A	5% heading							
18	XP716				91	41	0	0	7167	60	69
18	Urea	150	lb ai/A	Preflood							
19	XP716				90	41	0	0	7159	65	71
19	Urea	120	lb ai/A	Preflood							
19	Urea	60	lb ai/A	5% heading							
20	Bengal				89	32	0	0	9090	62	68
20	Urea	120	lb ai/A	Preflood							
20	Urea	60	lb ai/A	5% heading							
LSD (P=.05)					1.2	1.6	23.7	1.3	1065.3	6.0	4.9
Standard Deviation					0.8	1.1	16.8	0.9	753.3	2.9	2.3
CV					0.97	2.92	56.31	65.67	9.01	4.79	3.47
Grand Mean					87.69	38.23	29.75	1.35	8358.84	59.87	67.47

Ratoon-Crop Nitrogen Rate Response 1

Experiment number ....:	RF104
Location ....:	Rice Research Station
Experimental design ....:	Randomized complete block with a factorial arrangement of seven rice entries and four postharvest N rates
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	3.40
pH ....:	6.7
Extractable nutrients ....:	P-20, K-66, Na-103, Ca-1087, Mg-242, Zn-1.3, S-5, Fe-33 mg/kg
Crop/Variety ....:	Cypress, Cocodrie, Wells, Francis, CL161, Cheniere, Pirogue
Seeding rate ....:	40 seed/ft^2
Planting method ....:	Drill-seeded
Planting date ....:	March 24
Emergence date ....:	Variable
Harvest date ....:	Main crop, August 4; ratoon crop, November 4
Fertilization ....:	0-60-60 PPI, March 24; 165 lb/A PFN, April 28; variable ratoon N, August 4
Water management ....:	Flush, March 30, April 16; flood, April 30; harvest drain, July 16; ratoon flood, August 5; ratoon harvest drain, October 22
Pest management	
Herbicides ....:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Ratoon-Crop Nitrogen Rate Response 1

Trial ID: RF104
Location: Rice Research Station

Crop Name					Rice	Rice
Rating Data Type					50% Head	Yield
Rating Unit					days	lb/A
Crop Stage					Ratoon	Ratoon
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage		
1	Cypress				42	1517
1	Urea	30	lb ai/A	Postharvest		
2	Cypress				43	2274
2	Urea	60	lb ai/A	Postharvest		
3	Cypress				43	2189
3	Urea	90	lb ai/A	Postharvest		
4	Cypress				41	2459
4	Urea	120	lb ai/A	Postharvest		
5	Cocodrie				38	1467
5	Urea	30	lb ai/A	Postharvest		
6	Cocodrie				37	1907
6	Urea	60	lb ai/A	Postharvest		
7	Cocodrie				37	2010
7	Urea	90	lb ai/A	Postharvest		
8	Cocodrie				39	2006
8	Urea	120	lb ai/A	Postharvest		
9	Wells				45	2231
9	Urea	30	lb ai/A	Postharvest		
10	Wells				46	2854
10	Urea	60	lb ai/A	Postharvest		
11	Wells				47	2992
11	Urea	90	lb ai/A	Postharvest		
12	Wells				48	3202
12	Urea	120	lb ai/A	Postharvest		
13	Francis				44	1705
13	Urea	30	lb ai/A	Postharvest		
14	Francis				45	2397
14	Urea	60	lb ai/A	Postharvest		
15	Francis				46	2697
15	Urea	90	lb ai/A	Postharvest		
16	Francis				46	2987
16	Urea	120	lb ai/A	Postharvest		
17	CL161				44	1838
17	Urea	30	lb ai/A	Postharvest		

Continued.

LSU AgCenter
Rice Research Station
Ratoon-Crop Nitrogen Rate Response 1

Trial ID: RF104
Location: Rice Research Station

Crop Name					Rice	Rice
Rating Data Type					50% Head	Yield
Rating Unit					days	lb/A
Crop Stage					Ratoon	Ratoon
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage		
18	CL161				43	2291
18	Urea	60	lb ai/A	Postharvest		
19	CL161				45	2369
19	Urea	90	lb ai/A	Postharvest		
20	CL161				44	2260
20	Urea	120	lb ai/A	Postharvest		
21	Cheniere				45	1430
21	Urea	30	lb ai/A	Postharvest		
22	Cheniere				45	1830
22	Urea	60	lb ai/A	Postharvest		
23	Cheniere				47	1768
23	Urea	90	lb ai/A	Postharvest		
24	Cheniere				47	1770
24	Urea	120	lb ai/A	Postharvest		
25	Pirogue				45	1966
25	Urea	30	lb ai/A	Postharvest		
26	Pirogue				44	2602
26	Urea	60	lb ai/A	Postharvest		
27	Pirogue				42	2523
27	Urea	90	lb ai/A	Postharvest		
28	Pirogue				43	2945
28	Urea	120	lb ai/A	Postharvest		
LSD (P=.05)					2.9	495.1
Standard Deviation					2.1	350.1
CV					4.78	15.69
Grand Mean					43.43	2231.58

Ratoon-Crop Nitrogen Rate Response 2

Experiment number ....:	RF304
Location ....:	Vermilion Parish, Errol Lounsberry Farm
Experimental design ....:	Randomized complete block with a factorial arrangement of seven rice entries and four postharvest N rates
Number of reps ....:	4
Plot size ....:	7 x 20 ft (140 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	1.31
pH ....:	5.4
Extractable nutrients ....:	P-54, K-112, Na-42, Ca-1694, Mg-309, Zn-1, S-7.3, Fe-125 mg/kg
Crop/Variety ....:	Cypress, Cocodrie Wells, Francis, CL161, Cheniere, Pirogue
Seeding rate ....:	40 seed/ft^2
Planting method ....:	Drill-seeded
Planting date ....:	March 23
Emergence date ....:	Variable
Harvest date ....:	Main crop, August 9; ratoon crop, November 8
Fertilization ....:	0-52-52 PPI, January; 165 lb/A PFN, May 6; variable ratoon N, August 9
Water management ....:	Flush, March 26, April 7, April 17; Flood, May 8; harvest drain, July 29; ratoon flood, August 11; ratoon harvest drain, October 19
Pest management	
Herbicides ....:	1 gal/A Arrosolo, 1 oz/A Permit, May 6
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, July 9
Fungicides ....:	12 oz/A Quadris, June 18 and July 1

LSU AgCenter
Rice Research Station
Ratoon-Crop Nitrogen Rate Response 2

Trial ID: RF304
Location: Vermilion Parish

Crop Name					Rice	Rice
Rating Data Type					50% Head	Yield
Rating Unit					days	lb/A
Crop Stage					Ratoon	Ratoon
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage		
1	Cypress				34	2740
1	Urea	30	lb ai/A	Postharvest		
2	Cypress				35	2688
2	Urea	60	lb ai/A	Postharvest		
3	Cypress				34	2795
3	Urea	90	lb ai/A	Postharvest		
4	Cypress				36	2743
4	Urea	120	lb ai/A	Postharvest		
5	Cocodrie				33	2509
5	Urea	30	lb ai/A	Postharvest		
6	Cocodrie				33	2778
6	Urea	60	lb ai/A	Postharvest		
7	Cocodrie				33	2722
7	Urea	90	lb ai/A	Postharvest		
8	Cocodrie				33	2710
8	Urea	120	lb ai/A	Postharvest		
9	Wells				47	3376
9	Urea	30	lb ai/A	Postharvest		
10	Wells				48	3959
10	Urea	60	lb ai/A	Postharvest		
11	Wells				47	3667
11	Urea	90	lb ai/A	Postharvest		
12	Wells				47	3928
12	Urea	120	lb ai/A	Postharvest		
13	Francis				47	2728
13	Urea	30	lb ai/A	Postharvest		
14	Francis				47	3379
14	Urea	60	lb ai/A	Postharvest		
15	Francis				45	3530
15	Urea	90	lb ai/A	Postharvest		
16	Francis				47	3799
16	Urea	120	lb ai/A	Postharvest		
17	CL161				35	2893
17	Urea	30	lb ai/A	Postharvest		

Continued.

LSU AgCenter
Rice Research Station
Ratoon-Crop Nitrogen Rate Response 2

Trial ID: RF304
Location: Vermilion Parish

Crop Name					Rice	Rice
Rating Data Type					50% Head	Yield
Rating Unit					days	lb/A
Crop Stage					Ratoon	Ratoon
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage		
18	CL161				33	3146
18	Urea	60	lb ai/A	Postharvest		
19	CL161				33	2891
19	Urea	90	lb ai/A	Postharvest		
20	CL161				33	2587
20	Urea	120	lb ai/A	Postharvest		
21	Cheniere				42	3032
21	Urea	30	lb ai/A	Postharvest		
22	Cheniere				42	2726
22	Urea	60	lb ai/A	Postharvest		
23	Cheniere				42	3204
23	Urea	90	lb ai/A	Postharvest		
24	Cheniere				40	3314
24	Urea	120	lb ai/A	Postharvest		
25	Pirogue				40	4555
25	Urea	30	lb ai/A	Postharvest		
26	Pirogue				40	5062
26	Urea	60	lb ai/A	Postharvest		
27	Pirogue				40	5223
27	Urea	90	lb ai/A	Postharvest		
28	Pirogue				40	5226
28	Urea	120	lb ai/A	Postharvest		
LSD (P=.05)					2.3	442.7
Standard Deviation					1.6	313.0
CV					4.2	9.33
Grand Mean					39.31	3353.83

Hybrid Ratoon-Crop Nitrogen Rate Response

Experiment number ....:	HRN104
Location ....:	Rice Research Station
Experimental design ....:	Randomized complete block with a factorial arrangement of five rice hybrids and four postharvest N rates
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	3.17
pH ....:	7.8
Extractable nutrients ....:	P-20, K-64, Na-110, Ca-1447, Mg-238, Zn-1.3, S-5.5, Fe-32 mg/kg
Crop/Variety ....:	CLXL8, XP710, XP723, XP712, XP716, Cocodrie
Seeding rate ....:	CLXL8, XP710, XP723, XP712, XP716, 30 lb/A; Cocodrie, 75 lb/A
Planting method ....:	Drill-seeded
Planting date ....:	March 24
Emergence date ....:	Variable
Harvest date ....:	Main crop, August 4; ratoon corp, October 20
Fertilization ....:	0-60-60 PPI, March 24; 165 lb/A PFN, April 28; variable ratoon N, August 6
Water management ....:	Flush, March 30; April 16; flood, April 30; harvest drain, July 20; ratoon flood, August 5; ratoon harvest drain, October 4
Pest management	
Herbicides ....:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Hybrid Ratoon-Crop Nitrogen Rate Response

Trial ID: HRN104
Location: Rice Research Station

Crop Name					Rice
Rating Data Type					Yield
Rating Unit					lb/A
Crop Stage					Ratoon
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	
1	CLXL8				1400
1	Urea	30	lb ai/A	Postharvest	
2	CLXL8				1385
2	Urea	60	lb ai/A	Postharvest	
3	CLXL8				1498
3	Urea	90	lb ai/A	Postharvest	
4	CLXL8				1757
4	Urea	120	lb ai/A	Postharvest	
5	XP710				1677
5	Urea	30	lb ai/A	Postharvest	
6	XP710				2556
6	Urea	60	lb ai/A	Postharvest	
7	XP710				2452
7	Urea	90	lb ai/A	Postharvest	
8	XP710				2861
8	Urea	120	lb ai/A	Postharvest	
9	XP723				2529
9	Urea	30	lb ai/A	Postharvest	
10	XP723				2949
10	Urea	60	lb ai/A	Postharvest	
11	XP723				3139
11	Urea	90	lb ai/A	Postharvest	
12	XP723				2884
12	Urea	120	lb ai/A	Postharvest	
13	XP712				2682
13	Urea	30	lb ai/A	Postharvest	
14	XP712				3337
14	Urea	60	lb ai/A	Postharvest	
15	XP712				3170
15	Urea	90	lb ai/A	Postharvest	
16	XP712				3696
16	Urea	120	lb ai/A	Postharvest	
17	XP716				2940
17	Urea	30	lb ai/A	Postharvest	

Continued.

LSU AgCenter
Rice Research Station
Hybrid Ratoon-Crop Nitrogen Rate Response

Trial ID: HRN104
Location: Rice Research Station

Crop Name					Rice
Rating Data Type					Yield
Rating Unit					lb/A
Crop Stage					Ratoon
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	
18	XP716				3245
18	Urea	60	lb ai/A	Postharvest	
19	XP716				3692
19	Urea	90	lb ai/A	Postharvest	
20	XP716				4072
20	Urea	120	lb ai/A	Postharvest	
21	Cocodrie				1424
21	Urea	30	lb ai/A	Postharvest	
22	Cocodrie				1760
22	Urea	60	lb ai/A	Postharvest	
23	Cocodrie				2028
23	Urea	90	lb ai/A	Postharvest	
24	Cocodrie				2102
24	Urea	120	lb ai/A	Postharvest	
LSD (P=.05)					449.5
Standard Deviation					317.8
CV					12.46
Grand Mean					2551.42

Early Boot (5% Heading) Nitrogen 1

Experiment number ....:	EBN104
Location...:	Rice Research Station
Experimental design....................................:	Randomized complete block with a factorial arrangement of five rice entries and six N treatments
Number of reps.....................................:	4
Plot size...:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Crowley silt loam
% OM...:	2.87
pH..:	7.0
Extractable nutrients...........................:	P-23, K-76, Na-96, Ca-1452, Mg-283, Zn-1.7, S-5, Fe-46 mg/kg
Crop/Variety...:	Francis, Cocodrie, Cheniere, Cypress, Wells
Seeding rate..:	40 seed/ft^2
Planting method....................................:	Drill-seeded
Planting date..:	March 24
Emergence date.....................................:	Variable
Harvest date...:	Main crop, August 5; ratoon crop, October 25
Fertilization...:	0-60-60 PPI, March 24; variable PFN and 5% heading N according to treatment schedule; 90 lb/A ratoon N, August 5
Water management......................................:	Flush, March 30, April 16, May 5; Flood, May 11; harvest drain, July 22; ratoon flood, August 6; ratoon harvest drain, October 5
Pest management	
Herbicides...:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1 gal/A Arrosolo + 1 oz/A Londax, May 10; 1.5 oz/A Londax, May 20
Insecticides...:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides..:	None

LSU AgCenter
Rice Research Station
Early Boot (5% Heading) Nitrogen 1

Trial ID: EBN104
Location: Rice Research Station

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	Francis				92	36	6054	2573	8626	51	68
1	Urea	75	lb ai/A	Preflood							
1	0 boot nitrogen										
2	Francis				92	37	7343	2610	9953	53	68
2	Urea	75	lb ai/A	Preflood							
2	Urea	30	lb ai/A	5% heading							
3	Francis				92	36	6874	3010	9884	51	69
3	Urea	75	lb ai/A	Preflood							
3	Urea	60	lb ai/A	5% heading							
4	Francis				97	42	8452	2933	11384	54	68
4	Urea	150	lb ai/A	Preflood							
4	0 boot nitrogen										
5	Francis				96	40	8715	2939	11653	56	68
5	Urea	150	lb ai/A	Preflood							
5	Urea	30	lb ai/A	5% heading							
6	Francis				94	40	9383	3268	12651	55	67
6	Urea	150	lb ai/A	Preflood							
6	Urea	60	lb ai/A	5% heading							
7	Cocodrie				90	34	6955	1807	8761	59	69
7	Urea	75	lb ai/A	Preflood							
7	0 boot nitrogen										
8	Cocodrie				90	35	7433	2233	9666	59	69
8	Urea	75	lb ai/A	Preflood							
8	Urea	30	lb ai/A	5% heading							
9	Cocodrie				89	35	7544	1927	9470	60	70
9	Urea	75	lb ai/A	Preflood							
9	Urea	60	lb ai/A	5% heading							
10	Cocodrie				92	38	8981	2600	11582	56	67
10	Urea	150	lb ai/A	Preflood							
10	0 boot nitrogen										
11	Cocodrie				93	38	8788	2139	10927	58	69
11	Urea	150	lb ai/A	Preflood							
11	Urea	30	lb ai/A	5% heading							
12	Cocodrie				92	39	9072	2207	11279	58	70
12	Urea	150	lb ai/A	Preflood							
12	Urea	60	lb ai/A	5% heading							
13	Cheniere				93	35	7117	1888	9005	61	71
13	Urea	75	lb ai/A	Preflood							
13	0 boot nitrogen										

Continued.

LSU AgCenter
Rice Research Station
Early Boot (5% Heading) Nitrogen 1

Trial ID: EBN104
Location: Rice Research Station

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
14	Cheniere				94	34	7237	2193	9430	62	71
14	Urea	75	lb ai/A	Preflood							
14	Urea	30	lb ai/A	5% heading							
15	Cheniere				93	34	6732	2218	8949	63	72
15	Urea	75	lb ai/A	Preflood							
15	Urea	60	lb ai/A	5% heading							
16	Cheniere				95	36	8610	2407	11017	62	71
16	Urea	150	lb ai/A	Preflood							
16	0 boot nitrogen										
17	Cheniere				96	37	8721	2537	11259	63	71
17	Urea	150	lb ai/A	Preflood							
17	Urea	30	lb ai/A	5% heading							
18	Cheniere				95	36	9027	2429	11455	63	71
18	Urea	150	lb ai/A	Preflood							
18	Urea	60	lb ai/A	5% heading							
19	Cypress				93	35	6537	2331	8868	66	71
19	Urea	75	lb ai/A	Preflood							
19	0 boot nitrogen										
20	Cypress				94	35	6469	2422	8890	67	71
20	Urea	75	lb ai/A	Preflood							
20	Urea	30	lb ai/A	5% heading							
21	Cypress				93	34	6465	2385	8849	68	71
21	Urea	75	lb ai/A	Preflood							
21	Urea	60	lb ai/A	5% heading							
22	Cypress				97	39	8202	2655	10857	64	70
22	Urea	150	lb ai/A	Preflood							
22	0 boot nitrogen										
23	Cypress				96	39	8323	2505	10828	64	70
23	Urea	150	lb ai/A	Preflood							
23	Urea	30	lb ai/A	5% heading							
24	Cypress				96	40	8468	2623	11091	65	70
24	Urea	150	lb ai/A	Preflood							
24	Urea	60	lb ai/A	5% heading							
25	Wells				94	36	5874	2781	8656	44	69
25	Urea	75	lb ai/A	Preflood							
25	0 boot nitrogen										
26	Wells				95	36	6356	3135	9491	48	70
26	Urea	75	lb ai/A	Preflood							
26	Urea	30	lb ai/A	5% heading							

Continued.

LSU AgCenter
Rice Research Station
Early Boot (5% Heading) Nitrogen 1

Trial ID: EBN104
Location: Rice Research Station

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total	Rice Head Rice % Main	Rice Total Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
27	Wells				94	36	5823	3325	9147	52	71
27	Urea	75	lb ai/A	Preflood							
27	Urea	60	lb ai/A	5% heading							
28	Wells				97	39	7674	3225	10899	52	70
28	Urea	150	lb ai/A	Preflood							
28	0 boot nitrogen										
29	Wells				99	40	8147	3375	11522	52	71
29	Urea	150	lb ai/A	Preflood							
29	Urea	30	lb ai/A	5% heading							
30	Wells				98	40	8200	3004	11203	56	70
30	Urea	150	lb ai/A	Preflood							
30	Urea	60	lb ai/A	5% heading							
LSD (P=.05)					1.7	2.0	591.0	536.4	758.8	2.6	1.1
Standard Deviation					1.2	1.4	417.9	379.3	536.6	1.6	0.7
CV					1.26	3.88	5.46	14.65	5.24	2.7	0.99
Grand Mean					93.89	36.83	7652.33	2589.32	10241.59	58.03	69.71

Early Boot (5% Heading) Nitrogen 2

Experiment number ....:	EBN204
Location..:	East Carroll Parish, Buford Perry Farm
Experimental design....................................:	Randomized complete block with a factorial arrangement of five rice entries and six N treatments
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type ....:	Sharkey clay
% OM..:	1.50
pH...:	6.7
Extractable nutrients............................:	P-77, K-425, Na-74, Ca-5051, Mg-1408, Zn-2.3, S-10, Fe-88 mg/kg
Crop/Variety ....:	Francis, Cocodrie, Cheniere, Cypress, Wells
Seeding rate..:	40 seed/ft^2
Planting method....................................:	Drill-seeded
Planting date ....:	April 20
Emergence date.....................................:	April 28
Harvest date ....:	September 8
Fertilization..:	Variable PFN and 5% heading N according to treatment schedule
Water management ....:	Flush, May 7; flood, May 30; drain, June 2, flood, June 5; harvest drain, August 10
Pest management	
Herbicides..:	1 qt/A Roundup, April 23; 1 gal/A Arrosolo + 0.33 lb/A Facet + 1 oz/A Permit, May 6; 4 lb/A Stam 80 DF + 1.3 oz/A Permit, May 28; 1 qt/A Basagran, June 4
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, August 3
Fungicides ....:	12 oz/A Quadris, July 14

LSU AgCenter
Rice Research Station
Early Boot (5% Heading) Nitrogen 2

Trial ID: EBN204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Totat Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	Francis				72	29	6971	51	67
1	Urea	75	lb ai/A	Preflood					
1	0 boot nitrogen								
2	Francis				73	29	7274	49	67
2	Urea	75	lb ai/A	Preflood					
2	Urea	30	lb ai/A	5% heading					
3	Francis				73	29	6834	51	67
3	Urea	75	lb ai/A	Preflood					
3	Urea	60	lb ai/A	5% heading					
4	Francis				74	32	8049	64	71
4	Urea	150	lb ai/A	Preflood					
4	0 boot nitrogen								
5	Francis				74	32	8340	65	71
5	Urea	150	lb ai/A	Preflood					
5	Urea	30	lb ai/A	5% heading					
6	Francis				74	32	7970	66	72
6	Urea	150	lb ai/A	Preflood					
6	Urea	60	lb ai/A	5% heading					
7	Cocodrie				70	28	6557	63	70
7	Urea	75	lb ai/A	Preflood					
7	0 boot nitrogen								
8	Cocodrie				70	28	7016	64	71
8	Urea	75	lb ai/A	Preflood					
8	Urea	30	lb ai/A	5% heading					
9	Cocodrie				70	28	6745	65	71
9	Urea	75	lb ai/A	Preflood					
9	Urea	60	lb ai/A	5% heading					
10	Cocodrie				72	29	7683	62	70
10	Urea	150	lb ai/A	Preflood					
10	0 boot nitrogen								
11	Cocodrie				72	28	7338	63	70
11	Urea	150	lb ai/A	Preflood					
11	Urea	30	lb ai/A	5% heading					
12	Cocodrie				72	29	7312	63	71
12	Urea	150	lb ai/A	Preflood					
12	Urea	60	lb ai/A	5% heading					
13	Cheniere				73	26	6341	60	71
13	Urea	75	lb ai/A	Preflood					
13	0 boot nitrogen								

Continued.

LSU AgCenter
Rice Research Station
Early Boot (5% Heading) Nitrogen 2

Trial ID: EBN204
Location: East Carroll Parish

Crop Name Rating Data Type Rating Unit Crop Stage					Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Head Rice % Main	Rice Totat Mill % Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
14	Cheniere				73	27	6630	60	72
14	Urea	75	lb ai/A	Preflood					
14	Urea	30	lb ai/A	5% heading					
15	Cheniere				73	27	6182	63	73
15	Urea	75	lb ai/A	Preflood					
15	Urea	60	lb ai/A	5% heading					
16	Cheniere				76	30	7074	69	73
16	Urea	150	lb ai/A	Preflood					
16	0 boot nitrogen								
17	Cheniere				75	29	6621	69	73
17	Urea	150	lb ai/A	Preflood					
17	Urea	30	lb ai/A	5% heading					
18	Cheniere				76	30	6529	68	73
18	Urea	150	lb ai/A	Preflood					
18	Urea	60	lb ai/A	5% heading					
19	Cypress				73	29	6242	61	70
19	Urea	75	lb ai/A	Preflood					
19	0 boot nitrogen								
20	Cypress				73	28	5907	61	70
20	Urea	75	lb ai/A	Preflood					
20	Urea	30	lb ai/A	5% heading					
21	Cypress				74	28	6268	61	70
21	Urea	75	lb ai/A	Preflood					
21	Urea	60	lb ai/A	5% heading					
22	Cypress				76	30	6785	68	71
22	Urea	150	lb ai/A	Preflood					
22	0 boot nitrogen								
23	Cypress				76	29	6565	67	71
23	Urea	150	lb ai/A	Preflood					
23	Urea	30	lb ai/A	5% heading					
24	Cypress				75	30	6390	67	71
24	Urea	150	lb ai/A	Preflood					
24	Urea	60	lb ai/A	5% heading					
25	Wells				74	29	6320	47	69
25	Urea	75	lb ai/A	Preflood					
25	0 boot nitrogen								
26	Wells				74	29	6511	49	69
26	Urea	75	lb ai/A	Preflood					
26	Urea	30	lb ai/A	5% heading					

Continued.

LSU AgCenter
Rice Research Station
Early Boot (5% Heading) Nitrogen 2

Trial ID: EBN204
Location: East Carroll Parish

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Head Rice	Totat Mill
Rating Unit					days	inches	lb/A	%	%
Crop Stage					Main	Main	Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
27	Wells				74	29	6915	51	70
27	Urea	75	lb ai/A	Preflood					
27	Urea	60	lb ai/A	5% heading					
28	Wells				77	34	7254	63	72
28	Urea	150	lb ai/A	Preflood					
28	0 boot nitrogen								
29	Wells				77	31	7314	63	73
29	Urea	150	lb ai/A	Preflood					
29	Urea	30	lb ai/A	5% heading					
30	Wells				77	33	6910	64	72
30	Urea	150	lb ai/A	Preflood					
30	Urea	60	lb ai/A	5% heading					
LSD (P=.05)					0.8	2.1	533.2	3.2	1.3
Standard Deviation					0.6	1.5	377.0	2.0	0.8
CV					0.78	4.99	5.47	3.21	1.14
Grand Mean					73.63	29.22	6894.7	61.26	70.73

Agrotain Urease Inhibitor in a Conventional Tillage Production System

Experiment number ....:	CAI104
Location ....:	Rice Research Station
Experimental design ....:	Randomized complete block with a factorial arrangement of three N treatments and four N timings
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	2.27
pH ....:	7.2
Extractable nutrients ....:	P-20, K-78, Na-95, Ca-1430, Mg-275, Zn-1.2, S-5.1, Fe-40 mg/kg
Crop/Variety ....:	Cocodrie
Seeding rate ....:	75 lb/A
Planting method ....:	Drill-seeded
Planting date ....:	March 24
Emergence date ....:	April 1
Harvest date ....:	Main crop, August 5; ratoon crop, October 20
Fertilization ....:	0-60-60 PPI, March 24; variable PFN applied according to treatment schedule; 90 lb/A ratoon N, August 5
Water management ....:	Flush, March 30, April 16, May 5; flood, May 11; harvest drain, July 22; ratoon flood, August 6; ratoon harvest drain, October 5
Pest management	
Herbicides ....:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1 gal/A Arrosolo + 1 oz/A Londax, May 10; 1.5 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Agrotain Urease Inhibitor in a Conventional Tillage Production System

Trial ID: CAI104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield
Rating Unit					days	inches	lb/A	lb/A	lb/A
Crop Stage					Main	Main	Main	Ratoon	Total
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage					
1	15 days preflood				89	33	6326	1743	8070
1	Agrotain-treated urea (1 gal)	150	lb ai/A	Preflood					
2	15 days preflood				88	33	5940	1993	7934
2	Agrotain-treated urea (1.5 gal)	150	lb ai/A	Preflood					
3	15 days preflood				88	31	5212	1630	6841
3	Urea	150	lb ai/A	Preflood					
4	10 days preflood				89	32	6206	2024	8230
4	Agrotain-treated urea (1 gal)	150	lb ai/A	Preflood					
5	10 days preflood				90	33	6266	1871	8137
5	Agrotain-treated urea (1.5 gal)	150	lb ai/A	Preflood					
6	10 days preflood				89	31	5002	1811	6813
6	Urea	150	lb ai/A	Preflood					
7	5 days preflood				92	38	7434	2332	9766
7	Agrotain-treated urea (1 gal)	150	lb ai/A	Preflood					
8	5 days preflood				92	37	7959	2317	10277
8	Agrotain-treated urea (1.5 gal)	150	lb ai/A	Preflood					
9	5 days preflood				89	32	4639	1570	6209
9	Urea	150	lb ai/A	Preflood					
10	0 days preflood				92	37	7528	2317	9845
10	Agrotain-treated urea (1 gal)	150	lb ai/A	Preflood					
11	0 days preflood				92	37	7546	2330	9875
11	Agrotain-treated urea (1.5 gal)	150	lb ai/A	Preflood					
12	0 days preflood				93	37	7978	2283	10261
12	Urea	150	lb ai/A	Preflood					
LSD (P=.05)					1.3	2.2	632.3	587.6	879.7
Standard Deviation					0.9	1.5	437.9	406.9	609.3
CV					1.03	4.43	6.73	20.16	7.15
Grand Mean					90.15	34.08	6502.9	2018.35	8521.31

Agrotain Urease Inhibitor in a Stale Seedbed Production System

Experiment number	AI104
Location	Rice Research Station, South Unit
Experimental design	Randomized complete block with a factorial arrangement of two tillage systems, three N treatments, and four N timings
Number of reps	4
Plot size	7 x 25 ft (175ft^2)
Row width/Rows per plot	7 in/12
Soil type	Crowley silt loam
% OM	2.46
pH	7.5
Extractable nutrients	P-70, K-94, Na-287, Ca-2110, Mg-320, Zn-4.8, S-6.3, Fe-83 mg/kg
Crop/Variety	Cocodrie
Seeding rate	75 lb/A
Planting method	Drill-seeded
Planting date	March 27
Emergence date	April 4
Harvest date	Main crop, July 30; ratoon crop, October 29
Fertilization	0-60-60 PPI, fall 2003; Variable PFN applied according to treatment schedule; 90 lb/A ratoon N, August 11
Water management	Flush, March 30, April 5, April 16, April 30, May 6; flood, May 14; harvest drain, July 16; ratoon flood, August 12; ratoon harvest drain, October 18
Pest management	
Herbicides	1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 1 gal/A Arrosolo + 1 oz/A Permit, April 15; 15 oz/A Clincher, April 29; 2 oz/A Londax, May 20; 20 oz/A Clincher, June 7
Insecticides	1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
Fungicides	None

LSU AgCenter
Rice Research Station
Agrotain Urease Inhibitor in a Stale Seedbed Production System

Trial ID: AI104
Location: Rice Research Station

	Crop Name			Rice	Rice	Rice	Rice	Rice
	Rating Data Type			50% Head	Height	Yield	Yield	Yield
	Rating Unit			days	inches	lb/A	lb/A	lb/A
	Crop Stage			Main	Main	Main	Ratoon	Total
Trt No.	Treatment Name	Rate	Rate Unit					
1	Conventional			92	30	2696	2357	5053
1	15 days preflood							
1	Agrotain-treated urea (1 gal)	150	lb ai/A					
2	Conventional			91	29	2708	2772	5479
2	15 days preflood							
2	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
3	Conventional			90	30	2803	2703	5506
3	15 days preflood							
3	Urea	150	lb ai/A					
4	Conventional			92	32	3820	2682	6502
4	10 days preflood							
4	Agrotain-treated urea (1 gal)	150	lb ai/A					
5	Conventional			92	33	4219	2673	6892
5	10 days preflood							
5	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
6	Conventional			91	31	3440	2734	6174
6	10 days preflood							
6	Urea	150	lb ai/A					
7	Conventional			96	37	4478	2186	6664
7	5 days preflood							
7	Agrotain-treated urea (1 gal)	150	lb ai/A					
8	Conventional			96	37	4830	2594	7424
8	5 days preflood							
8	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
9	Conventional			95	34	3888	2850	6737
9	5 days preflood							
9	Urea	150	lb ai/A					
10	Conventional			93	33	3746	2577	6324
10	0 days preflood							
10	Agrotain-treated urea (1 gal)	150	lb ai/A					
11	Conventional			92	31	3575	2817	6391
11	0 days preflood							
11	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
12	Conventional			92	32	3618	2955	6573
12	0 days preflood							
12	Urea	150	lb ai/A					
13	Stale seedbed			89	29	2759	2967	5726
13	15 days preflood							
13	Agrotain-treated urea (1 gal)	150	lb ai/A					

Continued.

LSU AgCenter
Rice Research Station
Agrotain Urease Inhibitor in a Stale Seedbed Production System

Trial ID: AI104
Location: Rice Research Station

Crop Name				Rice	Rice	Rice	Rice	Rice
Rating Data Type				50% Head	Height	Yield	Yield	Yield
Rating Unit				days	inches	lb/A	lb/A	lb/A
Crop Stage				Main	Main	Main	Ratoon	Total
Trt No.	Treatment Name	Rate	Rate Unit					
14	Stale seedbed			88	29	2932	2988	5919
14	15 days preflood							
14	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
15	Stale seedbed			88	29	2959	3181	6140
15	15 days preflood							
15	Urea	150	lb ai/A					
16	Stale seedbed			88	32	3946	2978	6924
16	10 days preflood							
16	Agrotain-treated urea (1 gal)	150	lb ai/A					
17	Stale seedbed			89	30	3403	3112	6514
17	10 days preflood							
17	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
18	Stale seedbed			89	31	3219	2850	6069
18	10 days preflood							
18	Urea	150	lb ai/A					
19	Stale seedbed			95	38	4361	2583	6944
19	5 days preflood							
19	Agrotain-treated urea (1 gal)	150	lb ai/A					
20	Stale seedbed			95	39	4474	2497	6971
20	5 days preflood							
20	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
21	Stale seedbed			93	38	4789	2573	7363
21	5 days preflood							
21	Urea	150	lb ai/A					
22	Stale seedbed			91	31	3533	2988	6521
22	0 days preflood							
22	Agrotain-treated urea (1 gal)	150	lb ai/A					
23	Stale seedbed			92	32	3541	2857	6398
23	0 days preflood							
23	Agrotain-treated urea (1.5 gal)	150	lb ai/A					
24	Stale seedbed			91	32	3286	2757	6043
24	0 days preflood							
24	Urea	150	lb ai/A					
LSD (P=.05)				1.8	2.2	751.8	476.1	898.2
Standard Deviation				1.3	1.5	531.6	336.7	635.1
CV				1.41	4.71	14.66	12.2	9.95
Grand Mean				91.63	32.35	3625.85	2759.56	6385.42

Slow Release Nitrogen (GP4350) Fertilization

Experiment number ....:	SRN104
Location..:	Rice Research Station, South Unit
Experimental design....................................:	Randomized complete block with a factorial arrangement of two tillage systems, two N sources, two N rates, and two N timings
Number of reps....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type..:	Crowley silt loam
% OM..:	2.19
pH...:	6.3
Extractable nutrients............................:	P-36, K-79, Na-100, Ca-1048, Mg-281, Zn-1.7, S-6.9, Fe-70 mg/kg
Crop/Variety..:	Cocodrie
Seeding rate..:	75 lb/A
Planting method....................................:	Drill-seeded
Planting date...:	March 27
Emergence date.....................................:	April 4
Harvest date..:	Main crop, July 29
Fertilization..:	0-60-60 PPI, fall 2003; variable PPN and PFN according to treatment schedule
Water management.....................................:	Flush, March 30, April 5, April 16, April 30; flood, May 14; harvest drain, July 16
Pest management	
Herbicides...:	1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 1 gal/A Arrosolo + 1 oz/A Permit, April 15; 15 oz/A Clincher, April 29; 2 oz/A Londax, May 20; 20 oz/A Clincher, June 7
Insecticides..:	1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
Fungicides...:	None

LSU AgCenter
Rice Research Station
Slow Release Nitrogen (GP4350) Fertilization

Trial ID: SRN104
Location: RRS-South Unit

Crop Name					Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield
Rating Unit					days	inches	lb/A
Crop Stage					Main	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage			
1	Conventional Tillage				91	25	2400
1	GP4350	75	lb ai/A	Preplant			
2	Conventional Tillage				90	26	2963
2	GP4350	150	lb ai/A	Preplant			
3	Conventional Tillage				92	26	2994
3	GP4350	75	lb ai/A	Preflood			
4	Conventional Tillage				92	28	3722
4	GP4350	150	lb ai/A	Preflood			
5	Conventional Tillage				90	26	3055
5	Urea	75	lb ai/A	Preplant			
6	Conventional Tillage				90	28	3957
6	Urea	150	lb ai/A	Preplant			
7	Conventional Tillage				92	28	3509
7	Urea	75	lb ai/A	Preflood			
8	Conventional Tillage				93	32	5636
8	Urea	150	lb ai/A	Preflood			
9	Stale Seedbed				87	25	3166
9	GP4350	75	lb ai/A	Preplant			
10	Stale Seedbed				86	26	3367
10	GP4350	150	lb ai/A	Preplant			
11	Stale Seedbed				90	26	2998
11	GP4350	75	lb ai/A	Preflood			
12	Stale Seedbed				90	27	3723
12	GP4350	150	lb ai/A	Preflood			
13	Conventional Tillage				86	25	3144
13	Urea	75	lb ai/A	Preplant			
14	Conventional Tillage				85	28	4922
14	Urea	150	lb ai/A	Preplant			
15	Conventional Tillage				90	27	4008
15	Urea	75	lb ai/A	Preflood			
16	Conventional Tillage				90	31	4496
16	Urea	150	lb ai/A	Preflood			
LSD (P=.05)					1.6	1.7	609.9
Standard Deviation					1.1	1.2	426.8
CV					1.25	4.29	11.76
Grand Mean					89.56	27.05	3628.64

N-Cal Rate Study

Experiment number ....:	NCR104
Location..:	Rice Research Station, South Unit
Experimental design...................................:	Randomized complete block
Number of reps....................................:	4
Plot size...:	7 x 25 ft (175 ft^2)
Row width/Rows per plot....................:	7 in/12
Soil type ....:	Crowley silt loam
% OM...:	N/A
pH...:	N/A
Extractable nutrients...........................:	N/A
Crop/Variety ....:	CL161
Seeding rate..:	40 seeds/ft^2
Planting method...................................:	Drill-seeded
Planting date ....:	March 31
Emergence date....................................:	April 6
Harvest date ....:	August 10
Fertilization...:	0-60-60 PPI, fall 2003; 165 lb/A PFN, May 10
Water management ....:	Flush, April 5, April 16, May 6; flood, May 11; drain, July 28
Pest management	
Herbicides...:	1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 1 gal/A Arosolo + 1 oz/A Permit, April 15; 15 oz/A Clincher, April 29; 2 oz/A Londax, June 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
N-Cal Rate Study

Trial ID: NCR104
Location: RRS-South Unit

Crop Name				Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type				50% Head	Height	Yield	Head Rice	Total Mill	Ca Content
Rating Unit				days	inches	lb/A	%	%	ppm
Crop Stage				Main	Main	Main	Main	Main	PD
Trt No.	Treatment Name	Rate	Rate Unit						
1	No Newpath			90	40	7676	63	70	0.22
1	N-Cal	0	gal/A						
2	No Newpath			89	41	8260	64	70	0.21
2	N-Cal	5	gal/A						
3	No Newpath			90	41	7909	64	70	0.23
3	N-Cal	10	gal/A						
4	No Newpath			90	40	7824	64	70	0.21
4	N-Cal	15	gal/A						
5	Newpath	4	oz/A	89	41	7972	64	70	0.21
5	N-Cal	0	gal/A						
6	Newpath	4	oz/A	90	41	8044	63	70	0.21
6	N-Cal	5	gal/A						
7	Newpath	4	oz/A	90	41	8092	63	70	0.21
7	N-Cal	10	gal/A						
8	Newpath	4	oz/A	90	40	7720	63	70	0.21
8	N-Cal	15	gal/A						
LSD (P=.05)				0.9	1.1	560.5	1.4	0.6	0.035
Standard Deviation				0.6	0.8	381.1	1.0	0.4	0.024
CV				0.67	1.9	4.8	1.56	0.6	11.3
Grand Mean				89.59	40.31	7936.97	63.31	69.84	0.21

Boron Application Timing

Experiment number ....:	BS104
Location..:	Rice Research Station
Experimental design....................................:	Randomized complete block
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type...:	Crowley silt loam
% OM..:	2.54
pH..:	6.9
Extractable nutrients............................:	P-23, K-78, Na-110, Ca-1219, Mg-267, Zn-1.9, S-5.9, Fe-50 mg/kg
Crop/Variety...:	Wells
Seeding rate...:	40 seed/ft^2
Planting method....................................:	Drill-seeded
Planting date...:	March 24
Emergence date.....................................:	April 1
Harvest date..:	Main crop, August 3; ratoon crop, November 1
Fertilization..:	0-60-60 PPI, March 24; 165 lb/A PFN, April 28; 90 lb/A ratoon N, August 4
Water management.....................................:	Flush, March 30, April 16; flood, April 30; harvest drain, July 16; ratoon flood, August 5; ratoon harvest drain, October 18
Pest management	
Herbicides..:	3 qt/A Arrosolo + 1.5 pt/A Basagran, March 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides...:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides..:	None

LSU AgCenter
Rice Research Station
Boron Application Timing

Trial ID: BS104
Location: Rice Research Station

Crop Name					Rice	Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type					50% Head	Height	Yield	Yield	Yield	Head Rice	Total Mill
Rating Unit					days	inches	lb/A	lb/A	lb/A	%	%
Crop Stage					Main	Main	Main	Ratoon	Total	Main	Main
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage							
1	Boron	0.33	lb/A	Preflood	90	39	7914	3401	11315	48	70
1	Nonionic surfactant	0.25	% v/v	Preflood							
2	Boron	0.33	lb/A	Late tiller	90	40	7979	3470	11448	50	71
2	Nonionic surfactant	0.25	% v/v	Late tiller							
3	Boron	0.33	lb/A	Boot	90	39	7772	3445	11217	49	70
3	Nonionic surfactant	0.25	% v/v	Boot							
4	Nontreated				90	39	7780	3398	11178	49	70
LSD (P=.05)					0.4	1.4	351.7	255.9	408.8	2.1	0.5
Standard Deviation					0.4	1.4	338.1	246.1	393.1	2.0	0.5
CV					0.43	3.46	4.3	7.18	3.48	4.09	0.7
Grand Mean					90.19	39.25	7861.13	3428.63	11289.5	49.26	70.15

LSU AgCenter
Rice Research Station
Boron Application Timing

Trial ID: BS104
Location: Rice Research Station

Crop Name					Rice	Rice
Rating Data Type					B Content	B Content
Rating Unit					ppm	ppm
Crop Stage					PD	Heading
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage		
1	Boron	0.33	lb/A	Preflood	3.88	7.27
1	Nonionic surfactant	0.25	% v/v	Preflood		
2	Boron	0.33	lb/A	Late tiller	4.17	7.19
2	Nonionic surfactant	0.25	% v/v	Late tiller		
3	Boron	0.33	lb/A	Boot	3.85	7.27
3	Nonionic surfactant	0.25	% v/v	Boot		
4	Nontreated				3.82	6.83
LSD (P=.05)					0.576	0.364
Standard Deviation					0.554	0.350
CV					14.1	4.91
Grand Mean					3.93	7.14

CULTURAL MANAGEMENT EXPERIMENTS

J.A. Bond, J.P. Leonards, R.P. Regan, G.R. Romero, and D.M. Walker

Rice Seeding Rate Experiments

Seeding rate studies were conducted with the varieties Cocodrie, Wells, Francis, CL161, and Cheniere in water- and drill-seeded cultural systems. A tillage component included conventional and stale seedbed. In the water-seeded system, initial seeding rates delivered 30, 40, 50, 60, and 70 seeds/ft^2. In the drill-seeded system, initial seeding rates delivered 10, 20, 30, 40, and 50 seeds/ft^2. N was applied at a rate of 165 lb/A in single preplant and preflood applications in the water- and drill-seeded system, respectively. Stand density, days to 50% heading, plant height, and grain yield were determined. Main crop grain yields were optimized at seeding rates of 30 and 50 seeds/ft^2 in drill- and water-seeded systems, respectively. Seeding rates of 30 and 50 seeds/ft^2 correlate to 70 and 130 lb/A, respectively, for typical rice varieties. Stand densities were 18 plants/ft^2 at those seeding rates in both drill- and water-seeded systems.

An ultra-low seeding rate study was continued with CL161. Seeding rates included 20, 30, 40, and 100 lb/A. Rice seeded at the 20, 30, and 40 lb/A rates was planted with a Monosem precision planter at a drill width of 10 in. Rice seeded at 100 lb/A was planted with a Marliss no-till drill at a drill spacing of 6.66 in. A tillage component included conventional tillage and stale seedbed. Stand density, days to 50% heading, plant height, and grain yield were determined. In a conventional tillage system, a seeding rate of 30 lb/A produced rice grain yields similar to those with a seeding rate of 100 lb/A. Stand density at 30 lb/A was 13 plants/ft^2. Uniformity and precision of seed placement resulted in optimum grain yield.

Ratoon Crop Management Experiments

A ratoon stubble management experiment was continued to determine the effect of main crop stubble treatment on ratoon crop production. The experiment was conducted at the Rice Research Station and in Vermilion Parish. Cypress, Cocodrie, Earl, Wells, Cheniere, CL161, Francis, and Pirogue were drill seeded. Main crop rice was harvested at a standard cutting height, a 6-inch cutting height, or harvested at a standard cutting height and rolled flat following harvest. Ratoon tiller density, ratoon 50% heading, and ratoon grain yield were determined. At the Rice Research Station, rolling main crop stubble reduced ratoon tiller density and delayed ratoon crop maturity compared with a standard main crop cutting height. Neither main crop stubble treatment influenced ratoon crop grain yields. In Vermilion Parish, neither main crop stubble treatment influenced ratoon tiller density nor ratoon crop grain yields. Rolling main crop stubble delayed ratoon crop maturity.

A similar ratoon stubble management experiment was conducted as previously described with selected hybrids at the Rice Research Station. The RiceTec hybrids XL8, CLXL8, XP710, XP723, XP712, and XP716 were evaluated in a drill-seeded system. Ratoon tiller density, ratoon 50% heading, and ratoon grain yield were determined. A 6-inch cutting height increased ratoon tiller density and rolling main crop stubble reduced ratoon tiller density compared with a standard main crop cutting height. Both main crop stubble treatments delayed ratoon maturity. Rolling main crop stubble reduced ratoon crop grain yields compared with a 6-inch or standard main crop cutting height.

Drill-Seeded Variety x Tillage x Seeding Rate

Experiment number ....:	SRD104
Location ....:	Rice Research Station, South Unit
Experimental design ....:	Randomized complete block with a factorial arrangement of two tillage systems, five rice entries, and five seeding rates
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	2.01
pH ....:	6.8
Extractable nutrients ....:	P-21, K-112, Na-164, Ca-1655, Mg-380, Zn-2.7, S-5.9, Fe-46 mg/kg
Crop/Variety ....:	Cocodrie, Wells, Francis, CL161, Cheniere
Seeding rate ....:	Variable
Planting method ....:	Drill-seeded
Planting date ....:	March 27
Emergence date ....:	Variable
Harvest date ....:	Main crop, August 10; ratoon crop, October 29
Fertilization ....:	0-60-60 PPI, fall 2003; 165 lb/A PFN, May 10; 90 lb/A ratoon N, August 11
Water management ....:	Flush, March 30, April 5, April 16, May 6; flood, May 11; drain, June 3; flood, June 9; harvest drain, July 28; ratoon flood, August 12; ratoon harvest drain, October 18
Pest management	
Herbicides ....:	1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 1 gal/A Arrosolo + 1 oz/A Permit, April 15; 15 oz/A Clincher, April 29; 3 qt/A Arrosolo + 1.5 pt/A Basagran, May 10; 2 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Drill-Seeded Variety x Tillage x Seeding Rate

Trial ID: SRD104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage		Rice Density pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total
Trt No.	Treatment Name						
1 1 1	Conventional tillage Cocodrie 10 seeds/square foot	6	100	37	6569	1679	8248
2 2 2	Conventional tillage Cocodrie 20 seeds/square foot	13	98	39	7466	2133	9598
3 3 3	Conventional tillage Cocodrie 30 seeds/square foot	19	96	39	7576	2088	9664
4 4 4	Conventional tillage Cocodrie 40 seeds/square foot	25	96	37	7511	1944	9454
5 5 5	Conventional tillage Cocodrie 50 seeds/square foot	29	96	37	7530	1929	9459
6 6 6	Conventional tillage Wells 10 seeds/square foot	7	102	40	6353	2705	9058
7 7 7	Conventional tillage Wells 20 seeds/square foot	13	102	40	6598	2582	9179
8 8 8	Conventional tillage Wells 30 seeds/square foot	17	100	39	7227	2755	9982
9 9 9	Conventional tillage Wells 40 seeds/square foot	25	102	37	7232	2909	10141
10 10 10	Conventional tillage Wells 50 seeds/square foot	28	102	40	7500	2880	10380
11 11 11	Conventional tillage Francis 10 seeds/square foot	5	102	38	6475	1996	8471
12 12 12	Conventional tillage Francis 20 seeds/square foot	9	102	38	7121	2400	9521
13 13 13	Conventional tillage Francis 30 seeds/square foot	14	101	39	7343	2403	9746

Continued.

LSU AgCenter
Rice Research Station
Drill-Seeded Variety x Tillage x Seeding Rate

Trial ID: SRD104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage		Rice Density pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total
Trt No.	Treatment Name						
14 14 14	Conventional tillage Francis 40 seeds/square foot	19	100	38	8079	2072	10151
15 15 15	Conventional tillage Francis 50 seeds/square foot	24	100	40	7872	2206	10077
16 16 16	Conventional tillage CL161 10 seeds/square foot	8	101	40	7180	1905	9085
17 17 17	Conventional tillage CL161 20 seeds/square foot	13	98	40	7746	2520	10266
18 18 18	Conventional tillage CL161 30 seeds/square foot	19	97	41	7799	2701	10500
19 19 19	Conventional tillage CL161 40 seeds/square foot	24	97	39	7697	2109	9805
20 20 20	Conventional tillage CL161 50 seeds/square foot	30	98	39	7832	2189	10021
21 21 21	Conventional tillage Cheniere 10 seeds/square foot	6	101	36	6907	1257	8164
22 22 22	Conventional tillage Cheniere 20 seeds/square foot	12	99	37	7774	1630	9403
23 23 23	Conventional tillage Cheniere 30 seeds/square foot	16	98	37	7915	1545	9460
24 24 24	Conventional tillage Cheniere 40 seeds/square foot	23	97	37	8198	1844	10041
25 25 25	Conventional tillage Cheniere 50 seeds/square foot	27	97	37	8003	1801	9803
26 26 26	Stale seedbed Cocodrie 10 seeds/square foot	6	96	38	6788	2245	9033

Continued.

LSU AgCenter
Rice Research Station
Drill-Seeded Variety x Tillage x Seeding Rate

Trial ID: SRD104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage		Rice Density pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total
Trt No.	Treatment Name						
27 27 27	Stale seedbed Cocodrie 20 seeds/square foot	13	94	38	7433	2001	9434
28 28 28	Stale seedbed Cocodrie 30 seeds/square foot	21	94	37	7432	1944	9376
29 29 29	Stale seedbed Cocodrie 40 seeds/square foot	26	93	37	7808	2088	9896
30 30 30	Stale seedbed Cocodrie 50 seeds/square foot	30	93	36	7773	1800	9574
31 31 31	Stale seedbed Wells 10 seeds/square foot	8	99	40	6433	2179	8612
32 32 32	Stale seedbed Wells 20 seeds/square foot	14	98	38	6664	2737	9401
33 33 33	Stale seedbed Wells 30 seeds/square foot	20	97	39	7015	2776	9791
34 34 34	Stale seedbed Wells 40 seeds/square foot	25	98	39	7101	2681	9782
35 35 35	Stale seedbed Wells 50 seeds/square foot	29	99	38	6685	2521	9205
36 36 36	Stale seedbed Francis 10 seeds/square foot	5	101	40	6413	1936	8348
37 37 37	Stale seedbed Francis 20 seeds/square foot	12	99	39	7237	1809	9045
38 38 38	Stale seedbed Francis 30 seeds/square foot	16	97	39	7280	2017	9298
39 39 39	Stale seedbed Francis 40 seeds/square foot	23	97	38	7321	2030	9352

Continued.

LSU AgCenter
Rice Research Station
Drill-seeded Variety x Tillage x Seeding Rate

Trial ID: SRD104
Location: RRS-South Unit

Crop Name		Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type		Density	50% Head	Height	Yield	Yield	Yield
Rating Unit		pl/sq ft	days	inches	lb/A	lb/A	lb/A
Crop Stage		Main	Main	Main	Main	Ratoon	Total
Trt No.	Treatment Name						
40	Stale seedbed	24	96	39	7534	2553	10087
40	Francis						
40	50 seeds/square foot						
41	Stale seedbed	7	98	40	7095	2318	9413
41	CL161						
41	10 seeds/square foot						
42	Stale seedbed	15	96	40	7362	2646	10007
42	CL161						
42	20 seeds/square foot						
43	Stale seedbed	22	96	40	7996	2265	10260
43	CL161						
43	30 seeds/square foot						
44	Stale seedbed	26	95	40	7638	2400	10038
44	CL161						
44	40 seeds/square foot						
45	Stale seedbed	33	95	39	7510	1959	9469
45	CL161						
45	50 seeds/square foot						
46	Stale seedbed	6	98	36	7418	1684	9102
46	Cheniere						
46	10 seeds/square foot						
47	Stale seedbed	14	97	36	7108	1798	8906
47	Cheniere						
47	20 seeds/square foot						
48	Stale seedbed	17	94	37	7571	2408	9979
48	Cheniere						
48	30 seeds/square foot						
49	Stale seedbed	24	95	37	7646	1848	9493
49	Cheniere						
49	40 seeds/square foot						
50	Stale seedbed	33	95	37	7883	1876	9759
50	Cheniere						
50	50 seeds/square foot						
LSD (P=.05)		3.1	1.9	2.1	597.4	534.8	949.7
Standard Deviation		2.2	1.4	1.5	426.7	382.0	678.3
CV		12.29	1.41	3.94	5.8	17.57	7.12
Grand Mean		17.81	97.66	38.23	7352.81	2173.88	9526.61

Water-Seeded Variety x Tillage x Seeding Rate

Experiment number ....:	SRW104
Location ....:	Rice Research Station, South Unit
Experimental design ....:	Randomized complete block with a factorial arrangement of two tillage systems, five rice entries, and five seeding rates
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	
Soil type ....:	Crowley silt loam
% OM ....:	2.18
pH ....:	6.6
Extractable nutrients ....:	P-43, K-79, Na-130, Ca-1406, Mg-311, Zn-2.7, S-5.9, Fe-65 mg/kg
Crop/Variety ....:	Cocodrie, Wells, Francis, CL161, Cheniere
Seeding rate ....:	Variable
Planting method ....:	Water-seeded
Planting date ....:	March 31
Emergence date ....:	Variable
Harvest date ....:	Main crop, July 29, ratoon crop, November 4
Fertilization ....:	0-60-60 PPI, fall 2003; 165lb/A PPN, March 27; 90 lb/A ratoon N, August 11
Water management ....:	Flood, March 29; drain, April 5; flood, April 8; drain, April 26; flood, April 30; drain, June 3; flood, June 9; harvest drain, July 16; ratoon flood, August 12; ratoon harvest drain, October 18
Pest management	
Herbicides ....:	1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 15 oz/A Clincher, April 29; 2 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Water-seeded Variety x Tillage x Seeding Rate

Trial ID: SRW104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage		Rice Density pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total
Trt No.	Treatment Name						
1 1 1	Conventional tillage Cocodrie 30 seeds/square foot	10	86	34	7519	1739	9257
2 2 2	Conventional tillage Cocodrie 40 seeds/square foot	11	85	35	7903	1916	9819
3 3 3	Conventional tillage Cocodrie 50 seeds/square foot	14	85	35	7887	2286	10173
4 4 4	Conventional tillage Cocodrie 60 seeds/square foot	18	85	35	7696	2413	10109
5 5 5	Conventional tillage Cocodrie 70 seeds/square foot	20	83	34	7758	2366	10124
6 6 6	Conventional tillage Wells 30 seeds/square foot	12	86	39	7369	3613	10982
7 7 7	Conventional tillage Wells 40 seeds/square foot	15	85	38	7183	3390	10573
8 8 8	Conventional tillage Wells 50 seeds/square foot	21	84	39	7944	3789	11733
9 9 9	Conventional tillage Wells 60 seeds/square foot	24	83	39	7978	3968	11946
10 10 10	Conventional tillage Wells 70 seeds/square foot	26	82	39	8602	3664	12266
11 11 11	Conventional tillage Francis 30 seeds/square foot	8	87	37	6646	2616	9262
12 12 12	Conventional tillage Francis 40 seeds/square foot	9	87	37	6661	2687	9348
13 13 13	Conventional tillage Francis 50 seeds/square foot	8	86	37	6575	2852	9427

Continued.

LSU AgCenter
Rice Research Station
Water-seeded Variety x Tillage x Seeding Rate

Trial ID: SRW104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage		Rice Density pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total
Trt No.	Treatment Name						
14 14 14	Conventional tillage Francis 60 seeds/square foot	13	86	37	7437	2839	10275
15 15 15	Conventional tillage Francis 70 seeds/square foot	16	86	36	7336	2784	10120
16 16 16	Conventional tillage CL161 30 seeds/square foot	15	87	38	7342	2360	9701
17 17 17	Conventional tillage CL161 40 seeds/square foot	15	86	38	7857	2895	10752
18 18 18	Conventional tillage CL161 50 seeds/square foot	21	85	37	8007	2986	10993
19 19 19	Conventional tillage CL161 60 seeds/square foot	21	86	37	7310	2362	9673
20 20 20	Conventional tillage CL161 70 seeds/square foot	26	84	37	7806	2434	10240
21 21 21	Conventional tillage Cheniere 30 seeds/square foot	12	86	35	6858	1647	8504
22 22 22	Conventional tillage Cheniere 40 seeds/square foot	16	86	34	7397	1929	9326
23 23 23	Conventional tillage Cheniere 50 seeds/square foot	22	85	33	7785	1836	9620
24 24 24	Conventional tillage Cheniere 60 seeds/square foot	23	83	34	8347	2239	10586
25 25 25	Conventional tillage Cheniere 70 seeds/square foot	31	83	32	7494	2434	9928
26 26 26	Stale seedbed Cocodrie 30 seeds/square foot	12	84	33	6681	1811	8492

Continued.

LSU AgCenter
Rice Research Station
Water-seeded Variety x Tillage x Seeding Rate

Trial ID: SRW104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage		Rice Density pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total
Trt No.	Treatment Name						
27 27 27	Stale seedbed Cocodrie 40 seeds/square foot	15	83	34	7197	2224	9421
28 28 28	Stale seedbed Cocodrie 50 seeds/square foot	18	81	32	7661	2462	10123
29 29 29	Stale seedbed Cocodrie 60 seeds/square foot	24	81	32	7636	2272	9908
30 30 30	Stale seedbed Cocodrie 70 seeds/square foot	25	79	33	7537	2301	9838
31 31 31	Stale seedbed Wells 30 seeds/square foot	13	82	37	7413	3730	11144
32 32 32	Stale seedbed Wells 40 seeds/square foot	19	82	36	7344	3988	11332
33 33 33	Stale seedbed Wells 50 seeds/square foot	22	81	37	7504	4126	11629
34 34 34	Stale seedbed Wells 60 seeds/square foot	24	80	38	7688	3725	11413
35 35 35	Stale seedbed Wells 70 seeds/square foot	35	79	36	7492	3758	11250
36 36 36	Stale seedbed Francis 30 seeds/square foot	7	85	37	6485	2487	8971
37 37 37	Stale seedbed Francis 40 seeds/square foot	12	84	35	6751	2771	9523
38 38 38	Stale seedbed Francis 50 seeds/square foot	13	84	35	6951	2523	9474
39 39 39	Stale seedbed Francis 60 seeds/square foot	19	83	35	7063	2855	9918

Continued.

LSU AgCenter
Rice Research Station
Water-seeded Variety x Tillage x Seeding Rate

Trial ID: SRW104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage	Rice Density pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main	Rice Yield lb/A Ratoon	Rice Yield lb/A Total
Trt No. / Treatment Name						
40 Stale seedbed 40 Francis 40 70 seeds/square foot	19	83	35	7001	2965	9965
41 Stale seedbed 41 CL161 41 30 seeds/square foot	12	85	36	7216	2825	10041
42 Stale seedbed 42 CL161 42 40 seeds/square foot	17	85	34	6985	2770	9755
43 Stale seedbed 43 CL161 43 50 seeds/square foot	23	84	35	7734	2713	10447
44 Stale seedbed 44 CL161 44 60 seeds/square foot	22	83	35	7981	2987	10968
45 Stale seedbed 45 CL161 45 70 seeds/square foot	29	83	33	6992	2652	9644
46 Stale seedbed 46 Cheniere 46 30 seeds/square foot	13	84	32	6582	1588	8170
47 Stale seedbed 47 Cheniere 47 40 seeds/square foot	15	82	31	6717	1871	8588
48 Stale seedbed 48 Cheniere 48 50 seeds/square foot	22	82	31	7090	2003	9093
49 Stale seedbed 49 Cheniere 49 60 seeds/square foot	28	82	33	7672	2157	9829
50 Stale seedbed 50 Cheniere 50 70 seeds/square foot	32	80	30	6917	2048	8965
LSD (P=.05)	6.7	1.5	1.9	838.4	674.4	1158.3
Standard Deviation	4.8	1.1	1.4	598.8	481.7	827.3
CV	26.11	1.28	3.92	8.11	18.02	8.23
Grand Mean	18.23	83.68	35.09	7379.59	2673.0	10052.57

Precision Seeding Rate in Clearfield Rice

Experiment number ....: PSR104

Location..: Rice Research Station, South Unit

Experimental design....................................: Randomized complete block with a factorial arrangement of two tillage systems and four seeding rates
- **Number of reps** ....: 4
- **Plot size**...: 7 x 124 ft (868 ft^2)
- **Row width/Rows per plot**.....................: 7 in/12

Soil type ....: Crowley silt loam
- **% OM** ....: 3.06
- **pH**..: 6.4
- **Extractable nutrients**............................: P-54, K-119, Na-168, Ca-1468, Mg-369, Zn-4.1, S-6.2, Fe-94 mg/kg

Crop/Variety ....: CL161
- **Seeding rate**..: Variable
- **Planting method**....................................: Drill-seeded
- **Planting date** ....: March 30
- **Emergence date**.....................................: Variable
- **Harvest date** ....: Main crop, August 10; ratoon crop, October 29

Fertilization..: 0-60-60 PPI, fall 2003; 165 lb/A PFN, May 10

Water management ....: Flush, April 5, April 16, May 6; flood, May 11; harvest drain, July 28

Pest management
- **Herbicides**..: 1 qt/A Roundup + 1.5 pt/A 2,4-D, February; 1 gal/A Arrosolo + 1 oz/A Permit, April 15; 15 oz/A Clincher, April 29; 15 oz/A Clincher + 1.5 oz/A Londax, May 10; 2 oz/A Londax, May 20
- **Insecticides** ....: 1 oz Icon seed treatment; 2 oz/A Karate, June 1 and July 21
- **Fungicides** ....: None

LSU AgCenter
Rice Research Station
Precision Seeding Rate in Clearfield Rice

Trial ID: PSR104
Location: RRS-South Unit

Crop Name Rating Data Type Rating Unit Crop Stage		Rice Population pl/sq ft Main	Rice 50% Head days Main	Rice Height inches Main	Rice Yield lb/A Main
Trt No.	Treatment Name				
1 1	Conventional tillage 20 lb/A	9	92	41	7482
2 2	Conventional tillage 30 lb/A	8	91	42	7147
3 3	Conventional tillage 40 lb/A	13	91	43	7624
4 4	Conventional tillage 100 lb/A	13	90	42	7155
5 5	Stale seedbed 20 lb/A	16	90	42	7588
6 6	Stale seedbed 30 lb/A	16	90	40	7036
7 7	Stale seedbed 40 lb/A	28	89	42	7844
8 8	Stale seedbed 100 lb/A	26	89	41	7802
LSD (P=.05)		2.8	1.1	1.8	475.2
Standard Deviation		1.9	0.8	1.2	323.1
CV		12.1	0.86	2.98	4.33
Grand Mean		16.0	90.19	41.41	7459.44

Ratoon Stubble Management 1

Experiment number ....:	RSM104
Location..:	Rice Research Station
Experimental design....................................:	Randomized complete block with a factorial arrangement of eight rice entries and three main crop stubble treatments
Number of reps.....................................:	4
Plot size..:	7 x 25 ft (175 ft^2)
Row width/Rows per plot.....................:	7 in/12
Soil type..:	Crowley silt loam
% OM..:	1.80
pH...:	6.4
Extractable nutrients............................:	P-21, K-67, Na-98, Ca-939, Mg-239, Zn-1.9, S-5.4, Fe-65 mg/kg
Crop/Variety..:	Cypress, Cocodrie, Earl, Wells, Cheniere, CL161, Francis, Pirogue
Seeding rate...:	40 seeds/ft^2
Planting method....................................:	Drill-seeded
Planting date...:	March 24
Emergence date.....................................:	Variable
Harvest date..:	Main crop, August 4; ratoon crop, November 4
Fertilization..:	0-60-60 PPI, March 24; 165 lb/A PFN, April 28; 90 lb/A ratoon N, August 4
Water management.....................................:	Flush, March 30, April 16; flood, April 30; harvest drain, July 16; ratoon flood, August 5; ratoon harvest drain, October 22
Pest management	
Herbicides...:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1.5 oz/A Londax, May 20
Insecticides...:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides..:	None

LSU AgCenter
Rice Research Station
Ratoon Stubble Management 1

Trial ID: RSM104
Location: Rice Research Station

Crop Name		Rice	Rice	Rice
Rating Data Type		Tillers	50% Head	Yield
Rating Unit		T/sq. ft	days	lb/A
Crop Stage		Ratoon	Ratoon	Ratoon
Trt No.	Treatment Name			
1 1	6-inch cutting height Cypress	28	42	2335
2 2	6-inch cutting height Cocodrie	29	38	2604
3 3	6-inch cutting height Earl	18	45	2772
4 4	6-inch cutting height Wells	39	48	2784
5 5	6-inch cutting height Cheniere	22	48	2260
6 6	6-inch cutting height CL161	26	46	2776
7 7	6-inch cutting height Francis	32	49	2787
8 8	6-inch cutting height Pirogue	27	42	2539
9 9	Standard cutting height Cypress	24	45	2454
10 10	Standard cutting height Cocodrie	29	39	1976
11 11	Standard cutting height Earl	17	46	2804
12 12	Standard cutting height Wells	34	51	2924
13 13	Standard cutting height Cheniere	20	49	2175
14 14	Standard cutting height CL161	23	46	2147
15 15	Standard cutting height Francis	29	50	3119
16 16	Standard cutting height Pirogue	21	42	2815
17 17	Rolled Cypress	23	47	2313

Continued.

LSU AgCenter
Rice Research Station
Ratoon Stubble Management 1

Trial ID: RSM104
Location: Rice Research Station

Crop Name		Rice	Rice	Rice
Rating Data Type		Tillers	50% Head	Yield
Rating Unit		T/sq. ft	days	lb/A
Crop Stage		Ratoon	Ratoon	Ratoon
Trt No.	Treatment Name			
18	Rolled	23	43	2430
18	Cocodrie			
19	Rolled	10	51	2267
19	Earl			
20	Rolled	27	56	2671
20	Wells			
21	Rolled	13	53	2450
21	Cheniere			
22	Rolled	22	51	2704
22	CL161			
23	Rolled	28	49	2809
23	Francis			
24	Rolled	16	42	2383
24	Pirogue			
LSD (P=.05)		10.3	5.0	921.4
Standard Deviation		7.3	3.5	651.5
CV		30.2	7.55	25.51
Grand Mean		24.1	46.51	2554.02

Ratoon Stubble Management 2

Experiment number ....:	RSM304
Location..:	Vermilion Parish, Errol Lounsberry Farm
Experimental design...................................:	Randomized complete block with a factorial arrangement of eight rice entries and three main crop stubble treatments
Number of reps ....:	4
Plot size..:	7 x 20 ft (140 ft^2)
Row width/Rows per plot....................:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	1.85
pH...:	5.5
Extractable nutrients...........................:	P-56, K-130, Na-49, Ca-1931, Mg-360, Zn-1.1, S-7.7, Fe-118 mg/kg
Crop/Variety ....:	Cypress, Cocodrie, Earl, Wells, Cheniere, CL161, Francis, Pirogue
Seeding rate..:	40 seed/ft^2
Planting method...................................:	Drill-seeded
Planting date ....:	March 23
Emergence date....................................:	Variable
Harvest date ....:	Main crop, August 9; ratoon crop, November 8
Fertilization..:	0-52-52 PPI, January; 165 lb/A PFN, May 6; 90 lb/A ratoon N, August 9
Water management ....:	Flush, March 26, April 7, April 17; flood, May 8; harvest drain, July 29; ratoon flood, August 11; ratoon harvest drain, October 19
Pest management	
Herbicides..:	1 gal/A Arrosolo + 1 oz/A Permit, May 6
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, July 9
Fungicides ....:	12 oz/A Quadris, June 18 and July 1

LSU AgCenter
Rice Research Station
Ratoon Stubble Management 2

Trial ID: RSM304
Location: Vermilion Parish

Crop Name		Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type		Tillers	50% Head	Height	Ldg-Rate	Ldg-Type	Yield
Rating Unit		T/sq. ft	days	inches	%	1-5	lb/A
Crop Stage		Ratoon	Ratoon	Ratoon	Ratoon	Ratoon	Ratoon
Trt No.	Treatment Name						
1 1	6-inch cutting height Cypress	58	37	39	0	0	3159
2 2	6-inch cutting height Cocodrie	61	33	39	0	0	3384
3 3	6-inch cutting height Earl	35	44	44	63	5	4541
4 4	6-inch cutting height Wells	46	49	41	0	0	3500
5 5	6-inch cutting height Cheniere	54	42	37	0	0	3795
6 6	6-inch cutting height CL161	61	37	41	0	0	3212
7 7	6-inch cutting height Francis	42	49	42	0	0	3236
8 8	6-inch cutting height Pirogue	34	44	41	0	0	4707
9 9	Standard cutting height Cypress	50	38	39	0	0	3455
10 10	Standard cutting height Cocodrie	64	35	40	0	0	3194
11 11	Standard cutting height Earl	31	45	44	35	5	4469
12 12	Standard cutting height Wells	50	50	43	0	0	3400
13 13	Standard cutting height Cheniere	56	44	38	0	0	3420
14 14	Standard cutting height CL161	63	35	41	0	0	3328
15 15	Standard cutting height Francis	41	49	41	0	0	2994
16 16	Standard cutting height Pirogue	28	40	41	0	0	4448
17 17	Rolled Cypress	57	43	40	0	0	3631

Continued.

LSU AgCenter
Rice Research Station
Ratoon Stubble Management 2

Trial ID: RSM304
Location: Vermilion Parish

Crop Name		Rice	Rice	Rice	Rice	Rice	Rice
Rating Data Type		Tillers	50% Head	Height	Ldg-Rate	Ldg-Type	Yield
Rating Unit		T/sq. ft	days	inches	%	1-5	lb/A
Crop Stage		Ratoon	Ratoon	Ratoon	Ratoon	Ratoon	Ratoon
Trt No.	Treatment Name						
18 18	Rolled Cocodrie	59	40	38	0	0	3641
19 19	Rolled Earl	28	45	43	55	4	4546
20 20	Rolled Wells	40	54	42	0	0	3663
21 21	Rolled Cheniere	39	50	36	0	0	2621
22 22	Rolled CL161	60	42	40	0	0	3864
23 23	Rolled Francis	43	52	42	0	0	3358
24 24	Rolled Pirogue	19	41	42	0	0	3480
LSD (P=.05)		16.3	5.8	1.8	15.5	0.7	1004.9
Standard Deviation		11.6	4.1	1.2	11.0	0.5	710.6
CV		24.83	9.51	3.08	172.42	94.34	19.59
Grand Mean		46.52	43.06	40.4	6.35	0.55	3626.85

Hybrid Ratoon Stubble Management

Experiment number ....:	HRSM104
Location ....:	Rice Research Station
Experimental design ....:	Randomized complete block with a factorial arrangement of five rice hybrids and three main crop stubble treatments
Number of reps ....:	4
Plot size ....:	7 x 25 ft (175 ft^2)
Row width/Rows per plot ....:	7 in/12
Soil type ....:	Crowley silt loam
% OM ....:	1.97
pH ....:	7.0
Extractable nutrients ....:	P-21, K-74, Na-99, Ca-1395, Mg-288, Zn-1.4, S-4.7, Fe-41 mg/kg
Crop/Variety ....:	CLXL8, XP710, XP723, XP712, XP716
Seeding rate ....:	30 lb/A
Planting method ....:	Drill-seeded
Planting date ....:	March 24
Emergence date ....:	Variable
Harvest date ....:	Main crop, August 5; ratoon crop, October 25
Fertilization ....:	0-60-60 PPI, March 24; 165 lb/A PFN, May 10; 90 lb/A ratoon N, August 5
Water management ....:	Flush, March 30, April 16, May 5; flood, May 11; harvest drain, July 22; ratoon flood, August 6; ratoon harvest drain, October 5
Pest management	
Herbicides ....:	3 qt/A Arrosolo + 1.5 pt/A Basagran, April 23; 15 oz/A Clincher, April 29; 1 gal/A Arrosolo + 1 oz/A Londax, May 10; 1.5 oz/A Londax, May 20
Insecticides ....:	1 oz Icon seed treatment; 2 oz/A Karate, May 20 and July 21
Fungicides ....:	None

LSU AgCenter
Rice Research Station
Hybrid Ratoon Stubble Management

Trial ID: HRSM104
Location: Rice Research Station

Crop Name		Rice	Rice	Rice	Rice
Rating Data Type		Height	Tillers	50% Head	Yield
Rating Unit		Inches	T/sq ft	days	lb/A
Crop Stage		Main	Ratoon	Ratoon	Ratoon
Trt No.	Treatment Name				
1 1	6-inch cutting height CLXL8	47	25	40	3195
2 2	6-inch cutting height XP710	46	47	40	4559
3 3	6-inch cutting height XP723	44	52	32	3996
4 4	6-inch cutting height XP712	45	50	27	4791
5 5	6-inch cutting height XP716	44	54	30	5219
6 6	Standard cutting height CLXL8	45	24	29	3839
7 7	Standard cutting height XP710	46	33	33	4754
8 8	Standard cutting height XP723	45	50	22	4169
9 9	Standard cutting height XP712	46	33	24	4783
10 10	Standard cutting height XP716	44	38	25	5377
11 11	Rolled CLXL8	47	19	37	3241
12 12	Rolled XP710	44	23	39	4118
13 13	Rolled XP723	44	34	35	2888
14 14	Rolled XP712	44	24	32	4017
15 15	Rolled XP716	44	29	34	3420
LSD (P=.05)		2.1	9.1	3.1	795.8
Standard Deviation		1.4	6.4	2.1	556.9
CV		3.22	17.94	6.72	13.39
Grand Mean		44.93	35.58	31.77	4157.67

FOUNDATION SEED RICE PROGRAM

Lawrence M. White III

INTRODUCTION

Foundation seed rice has been produced by the Rice Research Station for distribution to Louisiana farmers since 1949. The Station's seed rice program was instituted in response to the critical shortage of pure planting stocks that existed during and after World War II. Since its inception, the program has made available to Louisiana growers more than 146,000 cwt. of pedigreed stock of 35 rice varieties.

Concurrent with the distribution of pure seed by the Rice Research Station, there developed in Louisiana an industry comprised of independent seed dealers through whom farmers could conduct trade in registered and certified classes of pedigreed rice.

Foundation seed rice, the planting stock from which registered and certified seed are produced, is the farmer's link with the work of the plant breeder. It is the product of hybridization and of successive generations of selection and testing to establish its value as crop seed and eventually as a commercial commodity. For this reason, foundation seed and the basic stocks from which it is produced must be grown and conditioned in a manner that will ensure that viability is maintained and that it be genetically pure and free from mechanical mixtures or contamination by noxious weeds.

Through the Rice Research Station's seed program, Louisiana farmers may obtain seed rice of improved varieties developed through the Louisiana Agricultural Experiment Station breeding program and of established commercial varieties originating either at Crowley or at research centers in neighboring states.

To fulfill the objectives of the seed program, the Rice Research Station uses the personnel, land, machinery, and other facilities needed to plant, harvest, condition, and store its annual seed rice crop. The production of breeder seed, planting stock for the foundation fields, and the maintenance of purity in commercial rice varieties are functions of the seed program. Breeder seed is sometimes grown within fields of foundation rice or in a special nursery set aside for propagating the Rice Research Station's seed stocks. The nursery also serves as a site for evaluating, purifying, and increasing selections from the Louisiana Agricultural Experiment Station breeding program that show promise as new varieties.

The distribution of pedigreed seed rice produced by the Rice Research Station is done according to a formula adopted by the Louisiana Seed Rice Growers Association. For each rice-producing parish, the amount of seed allotted is determined by the percentage of the state's total rice acreage grown in that parish during the previous crop year.

Personnel of the Louisiana Cooperative Extension Service in cooperation with parish committees of the Seed Rice Growers Association assist in the allocation of foundation seed rice. It is at the parish committee level that the allocation of seed to individual growers is decided. The county agents receive applications for seed rice from growers and handle information and publicity for the pure seed program.

In this state, the official seed-certifying agency for all crops is the Louisiana Department of Agriculture and Forestry. The rules and regulations pertaining to the certification of agricultural seeds are part of the Louisiana Seed Law. They are formulated by the Louisiana Seed Commission and enforced by the Agronomic Programs Division of the Louisiana Department of Agriculture and Forestry. Personnel of the Agronomic Programs Division, operating from district offices, conduct field inspections of growing rice and sampling of bagged rice for laboratory analyses, which consist of purity determinations and germination tests.

PRODUCTION PRACTICES

Each year, the Rice Research Station devotes approximately 80 acres of land to the production of foundation seed rice. To eliminate noxious weeds, especially red rice, that can disqualify rice from certification, the fields are fallowed for a 2-year period preceding planting. This also enables the fields to meet the crop history requirements specified in the seed rice regulations.

Seedbed preparation and grid sampling of foundation fields are performed in the fall. A variable rate application of potassium, phosphorus, sulfur, and zinc is applied according to grid sample results. Burndown herbicides are applied prior to seeding. The foundation fields are planted into a stale seedbed by means of a 24-runner minimum tillage drill. The breeder stock is planted at rates that may vary from 25 to 100 lb/A. The rice receives a preflood application of urea in which the rate of N may vary from 45 to 90 lb/A. A midseason application of N in rates from 21 to 55 lb/A is also applied.

Seedling grasses and weeds are controlled by means of commercially available herbicides applied by airplane. Similarly, aerial applications of insecticides are used to protect the fields from outbreaks of harmful insects.

Roguing of the rice fields for the removal of off-types, varietal mixtures, and noxious weeds begins at the onset of heading and continues until the rice is harvested. During this interval, the headed rice is inspected by personnel of the Agronomic Programs Division to determine whether or not it meets minimum field standards of the certifying agency.

The rice is harvested with a conventional combine and dried in the Rice Research Station's eight 21-inch diameter grain bins, equipped with vented drying floors and centrifugal fans with temperature-controlled heaters. The rice is dried to a moisture level of approximately 12%. During the storage period between drying and cleaning, the rice is treated with an insecticide to protect it from stored-grain insects.

Cleaning of foundation and breeder seed usually commences in late October and continues until late December. The rice first moves through an air-and-screen cleaner that removes chaff, straw, and other foreign material and grades the grain according to width and thickness.

It then flows through three length-grading machines that consist of rotating, indented metal cylinders. The first two remove small grains and broken or dehulled kernels of rice. The third one removes stemmy rice, grains that have very long awns that are attached to portions of the panicle. In the next phase of cleaning, the rice moves through a machine that performs precision grading of the grain by means of rotating perforated cylinders. This machine is designed to separate medium-grain and/or red rice from long-grain rice. It is also capable of removing shriveled and other slender kernels from medium-grain rice.

In the final phase of cleaning, the rice moves through a machine that aspirates the grain, removing any chaff, straw, and other foreign material from the conditioned product.

From the cleaning machines, foundation and breeder seed rice are bagged, assigned lot numbers, and placed in storage in the Station's seed rice warehouse where they remain until they are distributed to Louisiana farmers.

The field and laboratory purity standards for foundation seed rice are very strict with regard to varietal mixtures and noxious weeds. In all phases of production, therefore, great care must be exercised to prevent these impurities from contaminating the seed stocks. To that end, it is routine procedure at the Rice Research Station to partially disassemble all planting and harvesting equipment and to clean it thoroughly with water and/or compressed air before using it in the field. The dryer and cleaning plant, including all elevators and other conveying equipment, are also subjected to meticulous cleaning and inspection before and after having been used in stubble fields. Therefore, tractors, plows, harrows, and land levelers are carefully washed before they enter land that is in a fallow cycle. These measures, together with the inspection and roguing, which are done during the growing season, help to ensure that foundation seed is genetically pure and free of mechanical mixtures and noxious weed seeds.

2004 ACTIVITIES

Of the 2391 cwt. of foundation seed rice sold in 2004, the varieties and quantities were as follows: Cheniere, 1290 cwt.; Cocodrie, 500 cwt.; Ecrevisse, 188 cwt.; Bengal, 163 cwt.; Cypress, 143 cwt.; Francis, 57 cwt.; and Pirogue, 50 cwt.

The Rice Research Station's foundation seed crop in 2004 consisted of 20 acres of Cocodrie, 20 acres of Trenasse, 7 acres of Jupiter, 1 acre of Pirogue, and .50 acre of Ecrevisse.

Breeder seed was grown in 2004 as follows: Della, 2.0 acres and Toro-2, .75 acre.

Headrows of Cheniere, Trenasse, Cocodrie, Jupiter, Pirogue, Toro-2, Ecrevisse, and Della were grown for replenishment of breeder seed stocks.

RICE PHYSIOLOGY

INTRODUCTION

Plant growth regulators (PGRs) have a significant effect on crop production because of their ability to alter plant growth and development. Therefore, studies of PGR modifications to plant growth and development that improve rice production were conducted.

In greenhouse and small plot trials, emergence has been improved with PGRs that cause mesocotyl, coleoptile, and leaf elongation. The mesocotyl and coleoptile are short in semidwarf cultivars, and seeding more than 2 inches below the soil surface can result in poor stands. In addition, seedling height of semidwarf rice increases slowly, resulting in poor seedling vigor. Small plot studies were conducted to evaluate the effects of PGRs on seedling vigor of new and existing varieties and experimental lines under different management practices, including early planting, deep planting depth, conventional drill seeding, and suboptimal seeding rates.

At present, PGRs have been identified that can modify internode elongation, and modification of internode elongation can be beneficial. The reduction of internode elongation of select internodes can limit plant height and panicle exsertion. Studies of these particular responses to properly timed applications of PGRs show improvement in lodging tolerance in rice and limitations on seed production in red rice. To address lodging in rice and seed production in red rice, studies with PGRs that limit internode elongation were conducted.

Ratoon, or second, crop production in rice is directly dependent on growth from buds located at the base and at nodes on first crop stubble remaining after harvest. These buds remain dormant during the first crop. Plant growth regulators and other stubble management were evaluated to determine the effect on ratoon crop growth and development.

Some PGRs are reported to increase grain yield directly. Several of these were evaluated.

To address the objectives of emergence and seedling vigor improvement, lodging, ratoon cropping, and yield enhancement in rice and seed suppression in red rice, PGRs were tested for their effects on rice and red rice growth and development.

NORTH UNIT GENERAL METHODOLOGY

First (Main) Crop

Location:	Rice Research Station, Crowley, LA (North Unit, Field N8)
Seeding Method/Depth/Rate:	Drilled on 7-inch rows/3 inches/90 lb/A
Fertilizer:	8-24-24 with 3.5% Zn and 2% S at 300 lb/A by drill, 25 and 26 Mar Urea (46% N) at 300 lb/A by drill, 23 Apr Urea (46% N) at 100 lb/A by airplane, 2 June
Plot Size/Treated Area:	262.5 ft^2 – 8.75 (15 rows) x 30 ft
Seed Treater:	Cement mixer
Sprayer:	CO_2-driven, backpack, 35 psi, 15 GPA, 8001VS tips, 20-inch nozzle spacings
Planting Date:	25 and 26 Mar
Emergence:	5 Apr
Water Management:	Flushed, 5 Apr Permanent flood (3-inch/rain), 24-25 Apr Preharvest drain, 26 July
Pertinent Rainfall:	0.9 inch, 14 Mar; 1 inch, 6 Apr; 0.5 inch, 11 Apr; 0.1 inch, 12 Apr; 1.5 inches, 24 Apr; 2 inches, 25 Apr; 0.1 inch, 30 June; 0.5 inch, 6 Oct
Pesticide(s):	Dithane DF (4 oz/cwt) seed treatment, 17 Mar Icon (0.9 fl oz/A) seed treatment, 17 Mar Arrosolo (1 gal/A) + Permit (1 oz/A) by airplane, 15 Apr Stam (1 gal/A) by airplane, 22 Apr Londax (1.6 oz/A) by airplane, 5 and 20 May Clincher (20 fl oz/A) by airplane, 7 June Quadris (12 fl oz/A) by airplane, 27 June
Plant Growth Regulator(s):	Release (0.35 oz/cwt) seed treatment, 17 Mar
Harvest Date/Area:	11 Aug/201.25 ft^2 – 8.75 (15 rows) x 23 ft

Second (Ratoon) Crop

Fertilizer:	Ammonium Sulfate (21% N) at 450 lb/A by airplane, 13 Aug
Water Management:	Permanent flood (3-inch), 13 Aug Preharvest drain, 13 Oct
Pesticide(s):	Methyl parathion (1 pt/A) by airplane, 2 Sept
Harvest Date/Area:	12 Nov/262.5 ft^2 – 8.75 (15 rows) x 30 ft

SOUTH UNIT GENERAL METHODOLOGY

Location: Rice Research Station, Crowley, LA (South Unit, Field 7-A)

Seeding Method/Depth/Rate: Drilled on 7-inch rows/3 inches/90 lb/A

Fertilizer: 8-24-24 with 3.5% Zn and 2% S at 300 lb/A by drill, 5 Apr
Urea (46% N) at 300 lb/A by drill, 6 May
Urea (46% N) at 100 lb/A by airplane, 10 June

Plot Size/Treated Area: 262.5 ft^2 – 8.75 (15 rows) x 30 ft

Seed Treater: Cement mixer

Sprayer: CO_2-driven, backpack, 35 psi, 15 GPA, 8001VS tips, 20-inch nozzle spacings

Planting Date: 5 Apr

Emergence: 17 Apr

Water Management: Flushed, 16 Apr
Permanent flood (3-inch), 10 May
Preharvest drain, 2 Aug

Pertinent Rainfall: 1.25 inches, 14 Mar; 0.3 inch, 29 Mar; 1.25 inches, 6 Apr; 0.7 inch, 11 Apr; 0.2 inch, 12 Apr; 5.25 inches, 24-25 Apr; 1.4 inches, 30 Apr; 3 inches, 12 May; 0.44 inch, 13 May; 5.36 inches, 15 May; 0.5 inch, 17 May; 1.3 inches, 18 May; 0.14 inch, 21 June; 1.8 inches, 23 June; 0.88 inch, 8 July

Pesticide(s): Dithane DF (4 oz/cwt) seed treatment, 17 Mar
Icon (0.9 fl oz/A) seed treatment, 17 Mar
Stam (1 gal/A) by airplane, 22 Apr
Arrosolo (1 gal/A) by ATV, 7 May
Londax (1.6 oz/A) by airplane, 20 May
Quadris (12 fl oz/A) by airplane, 7 July

Plant Growth Regulator(s): Release (0.35 oz/cwt) seed treatment, 17 Mar

Harvest Date/Area: 17 Aug/93.3 ft^2 - 4.66 (8 rows) x 20 ft/Hege combine

SEEDLING VIGOR STUDIES – SEED TREATMENT

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Gibberellic Acid Formulations and Seedling Vigor in Greenhouse Rice

Location: Rice Research Station, Crowley, LA (Greenhouse #1 – NW bench)

Light Regime: Sunlight (13/11, day-supplemented with 1000W metal halide lamp/night)

Temperature Regime: 85/70F (day/night)

Variety: Cocodrie

Planting Method: Broadcast by hand onto 4-inch soil base and then covered with 3 inches of potting soil

Planting Depth: 3 inches (total soil depth 7 inches)

Seeding Rate: 50 seed/pot (~200 seed/ft^2)

Fertilizer: None

Plot Size: 0.3 ft^2

Treatment(s): **Plant Growth Regulator(s)**
GS48 (2.2 oz/cwt)
Release (0.35 oz/cwt)

Timing – Seed treatment, 22 Nov

Seed Treater: Jar mill tumble mixer

Planting Date: 22 Nov

Emergence Date: See results

Water Management: Basal 4 inches saturated with water prior to planting

Fungicide(s): None

Herbicide(s): None

Insecticide(s): None

Plant Growth Regulator(s): See treatments

Harvest Date: Not applicable

Harvested Area: Not Applicable

Experimental Design: Randomized complete block and four replications.

<u>Comments</u>: **Seedling Vigor – Plant Population**

The plant growth regulators (PGRs) had a significant effect on seedling vigor (Table 1). At 8 days after planting (DAP), emergence was observed with GS48 and Release (1 and 7 plants/pot, respectively, compared with none in the control). A plant was considered to have emerged when the coleoptile broke the soil surface. Evaluations were continued on approximately 2-day intervals until 18 DAP when emergence appeared to have ceased. Final stand counts were taken 5 days later at 23 DAP. The general trend in ranking continued for GS48, Release, and the control throughout the evaluation period with differences among them decreasing with time. Final stand counts were 25 and 29 plants/pot for GS48 and Release, respectively. The control, 21 plants/pot. Time to 50% stand (days from planting until 25 plants emerged) was used to evaluate rate of emergence. Low time to 50% stand indicated fast emergence. Times to 50% stand for GS48, Release, and the control were 12, 23, and greater than 23 days, respectively. The control did not obtain 50% emergence.

Seedling Vigor – Plant Size

At 24 DAP, seedling height and weight were evaluated. Most seedlings were at the 2- to 3-leaf stage of growth. Seedling height was influenced significantly by seed treatment, and seedling weight was not (Table 1). Seedling height (distance from the soil surface to the tip of the longest leaf extended vertically) for the treatments and control separated into three categories (short, intermediate, and tall). Release produced the tallest seedlings (120 mm), and the control had the shortest seedlings (92 mm). GS48 produced seedlings of intermediate height (105 mm) compared with Release and the control. Trends in seedling (shoot) dry weight (composite of all plants within a pot) were noted and were primarily related to stand and seedling height. Seedling weights were 0.134, 0.117, and 0.099 g/pot for Release, GS48, and the control, respectively.

Table 1. The effects of gibberellic acid formulation on seedling vigor of greenhouse-grown rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Stand (pl/pot) 8 DAP	Stand (pl/pot) 10 DAP	Stand (pl/pot) 12 DAP	Stand (pl/pot) 14 DAP	Stand (pl/pot) 16 DAP	Stand (pl/pot) 18 DAP	Final Stand (pl/pot) 23 DAP	Pl. Ht. (mm) 24 DAP	Plants dry wt/ pot g) 24 DAP
Control				0	7	11	16	18	21	21	92	0.099
GS48			seed	1	14	18	20	22	23	25	105	0.117
Release			seed	7	19	25	26	28	28	29	120	0.134
LSD (.05)	=			2	8	8	8	8	9	9	8	0.044
Standard Dev.	=			1.1989	4.6052	5.0949	5.2051	4.8701	5.358	5.3938	4.6569	2.6801
CV	=			47.96	35.27	28.39	25.29	21.73	22.59	21.65	4.41	22.93

Means followed by same letter do not significantly differ (Duncan’s multiple range test, P=.05).

SEEDLING VIGOR STUDIES – SEED TREATMENT

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Gibberellic Acid Formulations, Calcium 5S, Vigor S, and Seedling Vigor in Greenhouse Rice

Location: Rice Research Station, Crowley, LA (Greenhouse #1 – NW bench)

Light Regime: Sunlight (13/11, day/night)

Temperature Regime: 85/70F (day/night)

Variety: Cocodrie

Planting Method: Broadcast by hand onto 4-inch soil base and then covered with 3 inches of potting soil

Planting Depth:3 inches (total soil depth 7 inches)

Seeding Rate: 50 seed/pot (~200 seed/ft^2)

Fertilizer:None

Plot Size:0.3 ft^2

Treatment(s): **Plant Growth Regulator(s)**

Calcium 5S (8 fl oz/cwt)
GibGro (0.35 oz/cwt)
N-Large (1 fl oz/cwt)
N-Large Premier (0.5 fl oz/cwt)
Release (0.35 oz/cwt)
Vigor S (8 fl oz/cwt)

Timing – Seed treatment, 3 Nov

Seed Treater: Jar mill tumble mixer

Planting Date: 4 Nov

Emergence Date: See results

Water Management: Basal 4 inches saturated prior to planting

Fungicide(s): None

Herbicide(s): None

Insecticide(s): None

Plant Growth Regulator(s): See treatments

Harvest Date: Not applicable

Harvested Area: Not Applicable

Experimental Design: Randomized complete block and four replications.

Comments: **Seedling Vigor – Plant Population**

The plant growth regulators (PGRs) had a significant effect on seedling vigor (Table 1). At 8 days after planting (DAP), emergence was observed with Release, N-Large, N-Large Premier, and GibGro (14, 8, 6, and 2 plants/pot, respectively). A plant was considered to have emerged when the coleoptile broke the soil surface. Evaluations were continued on approximately 2-day intervals until 17 DAP, when emergence appeared to have ceased. Final stand counts were taken 1 week later at 24 DAP. The general trend in ranking continued for Release, N-Large, N-Large Premier, and GibGro throughout the evaluation period, with differences among them decreasing with time. Final stand counts were 35, 31, 27, and 26 plants/pot for Release, N-Large Premier, N-Large, and GibGro, respectively. The control, Calcium 5S, and Vigor S treatments had 13, 20, and 20 plants/pot, respectively. Time to 50% stand (days from planting until 25 plants emerged) was used to evaluate rate of emergence. Low time to 50% stand indicated fast emergence. Times to 50% stand for Release, N-Large Premier, N-Large, and GibGro were 11, 12, 16 and 19 days, respectively. For the Calcium 5S treatment, time to 50% stand was 22 days, and for the control and Vigor S treatment, time to 50% stand was 24 days each (never occurred).

Seedling Vigor – Plant Size

At 24 DAP, seedling height and weight were evaluated. Most seedlings were at the 2- to 3-leaf stage of growth. Seedling height was influenced significantly by seed treatment and seedling weight was not (Table 1). Seedling height (distance from the soil surface to the tip of the longest leaf extended vertically) for the treatments and control separated into three groups. In the tallest group, seedling heights with Release, GibGro, N-Large, and N-Large Premier were 123, 115, 115, and 113 mm, respectively. In the intermediate group, seedling heights with Calcium 5S and Vigor S were 97 and 93 mm, respectively. In the shortest group, the control was alone with a seedling height of 83 mm. Trends in seedling weight (composite of all plants within a pot) were noted and were primarily related to stand. Vigor S was the main exception, with 50% higher stand compared with control (20 vs 13 plants/pot) and slightly lower weight compared with the control (0.035 vs 0.043 g).

Table 1. The effects of seed treatment with plant growth regulators on seedling vigor of greenhouse-grown rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Stand (plants/ pot) 8 DAP	Stand (plants/ pot) 10 DAP	Stand (plants/ pot) 13 DAP	Stand (plants/ pot) 15 DAP	Stand (plants/ pot) 17 DAP	Final Stand (plants/ pot) 24 DAP	Time to 50%Stand (days)	Pl. Ht. (mm) 24 DAP	Dry wt. (g) 27 DAP
Control			0b	6c	10d	12d	14d	13d	24a	83c	0.043ab
N-Large		seed	8ab	17ab	23abc	26abc	27abc	27bc	16bc	115a	0.088ab
N-LargePremier		seed	6b	20a	27ab	29ab	31ab	31ab	12c	113a	0.083ab
Calcium 5S		seed	0b	8bc	14cd	17cd	19cd	20cd	22a	97b	0.072ab
Vigor S		seed	0b	6c	12d	14d	18cd	20cd	24a	93bc	0.035b
Release		seed	14a	24a	31a	33a	35a	35a	11c	123a	0.106a
GibGro		seed	2b	16abc	19bcd	22bcd	25bc	26bc	19ab	115a	0.072ab
LSD (.05) =			7	9	10	9	9	8	5	12	0.058
Standard Dev. =			4.8094	6.333	6.4871	6.4318	5.8645	5.4248	3.6596	8.0954	3.9246
CV =			113.16	46.30	33.57	29.57	24.47	22.21	19.97	7.68	55.17

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

SEEDLING VIGOR STUDIES – FOLIAR TREATMENT

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Experimental Plant Growth Regulators and Early Plant Development in Drill-Seeded Rice

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Cheniere

Treatment(s): **Plant Growth Regulators** – VBC30025 (50 ppm) and VBC30027 (10 and 20 ppm)

Surfactant – ABG-7033 (0.05%)

Timing – 3- to 4-leaf stage (3/4L), 9 May

Technique – Within each plot five rows (row numbers 2, 5, 8, 11, and 14) were treated. Using a 5-nozzle sprayer (see South Farm Methodology), these rows aligned with the nozzles. Four liters of solution were prepared for each treatment and sprayed on the entire 30-ft row in one pass using a very slow walking speed and holding the nozzle tips approximately 2 inches above the plants. This accomplished spraying to 'runoff,' and equaled a delivery rate of approximately 300 gal/A.

Pertinent Rainfall: No significant rain within 24 hr after treatment applications.
Rain – 3 inches, 12 May; 0.44 inch, 13 May; 5.36 inches, 14-16 May; 0.5 inch, 17 May; 1.3 inches, 18 May

Experimental Design: Strip plot with a single plot designated for each treatment for a total of five plots. Within each plot, the five sprayed rows were each considered a replicate for a total of five replicates for each treatment. Data was analyzed as if the design was a randomized complete block with five replications.

Comments:

Plant Growth and Development

Rice, in general, was unresponsive to the experimental plant growth regulators (PGRs). Evaluations were conducted at 9 and 15 days after treatment (DAT) to determine the effects of VBC30025 and VBC 30027 on shoot and root growth and development. Three plants were randomly sampled from each treated row. Measurements of shoot and root lengths were made on each plant individually. Results on tiller density and shoot and root masses (dry weight) are composites from three plants.

At 9 DAT, tiller density (tillers/three plants), shoot length, and root mass (dry weight/three plants) were significantly affected (overall ANOVA) by the experimental PGRs (Table 1). Tiller density ranged between one and four tillers/three plants for the surfactant alone and the three PGR treatments (collectively referred to as treatments) and the control had three tillers/three plants. No treatments were significantly different from the control, and of the treatments, VBC30027 at 20 ppm had a significantly higher tiller density (four tillers/three plants) compared with the other treatments (one to two tillers/three plants). Shoot length ranged between 32 and 37 cm for the treatments (control = 38 cm). Shoot lengths with VBC30025 (34 cm) and VBC30027 at 10 ppm (32 cm) were significantly shorter compared with the control (38 cm) and VBC30027 at 20 ppm (37 cm). As with tiller density, there were no significant differences in root mass between the control and treatments. Root dry weight ranged between 0.114 and 0.271 g (control = 0.186 g). Of the treatments, VBC30027 at 20 ppm had the highest root mass (0.271 g) and was significantly higher compared with surfactant alone (0.114 g) and VBC30025 at 50 ppm (0.149 g). Root length ranged between 75 and 93 mm for the treatments (control = 82 mm), and shoot mass ranged between 0.467 and 0.675 g for the treatments (control = 0.554 g).

At 15 DAT, plant growth and development were not significantly affected (overall ANOVA) by the experimental PGRs (Table 2). Tiller density ranged between four and seven tillers/three plants for the treatments (control = six tillers/three plants). Shoot length ranged between 47 and 51 cm for the treatments (control = 51 cm). Shoot mass ranged between 1.565 and 2.187 g/three plants for the treatments (control = 1.887 g/three plants). Root length ranged between 125 and 138 mm for the treatments (control = 138 mm), and root mass ranged between 0.364 and 0.462 g/three plants (control = 0.394 g/three plants). In general, root mass doubled during the 6-day period between 9 and 15 DAT, and shoot mass tripled.

Table 1. The effects of experimental plant growth regulators on early plant growth and development at 9 days after treatment in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Tiller Density tillers/ 3 plants 9 DAT	Shoot Length (cm) 9 DAT	Shoot Dry Wt. (g/3pl.) 9 DAT	Root Length (mm) 9 DAT	Root Dry Wt. (g/3pl.) 9 DAT
Control			3ab	38a	0.554ab	82ab	0.186ab
Surfactant		3/4L	2b	36ab	0.513b	86ab	0.114b
VBC30025 50ppm		3/4L	2b	34bc	0.534ab	93a	0.149b
VBC30027 10ppm		3/4L	1b	32c	0.467b	75b	0.178ab
VBC30027 20ppm		3/4L	4a	37a	0.675a	84ab	0.271a
LSD (.05) =			1	2	0.149	14	0.096
Standard Dev. =			1.0416	1.8208	.11133	10.354	7.1533
CV =			41.33	5.16	20.29	12.33	39.84

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

Table 2. The effects of experimental plant growth regulators on early plant growth and development at 15 days after treatment in drill-seeed rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Tiller Density tillers/ 3 plants 15 DAT	Shoot Length (cm) 15 DAT	Shoot Dry Wt. (g/3pl.) 15 DAT	Root Length (mm) 15 DAT	Root Dry Wt. (g/3pl.) 15 DAT
Control			6a	51a	1.887a	138a	0.394a
Surfactant		3/4L	7a	47ab	1.699a	138a	0.374a
VBC30025 50ppm		3/4L	7a	50ab	1.807a	133a	0.372a
VBC30027 10ppm		3/4L	4a	47b	1.565a	125a	0.364a
VBC30027 20ppm		3/4L	7a	51ab	2.187a	135a	0.462a
LSD (.05) =			3	4	0.638	17	0.124
Standard Dev. =			2.0469	2.752	.47593	12.485	9.2824
CV =			33.89	5.58	26.02	9.33	23.59

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

SEEDLING VIGOR STUDIES – SEED AND FOLIAR TREATMENT

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Gibberellic Acid and Seedling Vigor in Drill-Seeded Rice – March Planting Date

Location: Rice Research Station, Crowley, LA (North Unit, Field N9-A)

Variety: See Treatments

Planting Method: Drilled on 7-inch rows

Planting Depth: 2-inch

Seeding Rate: 90 lb/A

Fertilizer: None

Plot Size: 11.6 ft^2 – 0.58 (1 row) x 20 ft

Treated Area: 11.6 ft^2 – 0.58 (1 row) x 20 ft

Treatment(s): **Varieties/Experimental Lines**

Banks	Ecrevisse	LA2008
Bengal	Francis	LA2183
Cheniere	Jefferson	LA2195
Cocodrie	Pirogue	TX9092
Cybonnet	Spring	RU0104055
CL161	LA2002	

CL – imidazolinone (Clearfield)-resistant lines

Plant Growth Regulators

Seed Treatment - GibGro (0.17 oz/cwt) and Release (0.35 oz/cwt)
Foliar Treatment - GibGro 4LS and Ryzup (1.5 fl oz/A)

Timing

Seed treatment, 17 Mar
Foliar treatment (3- to 4-leaf stage), 22 Apr

Seed Treater: Jar mill tumble mixer

Sprayer: CO_2-driven, backpack, 28 psi, 15 GPA, 8002LD tips, 20-inch nozzle spacings

Planting Date: 22 Mar

Emergence: See Treatments

Water Management: None

Pertinent Rainfall: 0.9 inch, 14 Mar; 1 inch, 6 Apr; 0.5 inch, 11 Apr; 0.1 inch, 12 Apr; 1.5 inches, 24 Apr; 2 inches, 25 Apr

Herbicide(s): Stam M4 (3 qt/A), 22 Apr (tank mixed with foliar PGRs)

Insecticide(s): Icon (0.9 fl oz/cwt) seed treatment, 17 Mar

Fungicide(s): Dithane DF (4 oz/cwt) seed treatment, 17 Mar

Plant Growth Regulator(s): See Treatments

Harvest Date: Not applicable

Harvested Area: Not applicable

Experimental Design: Randomized complete block design and four replications. Factorial treatment arrangement is as follows. A given plot contained a different variety or experimental line in each row. There were three such plots. Each contained six rows in accommodating 10 varieties and seven experimental lines. The position of a variety or experimental line within a given plot was constant. Each given plot was planted in triplicate in each replicate. Of each triplicate, one plot had untreated seed (no gibberellic acid) and the other two plots had seed treated with GibGro or Release according to the randomization of plots.

Comments: **Seedling Vigor-Emergence and Plant Population Density (Stand)**

Germplasm (varieties/experimental lines) and seed treatment with gibberellic acid had a significant effect on emergence of rice (Table 1). Time to stand, an evaluation of emergence, was the number of days from planting to establishment of an adequate stand (10 plants/ft^2). Germplasm on average had a time to stand of 13 to 20 days after planting (DAP). The evaluation period was 29 days. Germplasm separated into primarily two categories according to time to stand. The earlier emerging category had times to stand of 13 to 16 DAP and included Banks (13 DAP); Cheniere, Cocodrie, Cybonnet, Francis, Spring, and LA2195 (14 DAP); CL161, LA2002, and LA2183 (15 DAP); and Ecrevisse and LA2008 (16 DAP). The later emerging category had times to stand of 17 to 20 DAP and included Bengal (17 DAP), Jefferson, Pirogue, and RU0104055 (19 DAP), and TX9092 (20 DAP). On average, across all germplasm, time to stand without a gibberellic acid seed treatment occurred 17 DAP, and seed treatment with GibGro and Release resulted in an average time to stand 2 days early (15 DAP). There were no interactions between germplasm and seed treatment with gibberellic acid (Table 2).

Germplasm (varieties/experimental lines) and seed treatment with gibberellic acid had a significant effect on stand (Table 1). Final stand was measured as number of viable (green) 1-leaf stage or older plants at 29 DAP. Germplasm on average had final stands of 8 to 17 plants/ft^2 and separated into primarily three categories according to final stand. The least vigorous category had stands of 8 to 9 plants/ft^2 and included RU0104055 (8 plants/ft^2) and Jefferson and TX9092 (9 plants/ft^2). The category with intermediate vigor had stands of 12 to 15 plants/ft^2 and included Pirogue and LA2008 (12 plants/ft^2); Bengal, Cheniere, Cybonnet, Ecrevisse, and LA2195 (13 plants/ft^2); CL161, Francis, Spring, and LA2002 (14 plants/ft^2); and Cocodrie and LA2183 (15 plants/ft^2). The most vigorous category contained one variety, Banks, with a stand of 17 plants/ft^2. On average, across germplasm, final stand without gibberellic acid seed treatment was 13 plants/ft^2 compared with 13 and 12 plants/ft^2 for seed treatment with GibGro and Release, respectively (Table 1). Germplasm had an adequate stand without gibberellic acid seed treatment with the exception of TX9092 (8 plants/ft^2) and RU0104055 (8 plants/ft^2). There were interactions between germplasm and seed treatment with gibberellic acid (Table 2). Seed treatment with gibberellic acid reduced stands of Banks, Bengal, and Cocodrie and increased stands of Pirogue and LA2183.

Adequate levels of seedling vigor were related in part to above normal environmental conditions. Following planting and during the evaluation period for emergence and stand (22 Mar - 20 Apr), daily average soil temperatures averaged 72ºF and ranged between 59 and 74ºF, and daily average air temperatures averaged 68ºF and ranged between 53 and 72ºF.

Seedling Vigor – Seedling Stature

Germplasm (varieties/experimental lines) and foliar treatment with gibberellic acid had a significant effect on seedling height (Table 3). The shortest germplasm was RU0104055 (22 cm), Pirogue (23 cm), and Cheniere and Jefferson (24 cm), and the tallest was Cocodrie and Francis (28 cm) and Bengal (29 cm). The other germplasm ranged in height from 25 to 27 cm. Overspraying each plot with gibberellic acid at the 3- to 4-leaf stage resulted in a significant increase in seedling height (Table 3), and the effect was relatively constant across germplasm (Table 4). The average increase in seedling height (distance from the soil surface to the tip of the longest leaf extended vertically) at 7 days after treatment (DAT) with GibGro 4LS and RyzUp was 11 cm (4 inches). There was no difference in plant response between the formulations of gibberellic acid (27 vs 28 cm average height with RyzUp and GibGro, respectively). Prior seed treatment with Release had no effect on plant response to foliar application of RyzUp, and prior seed treatment with GibGro followed by a foliar application of GibGro 4LS resulted in 2 cm taller seedlings compared with GibGro 4LS alone.

Daily average air temperature for the 7-day period following foliar application of gibberellic acid averaged 72ºF and ranged between 65 and 77ºF. The recommended rate of foliar gibberellic acid at those temperatures is 1 to 2 fl oz/A, and the rate of 1.5 fl oz/A was used based on weather forecasts.

Table 1. The main effects of germplasm and plant growth regulator seed treatment on seedling vigor of rice drill seeded in March. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
TABLE OF GERMPLASM MEANS					
Banks				13e	17
Bengal				17bc	13
Cheniere				14de	13
Cocodrie				14de	15
Cybonnet				14de	13
CL161				15cde	14
Ecrevisse				16cd	13
Francis				14de	14
Jefferson				19ab	9
Pirogue				19ab	12
Spring				14de	14
LA2002				15cde	14
LA2008				16cd	12
LA2183				15cde	15
LA2195				14de	13
TX9092				20a	9
RU0104055				19ab	8
TABLE OF PLANT GROWTH REGULATOR MEANS					
Control				17a	13
Release	sp	0.35	seed	15b	12
GibGro	sp	0.35	seed	15b	13

Within the same table, means followed by the same letter do not differ significantly (Duncan's multiple range test, P=.05).

Table 2. The simple effects of germplasm and plant growth regulator seed treatment on seedling vigor of rice drill seeded in March. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
Banks Control				13lmn	21a
Banks Release	sp	0.35	seed	13k-n	12d-k
Banks GibGro	sp	0.35	seed	12n	17b
Bengal Control				17e-j	15b-e
Bengal Release	sp	0.35	seed	18c-g	10h-n
Bengal GibGro	sp	0.35	seed	16f-l	13d-i
Cheniere Control				16f-m	14b-g
Cheniere Release	sp	0.35	seed	14j-n	12f-m
Cheniere GibGro	sp	0.35	seed	13mn	13d-h
Cocodrie Control				15h-n	17bc
Cocodrie Release	sp	0.35	seed	15f-m	13d-j
Cocodrie GibGro	sp	0.35	seed	13lmn	15b-f
Cybonnet Control				17e-j	12d-k
Cybonnet Release	sp	0.35	seed	13k-n	13d-h
Cybonnet GibGro	sp	0.35	seed	13lmn	13d-h
CL161 Control				16f-m	15b-f
CL161 Release	sp	0.35	seed	15f-m	14c-h
CL161 GibGro	sp	0.35	seed	15h-n	13d-h
Ecrevisse Control				17e-i	12d-k
Ecrevisse Release	sp	0.35	seed	16f-l	12d-k

Continued.

Table 2. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
Ecrevisse GibGro	sp	0.35	seed	15g-n	13d-h
Francis Control				15h-n	16bcd
Francis Release	sp	0.35	seed	15h-n	13d-j
Francis GibGro	sp	0.35	seed	14k-n	13d-h
Jefferson Control				21ab	10i-n
Jefferson Release	sp	0.35	seed	18c-g	9lmn
Jefferson GibGro	sp	0.35	seed	17e-j	9j-n
Pirogue Control				22ab	10i-n
Pirogue Release	sp	0.35	seed	17e-i	14b-g
Pirogue GibGro	sp	0.35	seed	17e-i	13d-i
Spring Control				16f-m	15b-e
Spring Release	sp	0.35	seed	14k-n	15b-f
Spring GibGro	sp	0.35	seed	14k-n	14c-h
LA2002 Control				16f-l	14b-g
LA2002 Release	sp	0.35	seed	13k-n	14b-g
LA2002 GibGro	sp	0.35	seed	15h-n	15b-f
LA2008 Control				18d-h	12f-m
LA2008 Release	sp	0.35	seed	16f-l	12e-l
LA2008 GibGro	sp	0.35	seed	16f-k	12d-k
LA2183 Control				18d-h	13d-h
LA2183 Release	sp	0.35	seed	15i-n	17bc

Continued.

Table 2. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
LA2183 GibGro	sp	0.35	seed	14j-n	16bcd
LA2195 Control				15g-n	14c-h
LA2195 Release	sp	0.35	seed	13k-n	12e-l
LA2195 GibGro	sp	0.35	seed	14j-n	12d-k
TX9092 Control				23a	8n
TX9092 Release	sp	0.35	seed	17e-i	11g-n
TX9092 GibGro	sp	0.35	seed	19b-e	9k-n
RU0104055 Control				20abc	8n
RU0104055 Release	sp	0.35	seed	18c-f	9mn
RU0104055 GibGro	sp	0.35	seed	20a-d	8n
LSD (.05) =				2	3
Standard Dev. =				1.6862	1.9519
CV =				10.67	15.33

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

Table 3. The main effects of germplasm and plant growth regulator seed and foliar treatment on seedling stature of rice drill seeded in March. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
TABLE OF GERMPLASM MEANS				
Banks				26bcd
Bengal				29a
Cheniere				24def
Cocodire				28ab
Cybonnet				26bcd
CL161				27abc
Ecrevisse				27abc
Francis				28ab
Jefferson				24def
Pirogue				23ef
Spring				26bcd
LA2002				26bcd
LA2008				27abc
LA2183				25cde
LA2195				27abc
TX9092				25cde
RU0104055				22f
TABLE OF PLANT GROWTH REGULTOR MEANS				
Control				16c
GibGro 4LS		1.5	3-4lf	28b
RyzUp		1.5	3-4lf	27b
GibGro		0.17	seed	30a
GibGro 4LS		1.5	3-4lf	
Release		0.35	seed	28b
RyzUp		1.5	3-4lf	

Within the same table, means followed by the same letter do not differ significantly (Duncan's multiple range test, P=.05).

Table 4. The simple effects of germplasm and plant growth regulator seed and foliar treatment on seedling stature of rice drill seeded in March. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Banks				17tu
Control				
Banks				28d-o
GibGro 4LS		1.5	3-4lf	
Banks				27g-q
RyzUp		1.5	3-4lf	
Banks				30b-j
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Banks				28d-o
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Bengal				19st
Control				
Bengal				31a-h
GibGro 4LS		1.5	3-4lf	
Bengal				30b-i
RyzUp		1.5	3-4lf	
Bengal				32abc
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Bengal				32a-d
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Cheniere				15uv
Control				
Cheniere				27g-q
GibGro 4LS		1.5	3-4lf	
Cheniere				24pqr
RyzUp		1.5	3-4lf	
Cheniere				28d-o
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Cheniere				29c-m
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Cocodire				16tu
Control				
Cocodire				29b-j
GibGro 4LS		1.5	3-4lf	
Cocodire				30a-i
RyzUp		1.5	3-4lf	

Continued.

Table 4. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Cocodire				34a
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Cocodire				31a-f
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Cybonnet				15uv
Control				
Cybonnet				31a-h
GibGro 4LS		1.5	3-4lf	
Cybonnet				27g-q
RyzUp		1.5	3-4lf	
Cybonnet				31a-g
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Cybonnet				28d-o
Release		0.35	seed	
RyzUp		1.5	3-4lf	
CL161				16tu
Control				
CL161				30a-i
GibGro 4LS		1.5	3-4lf	
CL161				30a-i
RyzUp		1.5	3-4lf	
CL161				30a-i
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
CL161				27f-p
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Ecrevisse				17tu
Control				
Ecrevisse				30a-i
GibGro 4LS		1.5	3-4lf	
Ecrevisse				28e-p
RyzUp		1.5	3-4lf	
Ecrevisse				31a-h
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Ecrevisse				28c-n
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Francis				17tu
Control				

Continued.

Table 4. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Francis				31a-h
GibGro 4LS		1.5	3-4lf	
Francis				29b-j
RyzUp		1.5	3-4lf	
Francis				33ab
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Francis				30a-i
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Jefferson				12v
Control				
Jefferson				26i-q
GibGro 4LS		1.5	3-4lf	
Jefferson				25l-r
RyzUp		1.5	3-4lf	
Jefferson				31a-g
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Jefferson				25n-r
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Pirogue				14uv
Control				
Pirogue				27h-q
GibGro 4LS		1.5	3-4lf	
Pirogue				25n-r
RyzUp		1.5	3-4lf	
Pirogue				27h-q
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Pirogue				25k-r
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Spring				17tu
Control				
Spring				29c-m
GibGro 4LS		1.5	3-4lf	
Spring				29c-m
RyzUp		1.5	3-4lf	
Spring				29b-l
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	

Continued.

Table 4. Continued.

Treatment Name	Fm Ds Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Spring			27f-p
Release	0.35	seed	
RyzUp	1.5	3-4lf	
LA2002			15uv
Control			
LA2002			29b-k
GibGro 4LS	1.5	3-4lf	
LA2002			29c-m
RyzUp	1.5	3-4lf	
LA2002			30b-i
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	
LA2002			29b-k
Release	0.35	seed	
RyzUp	1.5	3-4lf	
LA2008			17tu
Control			
LA2008			31a-g
GibGro 4LS	1.5	3-4lf	
LA2008			27f-p
RyzUp	1.5	3-4lf	
LA2008			32a-e
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	
LA2008			31a-h
Release	0.35	seed	
RyzUp	1.5	3-4lf	
LA2183			16tu
Control			
LA2183			27g-q
GibGro 4LS	1.5	3-4lf	
LA2183			25m-r
RyzUp	1.5	3-4lf	
LA2183			28c-n
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	
LA2183			28d-o
Release	0.35	seed	
RyzUp	1.5	3-4lf	
LA2195			16tu
Control			
LA2195			30a-i
GibGro 4LS	1.5	3-4lf	
LA2195			30a-i
RyzUp	1.5	3-4lf	

Continued.

Table 4. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
LA2195				32a-e
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
LA2195				29c-m
Release		0.35	seed	
RyzUp		1.5	3-4lf	
TX9092				17tu
Control				
TX9092				28c-n
GibGro 4LS		1.5	3-4lf	
TX9092				26j-r
RyzUp		1.5	3-4lf	
TX9092				29b-k
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
TX9092				28d-o
Release		0.35	seed	
RyzUp		1.5	3-4lf	
RU0104055				14uv
Control				
RU0104055				23qr
GibGro 4LS		1.5	3-4lf	
RU0104055				22rs
RyzUp		1.5	3-4lf	
RU0104055				25k-r
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
RU0104055				24o-r
Release		0.35	seed	
RyzUp		1.5	3-4lf	
LSD (.05) =				3
Standard Dev. =				2.2238
CV =				8.60

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

SEEDLING VIGOR STUDIES – SEED AND FOLIAR TREATMENT

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Gibberellic Acid and Seedling Vigor in Drill-Seeded Rice – April Planting Date

Location: Rice Research Station, Crowley, LA (North Unit, Field N9-A)

Variety: See Treatments

Planting Method: Drilled on 7-inch rows

Planting Depth: 2-inch

Seeding Rate: 90 lb/A

Fertilizer: None

Plot Size: 11.6 ft^2 – 0.58 (1 row) x 20 ft

Treated Area: 11.6 ft^2 – 0.58 (1 row) x 20 ft

Treatment(s): **Varieties/Experimental Lines**

Banks	Cocodrie	Francis	Spring	LA2195
Bengal	Cybonnet	Hidalgo	LA2002	TX9092
Cala	CL161	Jefferson	LA2008	RU0104055
Cheniere	Ecrevisse	Pirogue	LA2183	

CL – imidazolinone (Clearfield)-resistant lines

Plant Growth Regulators

Seed Treatment - GibGro (0.17 oz/cwt) and Release (0.35 oz/cwt)
Foliar Treatment - GibGro 4LS and Ryzup (0.75 fl oz/A)

Timing

Seed treatment, 17 Mar
Foliar treatment (3- to 4-leaf stage), 20 May

Seed Treater: Jar mill tumble mixer

Sprayer: CO_2-driven, backpack, 28 psi, 15 GPA, 8002LD tips, 20-inch nozzle spacings

Planting Date: 19 Apr

Emergence: See Treatments

Water Management: None

Pertinent Rainfall: 1.6 inches, 24 Apr; 2.4 inches, 25 Apr; 0.4 inch, 30 Apr; 1 inch, 1 May; 4.5 inches, 11 May; 0.6 inch, 12 May; 1.9 inches, 13 May; 3 inches, 14 May; 0.3 inch, 16 May; 0.8 inch, 7 May; 2.5 inches, 18 May

Herbicide(s): Stam M4 (3 qt/A), 20 May (tank mixed with foliar PGRs)

Insecticide(s): Icon (0.9 fl oz/cwt) seed treatment, 17 Mar

Fungicide(s): Dithane DF (4 oz/cwt) seed treatment, 17 Mar

Plant Growth Regulator(s): See Treatments

Harvest Date: Not applicable

Harvested Area: Not applicable

Experimental Design: Randomized complete block design and four replications. Factorial treatment arrangement is as follows. A given plot contained a different variety or experimental line in each row. There were three such plots. Each contained seven rows in accommodating twelve varieties and seven experimental lines. The position of a variety or experimental line within a given plot was constant. Each given plot was planted in triplicate in each replicate. Of each triplicate, one plot had untreated seed (no gibberellic acid) and the other two plots had seed treated with GibGro or Release according to the randomization of plots.

Comments: **Seedling Vigor-Emergence and Plant Population Density (Stand)**

Germplasm (varieties/experimental lines) and seed treatment with gibberellic acid had a significant effect on emergence of rice (Table 1). Time to stand, an evaluation of emergence, was the number of days from planting to establishment of an adequate stand (10 plants/ft^2). Germplasm on average had a time to stand of 11 to 24 days after planting (DAP). The evaluation period was 29 days. Germplasm separated into primarily three categories according to time to stand. The earlier emerging category had times to stand of 11 to 13 DAP and included Banks, CL161, Spring, and LA2195 (11 DAP); Cheniere, Cocodrie, and Cybonnet (12 DAP); and Francis, Hidalgo, LA2002, and RU0104055 (13 DAP). The intermediate emerging category had times to stand of 15 to 17 DAP and included Bengal (15 DAP), LA2008, and LA2183 (16 DAP) and Jefferson (17 DAP). The later emerging category had times to stand of 19 to 24 DAP and included Ecrevisse and TX9092 (19 DAP), Cala (22 DAP), and Pirogue (24 DAP). On average, across germplasm, time to stand without a gibberellic acid seed treatment occurred 17 DAP, and GibGro and Release reduced average time to stand to 14 and 13 DAP, respectively. Germplasm responded differently to the gibberellic acid seed treatment (Table 2). Response of germplasm to gibberellic acid seed treatment fell into three categories. The least responsive germplasm had 1 to 2 days earlier emergence and included Bengal, Cheniere, Cocodrie, Cybonnet, CL161, Hidalgo, LA2002, LA2183, LA2195, and RU0104055. Intermediately responsive germplasm had 4 to 6 days earlier emergence and included Ecrevisse, Pirogue and LA2008. The most responsive germplasm had 9 to 14 days earlier emergence and included TX9092 (9 days), Cala (10 days) and Jefferson (14 days). Banks, Francis, and Spring did not have earlier emergence with gibberellic acid seed treatment.

Germplasm (varieties/experimental lines) and seed treatment with gibberellic acid had a significant effect on stand (Table 1). Final stand was measured as number of viable (green) 1-leaf stage or older plants at 29 DAP. Germplasm on average had final stands of 10 to 18 plants/ft^2 and separated into primarily three categories according to final stand. The least vigorous category had stands of 10 to 13 plants/ft^2 and included Cala and Pirogue (10 plants/ft^2); TX9092 (11 plants/ft^2); Ecrevisse, Jefferson, and LA2008 (12 plants/ft^2); and Hidalgo (13 plants/ft^2). The category with intermediate vigor had stands of 14 to 16 plants/ft^2 and included RU0104055 (14 plants/ft^2); Bengal, Francis, and LA2183 (15 plants/ft^2); and Cocodrie (16 plants/ft^2). The most vigorous category contained several varieties and experimental lines with a stand of 18 plants/ft^2. These were Banks, Cheniere, Cybonnet, CL161, Spring, LA2002, and LA2195. On average, across germplasm, final stand without gibberellic acid seed treatment was 14 plants/ft^2 compared with 15 plants/ft^2 for seed treatment with either formulation of gibberellic acid (Table 1). Response to gibberellic acid was consistent across germplasm. Only Cala (8 plants/ft^2) and Pirogue and TX9092 (9 plants/ft^2) had inadequate stands (less than 10 plants/ft^2) without gibberellic acid.

Adequate levels of seedling vigor associated with rate of emergence and seedling population were related in part to the warm environmental conditions following planting. Following planting and during the evaluation period for emergence and stand (19 Apr – 18 May), daily average soil temperatures averaged 78ºF and ranged between 66 and 82ºF, and daily average air temperatures averaged 74ºF and ranged between 63 and 77ºF.

Seedling Vigor – Seedling Stature

Germplasm (varieties/experimental lines) and foliar treatment with gibberellic acid had a significant effect on seedling height (Table 3). The shortest germplasm was Jefferson and Pirogue (29 cm) and Ecrevisse and RU0104055 (30 cm), and the tallest was Bengal and LA2195 (35 cm), CL161 (36 cm), and Spring (37 cm). The other germplasm ranged in height from 32 to 34 cm. Overspraying each plot with gibberellic acid at the 3- to 4-leaf stage resulted in a significant increase in seedling height (Table 3), and the effect was relatively constant across germplasm (Table 4). The average increase in seedling height (distance from the soil surface to the tip of the longest leaf extended vertically) at 7 days after treatment (DAT) with GibGro 4LS and RyzUp was 10 and 9 cm (~4 inches), respectively. Prior seed treatment with Release followed by a foliar application of Ryzup resulted in 1 cm taller seedlings compared with RyzUp alone, and prior seed treatment with GibGro had no effect on plant response to foliar application of GibGro 4LS (35 vs 35 cm).

Daily average air temperature for the 7-day period following foliar application of gibberellic acid averaged 77ºF and ranged between 76 and 79ºF. The recommended rate of foliar gibberellic acid at those temperatures is 0.5 to 1.5 fl oz/A, and the rate of 0.75 fl oz/A was used based on weather forecasts.

Table 1. The main effects of germplasm and plant growth regulator seed treatment on seedling vigor of rice drill seeded in April. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
TABLE OF GERMPLASM MEANS					
Banks				11	18a
Bengal				15	15bc
Cala				22	10g
Cheniere				12	18a
Cocodrie				12	16b
Cybonnet				12	18a
CL161				11	18a
Ecrevisse				19	12ef
Francis				13	15bc
Hidalgo				13	13de
Jefferson				17	12ef
Pirogue				24	10g
Spring				11	18a
LA2002				13	18a
LA2008				16	12ef
LA2183				16	15bc
LA2195				11	18a
TX9092				19	11fg
RU0104055				13	14cd
TABLE OF PLANT GROWTH REGULATOR					
Control				17	14b
Release	sp	0.35	seed	14	15a
GibGro	sp	0.35	seed	13	15a

Within the same table, means followed by the same letter do not differ significantly (Duncan's multiple range test, P=.05).

Table 2. The simple effects of germplasm and plant growth regulator seed treatment on seedling vigor of rice drill seeded in April. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
Banks Control				12l-p	18a-e
Banks Release	sp	0.35	seed	10p	18a-f
Banks GibGro	sp	0.35	seed	11nop	19abc
Bengal Control				16g-m	14g-o
Bengal Release	sp	0.35	seed	14i-p	16b-k
Bengal GibGro	sp	0.35	seed	15g-n	14g-p
Cala Control				29a	8t
Cala Release	sp	0.35	seed	19e-h	10p-t
Cala GibGro	sp	0.35	seed	19d-g	11o-t
Cheniere Control				13i-p	17a-i
Cheniere Release	sp	0.35	seed	12nop	19abc
Cheniere GibGro	sp	0.35	seed	12l-p	17a-h
Cocodrie Control				13j-p	17a-g
Cocodrie Release	sp	0.35	seed	12nop	16b-k
Cocodrie GibGro	sp	0.35	seed	12m-p	16b-k
Cybonnet Control				13i-p	18a-f
Cybonnet Release	sp	0.35	seed	11nop	19abc
Cybonnet GibGro	sp	0.35	seed	12nop	18a-e
CL161 Control				12l-p	19a-d
CL161 Release	sp	0.35	seed	10op	18a-f

Continued.

Table 2. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
CL161 GibGro	sp	0.35	seed	10op	17a-j
Ecrevisse Control				22cde	11m-t
Ecrevisse Release	sp	0.35	seed	18e-h	12k-s
Ecrevisse GibGro	sp	0.35	seed	17g-k	13j-q
Francis Control				13i-p	15d-l
Francis Release	sp	0.35	seed	13k-p	15e-m
Francis GibGro	sp	0.35	seed	12l-p	15e-m
Hidalgo Control				14i-p	15d-l
Hidalgo Release	sp	0.35	seed	13i-p	12k-s
Hidalgo GibGro	sp	0.35	seed	13i-p	12l-s
Jefferson Control				26abc	10q-t
Jefferson Release	sp	0.35	seed	12l-p	13k-s
Jefferson GibGro	sp	0.35	seed	12l-p	13k-r
Pirogue Control				28ab	9st
Pirogue Release	sp	0.35	seed	22c-f	10p-t
Pirogue GibGro	sp	0.35	seed	23cd	11o-t
Spring Control				11nop	17a-h
Spring Release	sp	0.35	seed	11nop	17a-g
Spring GibGro	sp	0.35	seed	10op	20a
LA2002 Control				14i-p	16c-l
LA2002 Release	sp	0.35	seed	13j-p	19abc

Continued.

Table 2. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Time to Stand (days)	Stand (plants/ sq ft) 29 DAP
LA2002 GibGro	sp	0.35	seed	12l-p	19ab
LA2008 Control				19efg	11n-t
LA2008 Release	sp	0.35	seed	15h-o	12l-s
LA2008 GibGro	sp	0.35	seed	13i-p	13k-s
LA2183 Control				17g-j	15d-l
LA2183 Release	sp	0.35	seed	17g-l	15e-m
LA2183 GibGro	sp	0.35	seed	14i-p	17a-j
LA2195 Control				13j-p	17a-j
LA2195 Release	sp	0.35	seed	11nop	18a-e
LA2195 GibGro	sp	0.35	seed	10op	18a-e
TX9092 Control				25bc	9rst
TX9092 Release	sp	0.35	seed	18f-i	13k-s
TX9092 GibGro	sp	0.35	seed	14i-p	12l-s
RU0104055 Control				15h-o	14h-p
RU0104055 Release	sp	0.35	seed	13i-p	14f-n
RU0104055 GibGro	sp	0.35	seed	12l-p	13i-p
LSD (.05) =				4	3
Standard Dev. =				2.6722	2.0618
CV =				18.20	14.03

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

Table 3. The main effects of germplasm and plant growth regulator seed and foliar treatment on seedling stature of rice drill seeded in April. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
TABLE OF GERMPLASM MEANS			
Banks			34cd
Bengal			35bc
Cala			32e
Cheniere			32e
Cocodire			34cd
Cybonnet			34cd
CL161			36ab
Ecrevisse			30fg
Francis			33de
Hidalgo			32e
Jefferson			29g
Pirogue			29g
Spring			37a
LA2002			33de
LA2008			34cd
LA2183			32e
LA2195			35bc
TX9092			32e
RU0104055			30fg
TABLE OF PLANT GROWTH REGULATOR MEANS			
Control			25c
GibGro 4LS	1.5	3-4lf	35a
RyzUp	1.5	3-4lf	34b
GibGro	0.17	seed	35a
GibGro 4LS	1.5	3-4lf	
Release	0.35	seed	35a
RyzUp	1.5	3-4lf	

Within the same table, means followed by the same letter do not differ significantly (Duncan's multiple range test, P=.05).

Table 4. The simple effects of germplasm and plant growth regulator seed and foliar treatment on seedling stature of rice drill seeded in April. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Banks			26tuv
Control			
Banks			36b-l
GibGro 4LS	1.5	3-4lf	
Banks			36b-l
RyzUp	1.5	3-4lf	
Banks			38a-g
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	

Continued.

Table 4. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Banks				37a-k
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Bengal				27s-v
Control				
Bengal				39a-e
GibGro 4LS		1.5	3-4lf	
Bengal				36b-l
RyzUp		1.5	3-4lf	
Bengal				35c-m
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Bengal				37a-j
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Cala				25tuv
Control				
Cala				34g-o
GibGro 4LS		1.5	3-4lf	
Cala				34f-n
RyzUp		1.5	3-4lf	
Cala				36b-l
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Cala				34g-o
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Cheniere				24uvw
Control				
Cheniere				34f-n
GibGro 4LS		1.5	3-4lf	
Cheniere				33i-p
RyzUp		1.5	3-4lf	
Cheniere				36b-l
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Cheniere				34d-m
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Cocodire				26tuv
Control				
Cocodire				38a-h
GibGro 4LS		1.5	3-4lf	
Cocodire				35d-m
RyzUp		1.5	3-4lf	

Continued.

Table 4. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Cocodire				36b-l
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Cocodire				37a-l
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Cybonnet				23vw
Control				
Cybonnet				37a-j
GibGro 4LS		1.5	3-4lf	
Cybonnet				36b-l
RyzUp		1.5	3-4lf	
Cybonnet				37a-l
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Cybonnet				37a-j
Release		0.35	seed	
RyzUp		1.5	3-4lf	
CL161				27r-v
Control				
CL161				41a
GibGro 4LS		1.5	3-4lf	
CL161				37a-i
RyzUp		1.5	3-4lf	
CL161				37a-j
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
CL161				40abc
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Ecrevisse				24uvw
Control				
Ecrevisse				34e-n
GibGro 4LS		1.5	3-4lf	
Ecrevisse				28q-u
RyzUp		1.5	3-4lf	
Ecrevisse				33h-p
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Ecrevisse				30n-s
Release		0.35	seed	
RyzUp		1.5	3-4lf	
Francis				26s-v
Control				
Francis				37a-j
GibGro 4LS		1.5	3-4lf	

Continued.

Table 4. Continued.

Treatment Name	Fm Ds Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Francis			35d-m
RyzUp	1.5	3-4lf	
Francis			34g-o
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	
Francis			34d-m
Release	0.35	seed	
RyzUp	1.5	3-4lf	
Hidalgo			26s-v
Control			
Hidalgo			35d-m
GibGro 4LS	1.5	3-4lf	
Hidalgo			31m-r
RyzUp	1.5	3-4lf	
Hidalgo			34f-n
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	
Hidalgo			35c-m
Release	0.35	seed	
RyzUp	1.5	3-4lf	
Jefferson			20w
Control			
Jefferson			31m-r
GibGro 4LS	1.5	3-4lf	
Jefferson			29p-t
RyzUp	1.5	3-4lf	
Jefferson			33i-p
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	
Jefferson			32l-q
Release	0.35	seed	
RyzUp	1.5	3-4lf	
Pirogue			24vw
Control			
Pirogue			31m-r
GibGro 4LS	1.5	3-4lf	
Pirogue			27r-v
RyzUp	1.5	3-4lf	
Pirogue			33i-p
GibGro	0.17	seed	
GibGro 4LS	1.5	3-4lf	
Pirogue			29o-t
Release	0.35	seed	
RyzUp	1.5	3-4lf	
Spring			29p-t
Control			

Continued.

Table 4. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
Spring				39a-e
GibGro 4LS		1.5	3-4lf	
Spring				39a-e
RyzUp		1.5	3-4lf	
Spring				40ab
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
Spring				39a-d
Release		0.35	seed	
RyzUp		1.5	3-4lf	
LA2002				25tuv
Control				
LA2002				35d-m
GibGro 4LS		1.5	3-4lf	
LA2002				34g-o
RyzUp		1.5	3-4lf	
LA2002				37a-j
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
LA2002				35d-m
Release		0.35	seed	
RyzUp		1.5	3-4lf	
LA2008				24uvw
Control				
LA2008				36b-l
GibGro 4LS		1.5	3-4lf	
LA2008				35c-m
RyzUp		1.5	3-4lf	
LA2008				38a-h
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
LA2008				37a-j
Release		0.35	seed	
RyzUp		1.5	3-4lf	
LA2183				26s-v
Control				
LA2183				36b-l
GibGro 4LS		1.5	3-4lf	
LA2183				31m-r
RyzUp		1.5	3-4lf	
LA2183				34d-m
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
LA2183				34d-m
Release		0.35	seed	
RyzUp		1.5	3-4lf	

Continued.

Table 4. Continued.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT
LA2195				25tuv
Control				
LA2195				37a-i
GibGro 4LS		1.5	3-4lf	
LA2195				37a-l
RyzUp		1.5	3-4lf	
LA2195				38a-f
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
LA2195				38a-h
Release		0.35	seed	
RyzUp		1.5	3-4lf	
TX9092				24uvw
Control				
TX9092				35c-m
GibGro 4LS		1.5	3-4lf	
TX9092				34e-n
RyzUp		1.5	3-4lf	
TX9092				34g-o
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
TX9092				33j-q
Release		0.35	seed	
RyzUp		1.5	3-4lf	
RU0104055				23vw
Control				
RU0104055				32k-q
GibGro 4LS		1.5	3-4lf	
RU0104055				32k-q
RyzUp		1.5	3-4lf	
RU0104055				31m-r
GibGro		0.17	seed	
GibGro 4LS		1.5	3-4lf	
RU0104055				32k-q
Release		0.35	seed	
RyzUp		1.5	3-4lf	
LSD (.05) =				3
Standard Dev. =				2.5241
CV =				7.69

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

SEEDLING VIGOR STUDIES - SEED AND FOLIAR TREATMENT

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Release, RyzUp, Seeding Rate, Vigor, and Crop Production in Drill-Seeded Rice

General Methodology: See North Unit/General Methodology (pg. 231)

Variety: CL161

Treatment(s): **Seeding Rate(s)** – 30, 60, and 90 lb/A

Plant Growth Regulator (gibberellic acid)
Release (0.35 oz/cwt)
RyzUp (1.5 fl oz/A) + Valent X-77 (4.8 fl oz/A)

Timing
Release/seed (seed) by cement mixer, 17 Mar
RyzUp/3- to 4-leaf stage (3/4L) by sprayer, 23 Apr

Pertinent Rainfall: No rain within 24 hr after foliar application

Experimental Design: Randomized complete block and four replications. Factorial arrangement of treatments with four plant growth regulator treatments and three seeding rates.

Comments: **Seedling Vigor – Plant Density and Stature**

Seedling population (stand) was significantly affected by seeding rate (Table 1). In general, stand increased proportionately with seeding rate, producing 4, 7, and 10 plants/ft^2, respectively, at seeding rates of 30, 60, and 90 lb/A. Seed treatment with gibberellic acid had no effect on stand. Foliar gibberellic acid increased seedling height by approximately 4 inches within 7 days after application to seedling rice.

Crop Production – First (Main) Crop

Crop stature, maturity, and production were evaluated at harvest. Seed treatment with gibberellic acid had a direct effect on grain yield and panicle production, and seeding rate had a direct effect on plant stature, grain yield, and panicle production (Table 1). The effects of gibberellic acid and seeding rate were independent (Table 2). Crop maturity was not affected by plant growth regulator or seeding rate.

Plant height was evaluated as mature plant height (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) averaged 109, 113, and 114 cm at the 30, 60, and 90 lb/A seeding rates, respectively, regardless of treatment with gibberellic acid.

Harvest was properly timed according to grain moisture. Grain moisture, an indicator of crop maturity, ranged between 18.9 and 19.6% (Table 2).

Grain yield was increased by seed treatment with gibberellic acid followed by seedling treatment with gibberellic acid and seeding rate (Table 1). Grain yield (adjusted to 12% moisture) averaged 5639 lb/A without gibberellic acid and 6030 lb/A with gibberellic acid and increased from 5026 lb/A at the 30 lb/A seeding rate to 6253 and 6226 lb/A at the 60 and 90 lb/A seeding rates. The effects of gibberellic acid and seeding rate on grain yield were independent (Table 2). Measurement of panicle density showed that with gibberellic acid panicle density averaged 15 panicles/sq ft compared with 12 panicles/ft^2 in treatments without gibberellic acid, and panicle density averaged 12, 14, and 15 panicles/ft^2 with the 30, 60, and 90 lb/A seeding rates, respectively. These results indicate the changes in yield due to plant growth regulator and seeding rate were related to panicle density.

Crop Production – Second (Ratoon) and Total Crop

Ratoon crop production was influenced by plant growth regulator and seeding rate (Table 3). Maturity was delayed at the lower seeding rates. Grain moisture averaged 18.1, 18.2, and 17.2% for the 30, 60, and 90 lb/A seeding rates, respectively. Crop maturity was unaffected by plant growth regulator. Grain production was increased by plant growth regulator. On average, grain yield was 1794 lb/A without gibberellic acid and 2084 lb/A with gibberellic acid. Also, grain yield tended to increase with seeding rate (1574, 2103, and 1990 lb/A for the 30, 60, and 90 lb/A seeding rates, respectively). Trends in the second crop yield followed those trends in the first crop. The resultant total crop yield (first and second crop combined) averaged 7333 lb/A without gibberellic acid and 8113 lb/A with gibberellic acid, and 6599, 8355, and 8216 lb/A for the 30, 60, and 90 lb/A seeding rates, respectively. As in the first crop, there were no interactions with plant growth regulator and seeding rates on ratoon and total crop production (Table 4). Mature plant height was unaffected by plant growth regulator and seeding rate.

Table 1. The main effects of plant growth regulator and seeding rate on seedling vigor and crop production of first (main) crop rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Stand (plants/ sq ft) 30 DAP	Pl. Ht. (cm) 7 DAT	Mature Pl. Ht. (cm)	1^{st} Crop Grain Moisture (%)	1^{st} Crop Grain Yield (lb/A)	Pan. Den. (pan./ sq ft)
TABLE OF PLANT GROWTH REGULATOR MEANS									
Release	sp	0		7	19a	112	19.3	5776ab	14a
RyzUp	l	0							
Release	sp	0		6	30b	111	19.3	5503a	11b
RyzUp	l	1.5	3/4L						
Release	sp	0.35	seed	7	21a	112	19.1	6061b	15a
RyzUp	l	0							
Release	sp	0.35	seed	7	29b	112	19.0	5999b	15a
RyzUp	l	1.5	3/4L						
TABLE OF SEEDING RATE MEANS									
30 lb/A				4a	24a	109a	19.3	5026a	12a
60 lb/A				7b	25b	113b	19.1	6253b	14ab
90 lb/A				10c	25b	114b	19.2	6226b	15b

Within the same table, means followed by the same letter do not differ significantly (Duncan's multiple range test, P=.05).

Table 2. The simple effects of plant growth regulator and seeding rate on seedling vigor and crop production of first (main) crop rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Stand (plants/ sq ft) 30 DAP	Pl. Ht. (cm) 7 DAT	Mature Pl. Ht. (cm)	Grain Moisture (%)	Grain Yield (lb/A)	Pan. Den. (pan./ sq ft)
Release RyzUp 30 lb/A	sp l	0 0		3e	19d	109b	19.3ab	5175b	12abc
Release RyzUp 60 lb/A	sp l	0 0		7cd	19d	113a	19.3ab	6088a	15ab
Release RyzUp 90 lb/A	sp l	0 0		10ab	20cd	114a	19.3ab	6064a	16ab
Release RyzUp 30 lb/A	sp l	0 1.5	 3/4L	3e	28ab	109b	19.4ab	4315c	9c
Release RyzUp 60 lb/A	sp l	0 1.5	 3/4L	7cd	31a	113a	19.0ab	6180a	12bc
Release RyzUp 90 lb/A	sp l	0 1.5	 3/4L	9abc	30ab	113a	19.6a	6016a	13abc
Release RyzUp 30 lb/A	sp l	0.35 0	seed	5de	20cd	110b	19.4ab	5476b	14ab
Release RyzUp 60 lb/A	sp l	0.35 0	seed	7bcd	21cd	113a	19.0ab	6425a	16a
Release RyzUp 90 lb/A	sp l	0.35 0	seed	10abc	23c	115a	19.0b	6283a	15ab
Release RyzUp 30 lb/A	sp l	0.35 1.5	seed 3/4L	4e	27b	109b	19.2ab	5137b	13ab
Release RyzUp 60 lb/A	sp l	0.35 1.5	seed 3/4L	8abc	31a	114a	18.9b	6318a	16ab
Release RyzUp 90 lb/A	sp l	0.35 1.5	seed 3/4L	11a	29ab	114a	19.0ab	6541a	16a
LSD (.05) =				2	3	2	0.5	514	4
Standard Dev. =				1.7218	2.0769	1.483	.3463	356.28	2.544
CV =				24.89	8.40	1.33	1.80	6.11	18.56

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

Table 3. The main effects of plant growth regulator and seeding rate on second (ratoon) crop and total crop production of rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Ratoon Pl. Ht. (cm)	2nd Crop Grain Moisture (%)	2nd Crop Grain Yield (lb/A)	Total Grain Yield (lb/A)
TABLE OF PLANT GROWTH REGULATOR MEANS							
Release	sp	0		74	17.9	1758a	7534a
RyzUp	l	0					
Release	sp	0		74	17.8	1630a	7133a
RyzUp	l	1.5	3/4L				
Release	sp	0.35	seed	74	18.0	2078b	8139b
RyzUp	l	0					
Release	sp	0.35	seed	74	17.7	2090b	8088b
RyzUp	l	1.5	3/4L				
TABLE OF SEEDING RATE MEANS							
30 lb/A				73	18.1a	1574a	6599a
60 lb/A				74	18.2a	2103b	8355b
90 lb/A				75	17.2b	1990b	8216b

Within the same table, means followed by the same letter do not differ significantly (Duncan’s multiple range test, P=.05).

Table 4. The simple effects of plant growth regulator and seeding rate on second (ratoon) crop and total crop production of rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Ratoon Pl. Ht. (cm)	2nd Crop Grain Moisture (%)	2nd Crop Grain Yield (lb/A)	Total Grain Yield (lb/A)
Release RyzUp 30 lb/A	sp l	0 0		73a	18.2a	1468ef	6644e
Release RyzUp 60 lb/A	sp l	0 0		74a	18.1a	1974bcd	8062a-d
Release RyzUp 90 lb/A	sp l	0 0		74a	17.5a	1832cd	7895bcd
Release RyzUp 30 lb/A	sp l	0 1.5	 3/4L	73a	18.0a	1291f	5606f
Release RyzUp 60 lb/A	sp l	0 1.5	 3/4L	74a	18.2a	1872cd	8052a-d
Release RyzUp 90 lb/A	sp l	0 1.5	 3/4L	75a	17.3a	1727de	7743cd
Release RyzUp 30 lb/A	sp l	0.35 0	seed	74a	18.4a	1861cd	7337de
Release RyzUp 60 lb/A	sp l	0.35 0	seed	73a	18.4a	2231ab	8656ab
Release RyzUp 90 lb/A	sp l	0.35 0	seed	75a	17.2a	2143abc	8426abc
Release RyzUp 30 lb/A	sp l	0.35 1.5	seed 3/4L	74a	17.8a	1675de	6812e
Release RyzUp 60 lb/A	sp l	0.35 1.5	seed 3/4L	74a	18.1a	2335a	8653ab
Release RyzUp 90 lb/A	sp l	0.35 1.5	seed 3/4L	75a	17.0a	2259ab	8800a
LSD (.05) =				2	1.3	298	696
Standard Dev. =				1.5859	.88132	206.62	481.73
CV =				2.15	4.94	10.94	6.24

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

YIELD ENHANCEMENT STUDIES – FIRST CROP

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Mid- to Late-Season Applications of Low Rates of 2,4-D and Crop Production in Drill-Seeded Rice (Cheniere)

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Cheniere

Treatment(s): **Plant Growth Regulator** – Amine 4 2,4-D Weed Killer

Timing - Early boot (EB), 21 June

Pertinent Rainfall: No significant rain within 24 hr after treatment applications

Experimental Design: Randomized complete block and five replications

Comments: **Plant Growth and Development**

The application of low rates of 2,4-D at EB had little to no effect on plant growth and development (Table 1). At 8 days after treatment (DAT), mid- to late-season plant height (distance from the soil surface to the tip of the longest leaf extended vertically) ranged between 91 and 92 cm for the 2,4-D treatments (control = 93 cm).

Crop Production

Crop stature, lodging, maturity, and production were evaluated at harvest, and none were affected by the low rates of 2,4-D (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) was 101 cm and constant across rates (control = 100 cm). Lodging was absent. Grain moisture (an indicator of crop maturity) was low, indicating delayed harvest and ranged between 9.6 and 10.4% (control = 9.6%). Grain yield (adjusted to 12% moisture) ranged between 6964 and 7267 lb/A for the treatments (control = 7164 lb/A). The highest yielding treatment was the rate of 4 fl oz/A.

Table 1. Mid- to late-season application of low rates of 2,4-D and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 8 DAT	Mature Pl. Ht. (cm)	Mature Grain Moisture (%)	Total Grain Yield (lb/A)
Control				93a	100a	9.6ab	7164a
2,4-D	l	4	EB	91a	101a	9.5b	7267a
2,4-D	l	2	EB	92a	101a	10.4a	7046a
2,4-D	l	1	EB	92a	101a	9.8ab	7088a
2,4-D	l	0.5	EB	91a	101a	9.9ab	6964a
LSD (.05) =				2	2	0.8	429
Standard Dev. =				1.7507	1.423	.60166	319.77
CV =				1.91	1.41	6.10	4.50

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

YIELD ENHANCEMENT STUDIES – FIRST CROP

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Mid- and Late-Season Applications of Plant Growth Regulators and Crop Production in Drill-Seeded Rice (Cheniere)

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Cheniere

Treatment(s): **Plant Growth Regulator** – AgCtr-PGR-102, 102a, 102c, 102g, and 109

Timing
Panicle differentiation (PD), 18 June
Heading (HD), 7 July

Pertinent Rainfall: No significant rain within 24 hr after treatment applications

Experimental Design: Randomized complete block and six replications

Comments:

Plant Growth and Development

The experimental plant growth regulator applied at PD had a positive effect on plant growth and development (Table 1). At 7 days after treatment (DAT), midseason plant height (distance from the soil surface to the tip of the longest leaf extended vertically) was increased 6 cm following the application of AgCtr-PGR-109. Plant heights in the other treatments ranged between 84 and 87 cm (control = 87 cm).

Crop Production

Crop stature, lodging, maturity, and production were evaluated at harvest, and none were affected by the experimental plant growth regulators (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) ranged between 101 and 103 cm (control = 101 cm). AgCtr-PGR-109 applied at PD only produced the tallest plants (103 cm). Lodging was absent. Grain moisture (an indicator of crop maturity) was low, indicating delayed harvest and ranged between 9.4 and 9.8% (control = 9.6%). Grain yield (adjusted to 12% moisture) ranged between 6345 and 7015 lb/A for the PGR treatments (control = 6539 lb/A). The highest yielding treatment was AgCtr-PGR-109 applied at PD only.

Table 1. The effects of mid- and late-season applications of experimental plant growth regulators on crop production in drill-seeded rice (Cheniere). Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Pl. Ht. (cm) 7 DAT	Mature Pl. Ht. (cm)	Mature Grain Moisture (%)	Grain Yield (lb/A)
Control			87bc	101bc	9.6a	6539ab
AgCtr-PGR-09		PD	93a	103a	9.7a	7015a
AgCtr-PGR-102		HD	86bc	102a	9.5a	6667ab
AgCtr-PGR-102a		HD	87b	102abc	9.4a	6817ab
AgCtr-PGR-102c		HD	86bc	102abc	9.8a	6538ab
AgCtr-PGR-102g		HD	86bc	102a	9.7a	6554ab
AgCtr-PGR-102ac		HD	87b	100c	9.5a	6552ab
AgCtr-PGR-102ag		HD	84c	102a	9.5a	6634ab
AgCtr-PGR-102cg		HD	87bc	102a	9.5a	6345b
AgCtr-PGR-09 AgCtr-PGR-102ag		PD HD	93a	102ab	9.8a	6579ab
LSD (.05) =			2	1	0.4	447
Standard Dev. =			2.1194	.99796	.36881	383.37
CV =			2.42	0.98	3.84	5.79

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

YIELD ENHANCEMENT STUDIES – SECOND CROP

R.T. Dunand and R.R. Dilly, Jr.

Experiment: First Crop Cutting Height and Second Crop Production in Drill-Seeded Rice

General Methodology: See North Unit/General Methodology (pg. 231)

Variety: Cocodrie

Treatment(s): First Crop Stubble Height
6, 12, and 18 inches

Pertinent Rainfall: No significant rain after treatment

Experimental Design: Randomized complete block and three replications with six subplots per replication. Plots consisted of strips 198 ft long with six 30-foot plots and 3-foot alleyways between plot ends. Replicates consisted of three strips and were placed side by side for a total of nine strips.

Comments:

First Crop Straw Production

Plots were harvested by combine in one continuous motion without stopping between subplots. This produced an even layer of straw over each subplot and replicate. There was a significant difference in the amount of straw deposited on the stubble of the different cutting height treatments (Table 1). As cutting height was decreased, straw deposition increased with 566, 1570, and 4727 lb/A of straw for the 18-, 12-, and 6-inch stubble heights, respectively.

Second Crop Growth

The rate of vegetative and reproductive growth was affected by first crop cutting height (Table 1). The appearance of leaves above the stubble of the first crop was most noticeable in the lowest cutting height treatment. At 14 days after harvest of the first crop (DAH), leaf density was 15, 8, and 2 leaves/ft^2 for the 6-, 12-, and 18-inch stubble heights, respectively. Panicle emergence was slightly earlier and number of panicles higher with the higher cutting heights at 28, 35, 43, and 50 DAH. At 50 DAH, the difference was significant. Panicle densities were 16, 18, and 19 panicles/ft^2 for the 6-, 12-, and 18-inch stubble heights, respectively. Although there were differences in the earliness and number of emerging panicles, the heading was similar. Time to 50% heading (days from harvest of the main crop until 50% of the second crop panicles were emerging or emerged) was consistently 41 DAH for each stubble height.

The development of second crop stem and panicle growth was evaluated just prior to harvest (Table 2). Second crop stems originated from the base (crown stems) of and along the shaft of stems (node stems) of the first crop stubble. There were no significant effects of cutting height of the first crop on stem and panicle formation. In general, crown stem density was slightly higher at the higher cutting heights (8, 10, and 9 stems/ft^2 for the 6-, 12-, and 18-inch stubble heights, respectively) and constant at 5 stems/ft^2 for the number of first crop stubble stems that produced second crop stems. Panicle densities, being dependent on stem densities, exhibited a similar trend. Crown stem panicle densities were exactly the same as crown stem densities (8, 10, and 9 panicles/ft^2), and node stem panicle densities were 6, 7, and 7 panicles/ft^2. Node stem panicle densities were slightly higher for the 12- and 18-inch stubble due to more nodes on the longer stubble. This resulted in a greater difference in total panicle densities with the taller stubble (14, 17, and 16 panicles/ft^2 for the 6-, 12-, and 18-inch cutting heights, respectively). Trends in stem biomass were similar to the trends noted in stem density. Crown stem, node stem, and total stem dry weights were least at the lowest cutting height. For example, total stem dry weight was 558, 668, and 585 lb/A for the 6-, 12-, and 18-inch cutting heights, respectively.

Table 1. The effect of cutting height on first (main) crop straw and second (ratoon) crop growth in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Straw Fresh Wt (lb/A)	Leaf Den (leaves/ sq ft) 14 DAH	Pan. Den (pan./sq ft) 21 DAH	Pan. Den (pan./sq ft) 28 DAH	Pan. Den (pan./sq ft) 35 DAH	Pan. Den (pan./sq ft) 43 DAH	Pan. Den (pan./sq ft) 50 DAH	Time to 50% Heading (DAH)
6-inch Stubble			4727a	15a	0a	1a	3a	9a	16b	41a
12-inch Stubble			1570b	8b	0a	2a	5a	12a	18a	41a
18-inch Stubble			566b	2c	0a	1a	4a	12a	19a	41a
LSD (.05) =			1979	2	0	1	2	3	1	3
Standard Dev. =			873.12	.72225	.2003	.34471	.66898	1.16	.63346	1.2769
CV =			38.17	8.42	154.52	30.52	16.13	10.78	3.61	3.11

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

Table 2. The effect of cutting height of the first (main) crop on second (ratoon) crop stem and panicle production. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Crown Stem Density (stems/ sq ft)	Stubble Stem Density (stems/ sq ft)	Crown Panicle Density (pan./sq ft)	Node Panicle Density (pan./sq ft)	Total Panicle Density (pan./sq ft)	Crown Stem Dry Wt. (lb/A)	Node Stem Dry Wt. (lb/A)	Total Stem Dry Wt. (lb/A)
6-inch Stubble			8a	5a	8a	6a	14a	276a	282a	558a
12-inch Stubble			10a	5a	10a	7a	17a	303a	365a	668a
18-inch Stubble			9a	5a	9a	7a	16a	255a	330a	585a
LSD (.05) =			6	3	6	4	10	143	232	352
Standard Dev. =			2.6917	1.1758	2.6917	1.9657	4.6301	63.155	102.49	155.15
CV =			30.09	22.68	30.09	28.61	29.28	22.71	31.46	25.70

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

Crop Production

Crop stature, maturity, and production were evaluated at harvest, and only mature grain yield was significantly affected (Table 3). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) was 68, 69, and 68 cm for the 6-, 12-, and 18-inch stubble height treatments, respectively. Grain moisture (an indicator of crop maturity) was 17.3, 17.0, and 16.8%, respectively, indicating a slight trend toward delaying maturity by lowering cutting height. Grain yield (adjusted to 12% moisture) was 1526, 1388, and 1197 lb/A, respectively, indicating an inverse relationship between first crop cutting height and second crop yield even though panicle and stem production suggested otherwise.

Table 3. The effect of cutting hegiht of the first (main) crop on second (ratoon) crop production. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Pl. Ht. (cm)	Grain Moisture (%)	Grain Yield (lb/A)
6-inch Stubble			68a	17.3a	1526a
12-inch Stubble			69a	17.0a	1388ab
18-inch Stubble			68a	16.8a	1197b
LSD (.05) =			2	0.7	221
Standard Dev.=			.75579	.32942	97.623
CV =			1.11	1.94	7.12

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

YIELD ENHANCEMENT STUDIES – SECOND CROP

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Post Harvest Plant Growth Regulators and Second Crop Production in Drill-Seeded Rice

General Methodology: See North Unit/General Methodology (pg. 231)

Variety: Cocodrie

Treatment(s):

Plant Growth Regulator
- AgCtr-PGR-101, 102, 103, and 104
- SUL 15 Plus (16 and 32 fl oz/A)
- GS48 (8 oz/A)
- GS70 (8 oz/A)

Timing
- Internode Initiation (II), 26 Aug
- Panicle Differentiation (PD), 1 Sept
- Early Boot (EB), 9 Sept
- Late Boot (LB), 20 Sept
- Heading (HD), 29 Sept
- Milk Stage (MS), 6 Oct

Pertinent Rainfall: No significant rain within 8 hr after foliar applications

Experimental Design: Randomized complete block and five replications.

Comments: **Crop Production**

Crop stature, maturity, and production were evaluated at harvest, and none were significantly affected by the early-, mid-, and late-season applications of PGRs (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) was 67 to 68 cm for all treatments and the control. Grain moisture (an indicator of crop maturity) ranged between 15.7 and 16.4% (control = 16.2%). Grain yield (adjusted to 12% moisture) was highest (1771 lb/A) when SUL 15 Plus and GS48 were applied at 15 days after harvest of the first crop compared with the control (1641 lb/A) and other treatments (ranged between 1545 and 1741 lb/A).

Table 1. The effect of early-, mid-, and late-season applications of experimental plant growth regulators on ratoon crop production of drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Ratoon Mature Pl. Ht. (cm)	Ratoon Grain Moisture (%)	Ratoon Grain Yield (lb/A)
Control				67a	16.2a	1641ab
SUL 15 Plus	l	16	2WAH	67a	16.4a	1771a
GS48	d	8	2WAH			
SUL 15 Plus	l	32	PD	67a	16.2a	1556ab
GS70	d	8	PD			
SUL 15 Plus	l	32	EB	68a	15.7a	1647ab
GS70	d	8	EB			
SUL 15 Plus	l	32	LB	67a	16.0a	1732ab
GS70	d	8	LB			
SUL 15 Plus	l	32	MS	68a	15.9a	1640ab
GS70	d	8	MS			
AgCtr-PGR-101			HD	67a	16.0a	1545b
AgCtr-PGR-102			HD	68a	15.8a	1741ab
AgCtr-PGR-102			MS			
AgCtr-PGR-103			HD	68a	16.2a	1730ab
AgCtr-PGR-104			HD	67a	16.4a	1643ab
LSD (.05) =				2	0.9	191
Standard Dev. =				1.4006	.80183	163.66
CV =				2.08	4.98	9.83

Means followed by same letter do not significantly differ (Duncan's multiple range, P=.05).

YIELD ENHANCEMENT STUDIES – FIRST AND SECOND CROP

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Pre-Harvest Plant Growth Regulators and Crop (First and Second) Production in Drill-Seeded Rice

General Methodology: See North Unit/General Methodology (pg. 231)

Variety: Cocodrie

Treatment(s): **Plant Growth Regulator**
- ABG-3207 (1, 10, and 100 fl oz/A)
- Embark (0.25 and 0.5 lb ai/A)
- Palisade (4 fl oz/A)
- Royal MH-30 SG (1.5 and 3 lb ai/A)
- 2,4-D Amine (0.0025, 0.025, and 0.25 lb ai/A)

Timing
- Dough Stage (DS), 19 July

Pertinent Rainfall: No significant rain within 8 hr after foliar applications

Experimental Design: Randomized complete block and six replications.

Comments: **Crop Production – First Crop**

Crop stature, maturity, and production were evaluated at harvest, and grain yield was significantly affected by the late-season applications of PGRs (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) ranged between 105 and 107 cm (control=105 cm). Grain moisture (an indicator of crop maturity) ranged between 18.3 and 19.0% (control = 18.4%). Grain yield (adjusted to 12% moisture) was highest (7625 lb/A) with the middle rate of 2,4-D Amine compared with the control (7408 lb/A) and was generally low with Embark and Royal MH-30 SG, ranging between 6283 and 6740 lb/A. The other PGR treatments ranged between 7189 and 7422 lb/A.

Growth and Development – Second Crop

Appearance of leaves above the stubble of the first crop and panicle emergence were significantly affected by the treatments that reduced yield in the first crop (Table 2). Leaf density averaged 10 leaves/ft^2 for Embark and Royal MH-30 SG compared with 2 to 6 leaves/ft^2 in the other treatments (control = 5 leaves/ft^2). Earliest panicle emergence was observed at the low rate of Royal MH-30 SG with 10 panicles/10 ft^2 compared with 1 to 6 panicles/10 ft^2 in the other treatments (control=2 panicles/10 ft^2).

Crop Production – Second and Total Crop

Second crop stature, maturity, and production were evaluated at harvest, and none were significantly affected by the late-season applications of PGRs in the first crop (Table 1). Mature plant height ranged between 67 and 71 cm (control=69 cm). Grain moisture ranged between 15.2 and 16.2% (control = 15.3%), with most of the PGR treatments tending to delay maturity slightly. Grain yield was highest (2633 lb/A) with the highest rate of ABG-3207 compared with the control (2406 lb/A) and was generally lowest with the low rate of 2,4-D Amine (2198 lb/A) and the low and middle rate of ABG-3207 (2245 and 2196 lb/A, respectively). Ratoon grain yields of the other PGR treatments ranged between 2300 and 2545 lb/A.

Total grain yield was reflective of first crop yield and was impacted similarly since first crop yield was a major component of total grain yield (first plus second crop yield). Total grain yield (adjusted to 12% moisture) was highest (10067 lb/A) with the middle rate of 2,4-D Amine compared with the control (9814 lb/A) and was generally low with Embark and Royal MH-30 SG, ranging between 8830 and 9117 lb/A. The other PGR treatments ranged between 9619 and 9822 lb/A).

Table 1. The effects of late-season applications of plant growth regulators to the first crop on first crop production. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Rate Unit	Grow Stg	Mature Pl. Ht. (cm)	Mature Grain Moisture (%)	Grain Yield (lb/A)
Control					105ab	18.4bc	7408a
Royal MH-30 SG	d	1.5	lb/A	DS	106ab	18.5bc	6632bc
Royal MH-30 SG	d	3	lb/A	DS	106ab	18.4bc	6283c
Embark	e	0.25	lb/A	DS	105ab	18.6bc	6740b
Embark	e	0.50	lb/A	DS	105b	18.3c	6624bc
Palisade	e	4	oz p/A	DS	105b	18.6bc	7301a
2,4-D Amine	e	.0025	lb/A	DS	106ab	18.5bc	7422a
2,4-D Amine	e	.025	lb/A	DS	106ab	19.0a	7625a
2,4-D Amine	e	.25	lb/A	DS	106ab	18.7ab	7247a
ABG-3207	e	1	oz p/A	DS	107a	18.5bc	7412a
ABG-3207	e	10	oz p/A	DS	105ab	18.6bc	7583a
ABG-3207	e	100	oz p/A	DS	105ab	18.6bc	7189a
LSD (.05) =					2	0.4	403
Standard Dev. =					1.7218	.30849	349.12
CV =					1.63	1.66	4.90

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

Table 2. The effects of late-season applications of plant growth regulators to the first crop on second and total crop production. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Rate Unit	Grow Stg	Leaf Density (Leaves/ sq ft) 12 DAH	Panicle Density (pan./sq ft) 20 DAH	Mature Ratoon Pl. Ht. (cm)	Ratoon Grain Moisture (%)	Ratoon Grain Yield (lb/A)	Total Grain Yield (lb/A)
Control					5de	2bcd	69a-d	15.3a	2406ab	9814a
Royal MH-30 SG	d	1.5	lb/A	DS	11ab	10a	67d	15.2a	2300ab	8932b
Royal MH-30 SG	d	3	lb/A	DS	11a	3bcd	69abc	15.5a	2547ab	8830b
Embark	e	0.25	lb/A	DS	8bc	6bc	68cd	15.8a	2367ab	9108b
Embark	e	0.50	lb/A	DS	12a	2bcd	69a-d	15.6a	2493ab	9117b
Palisade	e	4	oz p/A	DS	2e	2bcd	69a-d	15.9a	2403ab	9704a
2,4-D Amine	e	.0025	lb/A	DS	3de	2cd	70ab	15.8a	2198b	9619a
2,4-D Amine	e	.025	lb/A	DS	4de	2cd	71a	15.5a	2443ab	10067a
2,4-D Amine	e	.25	lb/A	DS	2e	1d	71ab	15.8a	2427ab	9674a
ABG-3207	e	1	oz p/A	DS	4de	6ab	70abc	15.9a	2245ab	9657a
ABG-3207	e	10	oz p/A	DS	4de	2bcd	70ab	16.0a	2196b	9779a
ABG-3207	e	100	oz p/A	DS	6cd	0d	69bcd	16.2a	2633a	9822a
LSD (.05) =					3	4	2	0.9	340	424
Standard Dev. =					2.451	3.3391	1.5416	.78399	294.48	367.03
CV =					41.33	110.79	2.23	5.00	12.33	3.86

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

YIELD ENHANCEMENT STUDIES – FIRST AND SECOND CROP

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Mid- and Late-Season Application of Experimental Plant Growth Regulators and Crop Production in Drill-Seeded Rice

General Methodology: See North Unit/General Methodology (pg. 231)

Variety: CL161

Treatment(s): **Plant Growth Regulator**
AgCtr-09
AgCtr-102ag

Timing
Panicle differentiation (PD), 9 June
Heading (HD), 30 June

Pertinent Rainfall: No significant rain after treatment

Experimental Design: Randomized complete block and four replications

Comments: **Plant Growth and Development**

The plant growth regulators (PGRs) affected plant growth and development (Table 1). At approximately 7 days after treatment (DAT), midseason plant heights (distance from the soil surface to the tip of the longest leaf extended vertically) were significantly taller in the PGR treatments applied at PD (104 and 106 cm) compared with the control (93 cm) and PGR treatment applied only at HD (92 cm).

Crop Production – First (Main) Crop

Crop stature, maturity, and production were evaluated at harvest, and only mature plant height was significantly affected (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) was significantly taller in the PGR treatments applied at PD (115 cm) compared with the control (113 cm) and PGR treatment applied only at HD (113 cm). Grain moisture (an indicator of crop maturity) ranged between 18.6 and 19.0% (control = 18.7%). Grain yield (adjusted to 12% moisture) was numerically higher in the PGR treatments applied at midseason (7116 and 7205 lb/A) compared with the control (6870 lb/A) and the PGR treatment applied only at HD (6729 lb/A).

Crop Production – Second (Ratoon) and Total Crop

Crop stature, maturity, and production were evaluated at harvest. None were significantly affected, although grain yield was numerically higher for the PD treatments (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) ranged between 72 and 73 cm (control = 72 cm). Grain moisture (an indicator of crop maturity) ranged between 17.4 and 17.8% (control = 17.7%). Second crop grain yield (adjusted to 12% moisture) was numerically higher in the PGR treatments applied at PD (2274 and 2249 lb/A) compared with the control (2195 lb/A) and the PGR treatment applied only at HD (2159 lb/A). Total crop grain yield was a reflection of main and ratoon crop yield with numerically higher yields in the PGR treatments applied at PD (9390 and 9453 lb/A) compared with the control (9064 lb/A) and the PGR treatment applied only at HD (8888 lb/A).

Table 1. The effects of mid- and late-season applications of experimental plant growth regulators on crop production in drill-seeded CL161. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds Rate	Grow Stg	Pl. Ht. (cm) 7 DAT	1st Crop Pl. Ht. (cm)	1st Crop Grain Moisture (%)	1st Crop Grain Yield (lb/A)	2nd Crop Pl. Ht. (cm)	2nd Crop Grain Moisture (%)	2nd Crop Grain Yield (lb/A)	Total Grain Yield (lb/A)
Control			93b	113b	18.7a	6870a	73a	17.7a	2195a	9064ab
AgCtr-09		PD	104a	115a	18.6a	7116a	72a	17.8a	2274a	9390ab
AgCtr-102ag		HD	92b	113b	18.6a	6729a	73a	17.4a	2159a	8888b
AgCtr-09 AgCtr-102ag		PD HD	106a	115a	19.0a	7205a	73a	17.5a	2249a	9453a
LSD (.05) =			4	1	0.4	608	2	0.8	277	525
Standard Dev. =			2.2867	.58333	.24631	379.96	1.3359	.50494	173.36	328.39
CV =			2.32	0.51	1.32	5.44	1.84	2.87	7.81	3.57

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

PANICLE BLIGHT STUDY

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Late-Season Application of Starner and Experimental Plant Growth Regulators, Disease Control, and Crop Production in Drill-Seeded Rice (Francis)

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Francis

Treatment(s): **Plant Growth Regulator** – AgCtr-PGR-101, 102, 103, 104

Bactericide - Starner (1.785 lb/A)

Timing
Late boot (LB), 29 June
100% Heading (HD), 8 July
Milk stage (MS), 20 July

Pertinent Rainfall: No significant rain within 24 hr after treatment applications except .08 inch 3 hr HD treatment

Experimental Design: Randomized complete block and five replications

Comments:

Crop Production

A natural infestation of panicle blight was low (see grain yield for control versus Starner treatment) and had little effect on the parameters measured (Table 1). Starner is a bactericide that controls panicle blight in rice.

Crop stature, lodging, maturity, and production were evaluated at harvest, and none were affected by the experimental plant growth regulators (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) ranged between 115 and 117 cm (control = 115 cm). AgCtr-PGR-103 applied at HD produced the tallest plants (117 cm). Lodging was absent. Grain moisture (an indicator of crop maturity) was low, indicating delayed harvest and ranged between 10.3 and 11.5% (control = 10.7%). Grain yield (adjusted to 12% moisture) ranged between 6735 and 7402 lb/A for the PGR treatments (control = 7142 and Starner = 7373 lb/A). The highest yielding treatment was AgCtr-PGR-103 applied at HD.

Table 1. The effects of late-season applications of experimental plant growth regulators on crop production in drill-seeded rice (Francis). Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Mature Pl. Ht. (cm)	Grain Moisture (%)	Grain Yield (lb/A)
Control				115a	10.7ab	7142ab
Starner	WP	0.375	LB	115a	10.3b	7373a
AgCtr-PGR-101			HD	116a	10.5ab	7309ab
AgCtr-PGR-102			HD	115a	10.6ab	7142ab
AgCtr-PGR-103			HD	117a	10.9ab	7402a
AgCtr-PGR-104			HD	115a	10.3b	6868ab
AgCtr-PGR-101			MS	115a	10.6ab	6892ab
AgCtr-PGR-102			MS	116a	10.4ab	6735b
AgCtr-PGR-103			MS	115a	11.2ab	7232ab
AgCtr-PGR-104			MS	116a	11.5a	6865ab
AgCtr-PGR-102 AgCtr-PGR-102			HD MS	116a	10.7ab	7091ab
LSD (.05) =				2	1.0	523
Standard Dev. =				1.5591	.77905	409.28
CV =				1.35	7.28	5.77

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

STATURE REDUCTION STUDIES

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Regiment, Plant Stature, and Crop Production in Drill-Seeded Rice

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Earl

Treatment(s): **Herbicide** – Regiment 80 wp (0.4 oz/A) + Kinetic (1.6 fl oz/A)

Timing

3- to 4- Leaf stage (3/4 LF) by sprayer, 5 May
Early tillering stage (ET) by sprayer, 13 May
Late tillering stage (LT) by sprayer, 26 May
Internode initiation (II) by sprayer, 7 June

Pertinent Rainfall: No rain within 24 hr after treatment applications except for ET treatment

Experimental Design: Randomized complete block and four replications

Comments:

Plant Growth and Development

In general, plant height (distance from the soil surface to the tip of the longest leaf extended vertically) was reduced by Regiment (Table 1). Regiment applied at 3/4 LF resulted in plant heights that were 5, 14, 9, and 11 cm less than the control at 15, 22, 29, and 36 days after treatment (DAT). Regiment applied at ET resulted in plant heights that were 10, 1, 3, and 0 cm less than the control at 7, 14, 21, and 28 DAT. Regiment applied at LT resulted in plant heights that were 16, 6, and 4 cm less than the control at 7, 14, and 21 DAT. Regiment applied at II resulted in plant heights that were 2 and 5 cm less than the control at 7 and 14 DAT. All reductions in plant height were significant except for the small (0-3 cm) reductions at 14, 21, and 28 DAT for the ET application. Arrosolo for general weed control followed the 3/4 LF application by 2 days and may have contributed to the effects of Regiment. Rain following the ET application may have reduced the residual activity of Regiment.

Crop Production

Crop stature, maturity, and production were evaluated at harvest, and mature plant height and grain yield were primarily affected (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) ranged between 115 and 124 cm (control = 124 cm). Regiment reduced plant height in general and the least injurious timing was ET when rain followed the application. The LT and II treatments caused the greatest reduction in plant height (9 cm compared with the control). Grain moisture (an indicator of crop maturity) ranged between 14.1 and 15.4% (control = 14.4%). Grain yield (adjusted to 12% moisture) was reduced by Regiment. Grain yield ranged between 6927 and 5837 lb/A (control = 6794 lb/A). Regiment applied at 3/4 LF and II had the greatest impact on yield. The close proximity of the 3/4 LF and Arrosolo and the close proximity of the II growth stage and the beginning of the reproductive phase of growth may have contributed to the effects of Regiment at these timings.

Table 1. The effects of Regiment on plant stature and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 8 DA3/4L	Pl. Ht. (cm) 7 DA-ET	Pl. Ht. (cm) 7 DA-LT	Pl. Ht. (cm) 7 DA-II	Pl. Ht. (cm) 14 DA-II	Mature Pl. Ht. (cm)	Grain Moisture (%)	Grain Yield (lb/A)
Regiment	wp	0		31a	58a	79a	94a	100a	124a	14.4ab	6794a
Regiment	wp	0.4	3/4LF	29a	53b	65b	85c	89c	117ab	15.4a	5837b
Regiment	wp	0.4	ET	31a	48c	78a	91ab	100a	122ab	14.6ab	6927a
Regiment	wp	0.4	LT	31a	58a	63b	88b	96b	115b	14.9ab	6942a
Regiment	wp	0.4	II	30a	57a	78a	92a	95b	115b	14.1b	6155b
LSD (.05) =				4	4	5	3	3	6	1.0	572
Standard Dev. =				2.6124	2.5739	3.0509	2.0248	2.2527	4.1703	.61936	363.1
CV =				8.61	4.72	4.21	2.25	2.35	3.52	4.23	5.56

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

STATURE REDUCTION STUDIES

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Palisade, Regiment, Plant Stature, and Crop Production in Drill-Seeded Rice

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Bengal

Treatment(s): **Plant Growth Regulator** - Palisade 120 ec (4 fl oz/A)

Herbicide – Regiment 80 wp (0.4 oz/A) + Kinetic (1.6 fl oz/A)

Timing – Internode initiation (II) by sprayer, 7 June

Pertinent Rainfall: No rain within 24 hr after treatment applications

Experimental Design: Randomized complete block and three replications

Comments:

Plant Growth and Development

The herbicide had little immediate effect on the activity of the plant growth regulator (Table 1). At 7 days after treatment (DAT), plant height (distance from the soil surface to the tip of the longest leaf extended vertically) was 100, 100, and 97 cm for the control, Palisade, and Palisade with Regiment, respectively. At 14 DAT, the effects were similar with 99, 102, and 99 cm for the control and treatments, respectively.

Crop Production

Crop stature, maturity, and production were evaluated at harvest, and mature plant height and grain yield were significantly affected (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) ranged between 84 and 107 cm (control = 107 cm). Palisade reduced plant height in general and Regiment had little additional affect. Grain moisture (an indicator of crop maturity) ranged between 14.2 and 15.6% (control = 14.2%). Grain yield (adjusted to 12% moisture) was reduced by Palisade. Grain yield ranged between 5520 and 3419 lb/A (control = 5520 lb/A). Palisade and Palisade with Regiment had yields of 3419 and 3658 lb/A, respectively.

Table. 1. The effects of plant growth regulator and herbicide on plant stature and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT	Pl. Ht. (cm) 14 DAT	Mature Pl. Ht. (cm)	Grain Moisture (%)	Grain Yield (lb/A)
Control		0		100a	99a	107a	14.2a	5520a
Palisade	ec	4	II	100a	102a	86b	14.8a	3419b
Palisade Regiment Kinetic	ec wp ec	4 0.4 1.6	II II II	97a	99a	84b	15.6a	3658b
LSD (.05) =				7	5	3	1.4	1038
Standard Dev. =				4.2064	2.6666	1.724	.78173	600.04
CV =				4.25	2.68	1.87	5.26	14.29

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

STATURE REDUCTION STUDIES

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Palisade, Adjuvants, Plant Stature, and Crop Production in Drill-Seeded Rice

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Earl

Treatment(s): **Plant Growth Regulator** - Palisade 120 ec (4 fl oz/A)

Adjuvant – Agridex (32 fl oz/A)
Valent X-77 (4.8 fl oz/A)

Timing – Internode initiation (II) by sprayer, 7 June

Pertinent Rainfall: No rain within 24 hr after treatment applications

Experimental Design: Randomized complete block and three replications

Comments:

Plant Growth and Development

Adjuvants had little immediate effect on the activity of the plant growth regulator (Table 1). At 7 days after treatment (DAT), plant height (distance from the soil surface to the tip of the longest leaf extended vertically) was 92, 91, and 89 cm for Palisade, Palisade with AgriDex, and Palisade with Valent X-77, respectively. At 14 DAT, the effects were similar with 94, 93, and 91 cm for the treatments, respectively.

Crop Production

Crop stature, maturity, and production were evaluated at harvest, and mature plant height and grain yield were significantly affected (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) ranged between 102 and 107 cm (control = 104 cm). Plant height results were inconsistent with Palisade and Valent X-77 producing the tallest plants and Palisade and AgriDex producing the shortest plants. Grain moisture (an indicator of crop maturity) ranged between 14.4 and 14.7% (control = 14.4%). Grain yield (adjusted to 12% moisture) was reduced by adjuvants. Grain yield ranged between 6246 and 5812 lb/A (control = 6246 lb/A). Palisade and Agridex and Palisade and Valent X-77 had yields of 5912 and 5812 lb/A, respectively.

Table 1. The effects of plant growth regulator and adjuvants on plant stature and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Pl. Ht. (cm) 7 DAT	Pl. Ht. (cm) 14 DAT	Mature Pl. Ht. (cm)	Mature Grain Moisture (%0	Grain Yield (lb/A)
Palisade	ec	4	II	92a	94a	104ab	14.4a	6246a
Palisade AgriDex	ec ec	4 32	II II	91a	93a	102b	14.7a	5912b
Palisade Valent X-77	ec ec	4 4.8	II II	89a	91a	107a	14.6a	5812b
LSD (.05) =				5	5	4	0.6	294
Standard Dev. =				2.9999	2.7233	2.0548	.33875	169.88
CV =				3.31	2.94	1.97	2.32	2.84

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

STATURE REDUCTION STUDIES

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Palisade, Plant Population, Nitrogen Fertility, and Crop Production in Drill-Seeded Rice

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Bengal

Treatment(s): **Seeding Rate(s)** – 90 and 150 lb/A

Nitrogen Fertility – 300 and 445 lb urea/A

Plant Growth Regulator - Palisade 120 ec (4 fl oz/A)

Timing

Nitrogen fertility/Preflood (PrFl) by drill and hand, 6 May
Plant growth regulator/Internode initiation (II) by sprayer, 7 June

Pertinent Rainfall: No rain within 24 hr after treatment applications

Experimental Design: Randomized complete block and four replications. Factorial arrangement of treatments with two seeding rates, two nitrogen rates, and two plant growth regulator rates.

Comments: **Seedling Vigor and Midseason Plant Stature**

Seedling population (stand) was significantly affected by seeding rate, and midseason plant stature was affected by seeding rate, nitrogen fertility, and plant growth regulator (Table 1). Stand averaged 12 and 16 plants/ft^2 for the 90 (standard) and 150 (high) lb/A seeding rates, respectively. Plant height (distance from the soil surface to the tip of the longest leaf extended vertically) was measured at 7 and 14 days after treatment (DAT) with Palisade. At 7 DAT, plant height averaged 97 and 99 cm at the standard and high seeding rates and averaged 97 and 99 cm at the standard and high rates of nitrogen fertility. At 14 DAT, plant height was unaffected by seeding and averaged 99 and 100 cm at the standard and high rates of nitrogen fertility. At this time, plant height averaged 99 cm with Palisade compared with 101 cm in the controls.

Crop Production

Crop stature, maturity, and production were evaluated at harvest. Seeding rate and plant growth regulator affected plant height and maturity (Table 1), and yield was decreased by plant growth regulator and the decrease was dependent on seeding rate (Table 2).

Plant height was evaluated as mature plant height (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) averaged 97 and 95 cm at the standard and high seeding rates and was decreased from 107 to 85 cm with the plant growth regulator.

Grain moisture was significantly increased by plant growth regulator (Table 1). Due to delays in harvest, grain moisture was low in general and averaged 15.5% for the plant growth regulator treatments compared with the controls (14%).

Grain yield (adjusted to 12% moisture) was decreased by seeding rate and plant growth regulator and unaffected by high nitrogen fertility (Table 1). Grain yield averaged 6909 and 6452 lb/A at the standard and high seeding rates, respectively. With plant growth regulator, yields averaged 4644 and 3518 lb/A, respectively.

Table 1. The main effects of seeding rate, nitrogen fertility, and plant growth regulator on seedling vigor, midseason plant stature, and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Stand (pl./sq ft) 32 DAP	Pl. Ht. (cm) 7 DAT	Pl. Ht. (cm) 14 DAT	Mature Pl. Ht. (cm)	Mature Grain Moisture (%)	Grain Yield (lb/A)
TABLE OF SEEDING RATE MEANS									
90 lb/A				12a	97a	99	97a	14.6	5776
150 lb/A				16b	99b	100	95b	14.9	4985
TABLE OF NITROGEN FERTILITY MEANS									
140 lb N/A			PrFl	14	97a	99a	96	14.5	5523
200 lb N/A			PrFl	14	99b	101b	96	15.0	5238
TABLE OF PLANT GROWTH REGULATOR MEANS									
Palisade	ec	0		14	99	101a	107a	14.0a	6680
Palisade	ec	4	II	15	98	99b	85b	15.5b	4081

Within the same table, means followed by the same letter do not differ significantly (Duncan's multiple range test, P=.05).

Table 2. The simple effects of seeding rate, nitrogen fertility, and plant growth regulator on seedling vigor, midseason plant stature, and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Grow Stg	Stand (pl./sq ft) 32 DAP	Pl. Ht. (cm) 7 DAT	Pl. Ht. (cm) 14 DAT	Mature Pl. Ht. (cm)	Mature Grain Moisture (%)	Grain Yield (lb/A)
90 lb/A 140 lb N/A Palisade	 ec	 0	 PrFl 	13b	96d	100b	107a	14.4bc	6980a
90 lb/A 140 lb N/A Palisade	 ec	 4	 PrFl II	12b	97cd	98b	87b	15.1b	4867c
90 lb/A 200 lb N/A Palisade	 ec	 0	 PrFl 	13b	99a-d	100b	108a	13.7c	6838ab
90 lb/A 200 lb N/A Palisade	 ec	 4	 PrFl II	13b	97cd	99b	86b	15.1b	4421c
150 lb/A 140 lb N/A Palisade	 ec	 0	 PrFl 	15ab	99abc	99b	105a	13.4c	6603ab
150 lb/A 140 lb N/A Palisade	 ec	 4	 PrFl II	17a	98bcd	98b	83c	15.0b	3643d
150 lb/A 200 lb N/A Palisade	 ec	 0	 PrFl 	14ab	101a	104a	107a	14.5bc	6300b
150 lb/A 200 lb N/A Palisade	 ec	 4	 PrFl II	17a	100ab	100b	83c	16.7a	3394d
LSD (.05) =				3	3	3	3	1.1	612
Standard Dev. =				2.0133	1.8015	2.3417	1.941	.75522	416.17
CV =				14.32	1.83	2.35	2.03	5.12	7.73

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

STATURE REDUCTION STUDIES

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Palisade, Plant Population, Nitrogen Fertility, and Crop Production in Drill-Seeded Rice

General Methodology: See South Unit/General Methodology (pg. 232)

Variety: Earl

Treatment(s): **Seeding Rate(s) –** 90 and 150 lb/A

Nitrogen Fertility – 300 and 445 lb urea/A

Plant Growth Regulator – Palisade 120 ec (4 fl oz/A)

Timing
Nitrogen fertility/Preflood (PrFl) by drill and hand, 6 May
Plant growth regulator/Internode initiation (II) by sprayer, 7 June

Pertinent Rainfall: No rain within 24 hr after treatment applications

Experimental Design: Randomized complete block and four replications. Factorial arrangement of treatments with two seeding rates, two nitrogen rates, and two plant growth regulator rates.

Comments: **Seedling Vigor and Midseason Plant Stature**

Seedling population (stand) was significantly affected by seeding rate, and midseason plant stature was affected by seeding rate, nitrogen fertility, and plant growth regulator (Table 1). Stand averaged 8 and 14 plants/ft^2 for the 90 (standard) and 150 (high) lb/A seeding rates, respectively. Plant height (distance from the soil surface to the tip of the longest leaf extended vertically) was measured at 7 and 14 days after treatment (DAT) with Palisade. At 7 DAT, plant height averaged 97 and 99 cm at the standard and high rates of nitrogen fertility, respectively, and averaged 95 cm in the controls compared with 91 cm with Palisade. At 14 DAT, plant height averaged 95 and 97 cm at the standard and high seeding rates, respectively. At this time, plant height averaged 92 cm with Palisade compared with 100 cm in the controls.

Crop Production

Crop stature, maturity, and production were evaluated at harvest. Nitrogen fertility and plant growth regulator affected plant height (Table 1), and yield was decreased by plant growth regulator at the high seeding rate (Table 2). Crop maturity was unaffected, and the results on maturity may have been diminished by the late harvest (grain moisture below 15%).

Crop stature was evaluated as mature plant height (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) averaged 114 and 118 cm at the standard and high rates of nitrogen fertility, respectively, and was decreased from 124 to 108 cm with the plant growth regulator.

Grain yield (adjusted to 12% moisture) was relatively unaffected by plant growth regulator at the low seeding rate, 7014 lb/A (control) vs. 6842 lb/A. At the high seeding rate, grain yield averaged 6892 lb/A in the control and 6083 lb/A with plant growth regulator (Table 2).

Table 1. The main effects of seeding rate, nitrogen fertility, and plant growth regulator on seedling vigor, midseason plant stature, and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm	Ds Rate	Grow Stg	Stand (pl./sq ft) 32 DAP	Pl. Ht. (cm) 7 DAT	Pl. Ht. (cm) 14 DAT	Mature Pl. Ht. (cm)	Mature Grain Moisture (%)	Grain Yield (lb/A)
TABLE OF SEEDING MEANS									
90 lb/A				8a	92	95a	116	14.7	6928
150 lb/A				14b	94	97b	116	14.2	6487
TABLE OF NITROGEN FERTILITY MEANS									
140 lb N/A			PrFl	12	92a	96	114a	14.3	6754
200 lb N/A			PrFl	10	94b	97	118b	14.6	6661
TABLE OF C MEANS									
Palisade	ec	0		10	95a	100a	124a	14.4	6952
Palisade	ec	4	II	12	91b	92b	108b	14.4	6463

Within the same table, means followed by the same letter do not differ significantly (Duncan's multiple range test, P=.05).

Table 2. The simple effects of seeding rate, nitrogen fertility, and plant growth regulator on seedling vigor, midseason plant stature, and crop production in drill-seeded rice. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm	Ds Rate	Grow Stg	Stand (pl./sq ft) 32 DAP	Pl. Ht. (cm) 7 DAT	Pl. Ht. (cm) 14 DAT	Mature Pl. Ht. (cm)	Mature Grain Moisture (%)	Grain Yield (lb/A)
90 lb/A				9c	93abc	99ab	122b	14.7ab	7078a
140 lb N/A			PrFl						
Palisade	ec	0							
90 lb/A				9c	89c	92cd	107cd	14.6ab	7005a
140 lb N/A			PrFl						
Palisade	ec	4	II						
90 lb/A				7c	96a	99ab	126ab	14.5ab	6950a
200 lb N/A			PrFl						
Palisade	ec	0							
90 lb/A				9c	91abc	91d	111c	14.9a	6680a
200 lb N/A			PrFl						
Palisade	ec	4	II						
150 lb/A				12b	94ab	100a	124ab	14.6ab	6883a
140 lb N/A			PrFl						
Palisade	ec	0							
150 lb/A				17a	91bc	91d	105d	13.3c	6050b
140 lb N/A			PrFl						
Palisade	ec	4	II						
150 lb/A				13b	95ab	103a	126a	13.9bc	6900a
200 lb N/A			PrFl						
Palisade	ec	0							
150 lb/A				13b	96ab	96bc	108cd	14.9a	6117b
200 lb N/A			PrFl						
Palisade	ec	4	II						
LSD (.05) =				3	5	4	4	0.7	516
Standard Dev. =				1.7949	3.1721	2.7363	2.8229	.49661	349.55
CV =				16.36	3.41	2.84	2.43	3.44	5.21

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

RED RICE STUDY – CROP TOLERANCE

R.T. Dunand and R.R. Dilly, Jr.

Experiment: Mid- and Late-Season Application of Growth Suppressants and Crop Production in Drill-Seeded CL161

Location: Rice Research Station, Crowley, LA (Red Rice Area, East Field)

Variety: CL161

Planting Method: Drilled on 7-inch rows

Planting Depth: 0.5 inch

Seeding Rate: 50 lb/A

Fertilizer: 8-24-24 with 3.5% Zn and 2% S at 300 lb/A by drill, 11 May
Urea (46% N) at 220 lb/A by drill, 8 June

Plot Size: 175 ft^2 – 8.75 (15 rows) x 20 ft

Treated Area: 175 ft^2 – 8.75 (15 rows) x 20 ft

Treatment(s): Growth Suppressant (Herbicide/Plant Growth Regulator)

Beyond (2.5 and 5 fl oz/A)
Newpath (2 fl oz/A) – foliar and impregnated on ammonium sulfate (145 lb/A)
Metal flashing was placed around plots treated with fertilizer and removed after 7 days.
Royal MH-30 SG (2.5 lb/A)

Timing

Panicle differentiation (PD), 15 July
Middle boot (MB), 30 July
Milk stage (MS), 26 Aug

Seed Treater: Cement mixer

Sprayer: CO_2-driven, backpack, 35 psi, 15 GPA, 8001VS tips, 20-inch nozzle spacings

Planting Date: 11 May

Emergence: 18 May

Water Management: Flushed, 25 May
Permanent flood (3-inch), 9 June
Preharvest drain, 8 Sept

Pertinent Rainfall: No significant rain within 24 hr after applications.
Extended period of flooding rain shortly after planting.

Pesticide(s): Dithane DF (4 oz/cwt) seed treatment, 17 Mar
Icon (0.9 fl oz/cwt) seed treatment, 17 Mar
Stam (1 gal/A) by ATV, 30 May
Arrosolo (1 gal/A) by ATV, 7 June
Karate (2 fl oz/A) by airplane, 17 June and 23 Aug

Plant Growth Regulator(s): Release (0.35 oz/cwt) seed treatment, 17 Mar

Harvest Date: 16 Sept

Harvested Area: 175 ft^2 – 8.75 (15 rows) x 20 ft

Experimental Design: Randomized complete block and four replications

Comments:

Crop Production

Crop stature, maturity, yield, and milling yield were evaluated at harvest, and none were significantly affected by the mid- and late-season applications of the herbicides and plant growth regulator (Table 1). Mature plant height (distance from the soil surface to the tip of the panicle extended vertically) was relatively constant, ranging between 100 and 101 cm (control = 100 cm). Grain moisture (an indicator of crop maturity) ranged between 17.1 and 18.0% (control = 17.6%). Grain yield (adjusted to 12% moisture) ranged between 4958 and 5426 lb/A (control = 5273 lb/A). Grain yield of the foliar MS application of Royal MH-30 was the lowest yielding treatment, and grain yield of the fertilizer-impregnated PD application of the 4 fl oz rate of Newpath was the highest yielding treatment. Total milling yield (percent of rice remaining after shelling and milling) ranged between 69.8 and 70.7% for all treatments (control = 70.2%). Whole milling yield (percent of rice remaining after shelling, milling, and sieving) ranged between 63.2 and 64.7% for all treatments (control = 63.3%). Milling yields of the foliar MS application of Royal MH-30 were higher compared with the control and other treatments.

Table 1. The effects of mid- and late-season applications of growth suppressants on crop production of drill-seeded CL161. Rice Research Station, Crowley, LA. 2004.

Treatment Name	Fm Ds	Rate	Rate Unit	Grow Stg	Pl. Ht. (cm)	Grain Moisture (%)	Grain Yield (lb/A)	Total Milling (%)	Whole Milling (%)
Control					100a	17.6a	5273a	70.2ab	63.3b
Control				PD	101a	17.9a	5233a	70.0ab	63.0b
Topdress	d	30	lb/A	PD					
Control/Flashing				PD	101a	17.6a	5355a	69.8b	63.3b
Topdress	d	30	lb/A	PD					
Newpath/Flashing	e	2	oz p/A	PD	101a	18.0a	5355a	70.2ab	63.2b
Topdress	d	30	lb/A	PD					
Newpath/Flashing	e	4	oz p/A	PD	101a	17.8a	5426a	70.3ab	63.4ab
Topdress	d	30	lb/A	PD					
Newpath	e	2	oz p/A	PD	101a	17.1a	5150a	70.2ab	63.3b
Newpath	e	4	oz p/A	PD	101a	17.5a	5172a	70.0ab	63.4ab
Beyond	e	2.5	oz p/A	PD	100a	17.2a	5215a	70.3ab	64.0ab
Beyond	e	5	oz p/A	PD	101a	17.8a	5019a	70.2ab	63.5ab
Newpath	e	2	oz p/A	MB	100a	18.0a	5063a	70.2ab	63.8ab
Newpath	e	4	oz p/A	MB	100a	18.0a	5199a	70.2ab	63.8ab
Beyond	e	2.5	oz p/A	MB	101a	17.6a	5252a	70.6a	64.3ab
Beyond	e	5	oz p/A	MB	100a	17.7a	5155a	70.1ab	63.8ab
Royal MH-30 SG	d	1.5	lb/A	MS	100a	17.7a	4958a	70.7a	64.7a
LSD (.05) =					2	0.8	452	0.7	1.1
Standard Dev. =					1.3933	.55159	316.39	.46246	.75419
CV =					1.39	3.12	6.08	0.66	1.19

Means followed by same letter do not significantly differ (Duncan's multiple range test, P=.05).

AQUACULTURE RESEARCH

ANNUAL SUMMARY OF ENVIRONMENTAL CONDITIONS AND CRAWFISH PRODUCTION

W.R. McClain and J.J. Sonnier

Table 1 contains the average weekly data for environmental conditions and crawfish catch, 2003-2004 season, crawfish research project, Rice Research Station, Crowley, La. The catch consisted almost exclusively of red swamp crawfish (*Procambarus clarkii*). The production summary is composed of averages across all experimental plots and management conditions.

Pond History: Ponds were fallow for 10 months following a previous crawfish production season prior to planting of the rice crops. Rice crops were planted in April 2003, and fields were stocked with brood crawfish at rate of 65 lb/A from 29 May - 1 July.

Soil Type: Crowley silt loam

Water Source: Ground water

Pond Area: Twelve 1-acre ponds

Forage Crops: Rice (‘Cocodrie’) was broadcast seeded on 28 Apr 2003 at 120 lb/A. Grain was harvested by a rice combine on 27 Aug 2003, and a ratoon forage crop was subsequently managed for crawfish production.

Permanent Flood Date: 10 Oct

Trap Type: 3-funnel pyramid trap (constructed of 0.75-inch hexagonal-mesh wire, 0.75-inch square-mesh wire, and 0.875-inch square-mesh wire)

Bait Used: Manufactured (*Cajun World*, Purina Mills, Inc., St. Louis, MO; *Southern Pride*, Country Acres Feed, Inc., Brentwood, MO; or fish (heron, gizzard shad, or menhaden)

Crawfish Harvest: 18 or 24 traps/A; 30 Jan - 30 Jun 2004, (62 total days of harvesting for an average of 1302 trap-sets/A)

Crawfish Grades: Harvested crawfish were subjected to a grader (passive, water type) and sorted into three size-grade categories as follows: “Large” - ≤ 15 count/lb, “Medium” - 16-21 count/lb, and “Small” - > 21 count/lb

Table 1. Annual environmental conditions and crawfish production (averaged or totaled weekly). Rice Research Station, Crowley, LA. 2003-2004.

Weeks	Soil Temp.[1] Min.	Soil Temp.[1] Max.	Air Temp. Min.	Air Temp. Max.	Water Temp. Min.	Water Temp. Max.	Avg. D.O.[2]	Total Rainfall	Large Crawfish Count	Crawfish Harvest	Crawfish Size	Total Trap-sets
	-------------------------deg.F-------------------------						(mg/L)	(inches)	(#/trap)	(lb/A)	(cnt/lb)	(#/A)
Jun 1-7	77.9	89.1	72.0	87.7				4.33				
Jun 8-14	77.6	90.6	72.3	89.1				3.24				
Jun 15-21	77.0	87.0	72.4	87.0				7.95				
Jun 22-28	80.3	91.4	73.6	90.3				1.50				
Jun 29-Jul 5	77.7	85.7	73.6	85.7				0.70				
Jul 6-12	80.0	90.9	72.6	88.9				2.72				
Jul 13-19	79.7	91.9	74.0	89.7				0.32				
Jul 20-26	80.6	90.0	74.7	90.1				1.64				
Jul 27-Aug 2	79.7	91.9	74.1	90.9				1.00				
Aug 3-9	84.3	95.0	76.0	93.0				0.00				
Aug 10-16	83.0	92.4	72.3	89.1				0.64				
Aug 17-23	82.3	93.6	74.4	94.0				0.55				
Aug 24-30	81.3	91.4	74.9	91.6				1.50				
Aug 31-Sept 6	75.7	85.9	72.7	86.4				1.20				
Sept 7-13	76.9	89.7	70.0	86.3				1.64				
Sept 14-20	76.1	90.4	69.0	87.3				0.52				
Sept 21-27	74.1	83.9	67.4	83.9				1.52				
Sept 28-Oct 4	68.9	82.9	54.9	78.7				0.00				
Oct 5-11	72.9	82.1	65.3	82.7				3.45				
Oct 12-18	68.6	78.1	59.6	80.1	69.7	75.1	0.53	0.00				
Oct 19-25	67.9	80.3	58.3	82.7	69.1	74.3	1.28	0.00				
Oct 26-Nov 1	63.1	71.7	57.9	73.7	64.5	69.6	2.84	0.90				
Nov 2-8	68.4	80.2	58.9	80.6	68.5	72.7	0.65	0.00				
Nov 9-15	65.1	75.7	53.3	75.1	62.8	67.9	1.26	0.00				
Nov 16-22	60.4	69.9	53.0	75.1	62.1	66.2	3.01	2.32				
Nov 23-29	52.3	64.3	42.7	66.1	54.6	59.8	4.79	3.60				
Nov 30-Dec 6	50.3	61.3	39.6	64.4	52.6	56.9	4.99	0.00				
Dec 7-13	46.9	57.4	37.0	59.0	49.3	53.7	6.87	0.50				
Dec 14-20	45.7	56.3	36.6	57.7	47.6	52.4	6.24	1.15				
Dec 21-27	46.7	58.1	36.1	61.4	50.1	54.8		0.20				
Dec 28-Jan 3	52.6	62.3	46.6	66.9	55.0	59.3		1.45				

Continued.

Table 1. Continued.

Weeks	Soil Temp.[1] Min.	Soil Temp.[1] Max.	Air Temp. Min.	Air Temp. Max.	Water Temp. Min.	Water Temp. Max.	Avg. D.O.[2]	Total Rainfall	Large Crawfish Count	Crawfish Harvest	Crawfish Size	Total Trap-sets
	----------------------deg.F----------------------						(mg/L)	(inches)	(#/trap)	(lb/A)	(cnt/lb)	(#/A)
Jan 4-10	49.7	57.6	39.6	55.9	49.1	54.1	7.45	1.72				
Jan 11-17	49.3	59.9	43.1	61.4	52.4	56.5	4.58	1.40				
Jan 18-24	47.4	58.6	37.9	57.4	49.7	54.8	7.01	0.00				
Jan 25-31	47.7	58.4	39.4	60.4	49.6	55.1	3.95	3.00	4.0	4.1	20.6	21
Feb 1-7	48.7	62.7	39.9	60.4	49.6	55.0	5.70	1.83				
Feb 8-14	48.2	53.7	39.8	54.5	48.5	51.8		4.55	5.3	17.9	18.7	63
Feb 15-21	49.2	58.3	42.2	61.8	50.9	57.1	7.65	0.00	7.2	15.5	19.6	42
Feb 22-28	52.9	60.1	44.1	61.6	53.1	57.9	8.08	0.76	9.8	25.3	16.3	42
Feb 29-Mar 6	59.9	66.1	58.3	74.3	63.7	69.3	2.95	0.10	7.6	27.6	17.4	63
Mar 7-13	59.3	70.0	47.0	76.0	60.2	68.5	2.45	0.00	8.3	31.5	16.5	63
Mar 14-20	62.6	70.1	57.7	73.6	65.8	75.0	1.71	1.35	9.2	35.0	16.2	63
Mar 21-27	63.0	74.0	54.3	73.6	62.6	76.0	4.66	0.00	6.5	25.4	16.1	63
Mar 28-Apr 3	65.1	75.0	52.6	77.7	65.5	79.1	2.59	0.38	5.2	21.7	15.1	63
Apr 4-10	67.1	78.0	57.6	77.9	68.7	82.0	2.36	1.25	6.0	25.7	14.7	63
Apr 11-17	59.4	72.7	51.7	71.6	62.4	75.4	6.84	0.91	5.9	27.2	13.7	63
Apr 18-24	69.1	80.7	64.6	80.1	70.7	81.3	2.80	0.00	5.1	31.4	13.5	84
Apr 25-May 1	66.9	78.9	62.0	78.9	69.0	79.5	3.96	5.25	7.3	36.2	12.8	63
May 2-8	65.6	81.4	57.0	77.0	70.1	82.6	4.23	1.60	7.8	40.7	12.2	63
May 9-15	73.3	83.9	66.7	83.0	74.2	83.8		5.74	9.3	36.3	10.8	42
May 16-22	72.4	81.4	69.4	82.4	75.0	86.5	1.43	4.70	8.4	49.3	10.7	63
May 23-29	77.4	86.0	71.3	85.7	77.1	91.9	2.97	0.00	7.4	45.5	10.2	63
May 30-Jun 5	79.0	85.0	73.3	88.9	79.1	91.4	2.40	0.62	6.1	39.9	9.6	63
Jun 6-12	78.0	84.6	73.4	89.9	80.2	94.0	1.71	0.00	5.4	29.5	11.5	63
Jun 13-19	79.3	86.3	72.0	88.0	80.8	91.7		2.32	4.9	35.4	11.6	84
Jun 20-26	78.9	85.0	72.7	85.7	78.8	85.2		8.64	5.2	21.6	15.1	63
Jun 27-Jul 3	77.4	82.9	73.0	86.3	81.1	89.0		2.78	3.9	10.0	16.3	42
Jul 4-10	77.3	85.6	72.9	87.3	83.4	91.5		1.18				
								79.08[3]		**632.80**		**1302**

[1] Soil temperature was measured at a depth of 4 inches.
[2] Dissolved oxygen readings were taken about 8:00 a.m.
[3] Rainfall total is for one year only (June 1, 2003 - May 31, 2004) and does not include additional rainfall for the extended harvest period (June-July 2004).

EFFECTS OF TRAP DESIGN AND TRAP DENSITY ON CRAWFISH YIELD IN A RICE-CRAWFISH FIELD ROTATIONAL MANAGEMENT APPROACH

W.R. McClain and J.J. Sonnier

INTRODUCTION

Harvesting is the highest variable cost (50-70% of total operating costs) for crawfish producers, and bait alone accounts for 30 to 40% of the total in Louisiana's 130,000-acre crawfish aquaculture industry. The standard commercial trap used by crawfish farmers is the pyramid configuration. For three decades, traps were made from ¾-inch PVC hexagonal-shaped PVC-coated wire. However, in recent years, nearly all traps sold were constructed of ¾-inch square-mesh welded PVC-coated wire. The square-mesh material provides for a much sturdier trap than the hex configuration, thus increasing the useful life of the trap. Anecdotal evidence indicates that crawfish catch is increased by the square-mesh material. One study at the Rice Research Station in 2003 documented a 39% average increase in catch, from 525 to 728 lb/A, with ¾-inch square-mesh traps compared with the old industry standard ¾-inch hexagonal-mesh traps.

The geometrical configuration of the square mesh retains slightly smaller crawfish than the hexagonal wire, thereby increasing catch; however, traps constructed of square-mesh wire may also be more efficient because of the increased structural integrity, which allows trap bottoms and funnel openings to retain their original shape better, thus increasing catch efficiency.

Because of the apparently higher catch efficiency of the square-mesh trap, current harvest recommendations on trap density based on conventional traps may no longer be valid. Based on over a decade of research in well-managed ponds producing in excess of 1,000 lb/A, 20 to 24 hex-mesh traps/A were found to be the most efficient and economical trap density. Potentially, fewer traps of the square-mesh design with less bait and labor may be used to achieve optimum yield and with a significant savings in harvesting cost and increased profit for farmers. Notwithstanding, many wholesale buyers are expressing concern over the increased quantity of smaller crawfish being harvested with traps made from 3/4-inch square-mesh wire. Thus, trap manufacturers are now marketing traps made from 7/8-inch square-mesh wire.

Trap density and trap catch efficiency are major determinants in bait use and cost, as well as having an effect on crawfish size at harvest, and thus marketability. Refinement of trap density and trap types has potential to reduce bait and labor costs, increase harvest size, and increase production efficiency. Therefore, this study was conducted to obtain additional data with regard to trap density and the square-mesh design used under a typical rice-crawfish field rotational strategy.

Pond History: Ponds were fallow for 10 months following a previous crawfish season. Rice crops were planted in April 2003, and fields were stocked with brood crawfish and management to simulate commercial rice/crawfish rotational systems typical to the region.

Soil Type: Crowley silt loam

Pond Area: Ten 1-acre ponds

Forage Crop: Rice (variety 'Cocodrie') was broadcast seeded at 120 lb/A on 28 Apr 2003. Grain was harvested on 27 Aug 2003, and the ratoon forage crop was managed for crawfish production.

Fertilizer: Main Crop: 8-24-24 at 250 lb/A post plant application; 46-0-0 at 200 lb/A (topdress) on 27 May, 46-0-0 at 125 lb/A (topdress) on 21 June; Ratoon Crop: 21-0-0 at 200 lb/A (topdress) on 9 Sept.

Herbicide: Arrosolo at 1 gal/A and Londax at 1 oz/A on 14 May; Arrosolo at 1 gal/A on 26 May

Insecticide: None, field was drained on 10 June and remained dry for 11 days for rice water weevil control

Stocking Rate: 65 lb/A from 29 May -1 July

Rice Harvest Date: 27 Aug

Permanent Flood Date: 10 Oct

Feed: None

Trap Type and Density: 3-funnel pyramid trap at either 18 or 24 traps/A. Trap density and design constituted the experimental treatments in a 3x2 factorial design. _Factor 1_ was trap-mesh size and/or configuration. **Treatment 1** was composed of 0.75-inch square-mesh wire traps; **Treatment 2** was composed of 0.875-inch square-mesh wire traps; and **Treatment 3** was composed of a 50:50 mixture of 0.75-inch square and 0.75-inch hexagonal-mesh wire traps. _Factor 2_ was trap density and consisted of either **18** or **24** traps/A.

Bait Used: Manufactured (*Cajun World*, Purina Mills, Inc., St. Louis, MO; *Southern Pride*, Country Acres Feed, Inc., Brentwood, MO; or fish (heron, gizzard shad, or menhaden)

Crawfish Harvest: 30 Jan - 30 June 2004, (62 days for a total of 1302 trap-sets/A)

Crawfish Grades: Harvested crawfish were subjected to a grader (passive, water type) and sorted into three size-grade categories as follows: "Large" - ≤ 15 count/lb, "Medium" - 16-21 count/lb, and "Small" - > 21 count/lb

Exp. Design: Factorial arrangements of treatments in a completely randomized design (two replications per treatment combination)

Parameters: Crawfish yield (total and by size grade) and crawfish size at harvest

Statistical Analysis: Analysis of variance

Support: USDA Special Grants – Aquaculture

Comments: Results are presented in the following table. Significant differences were not observed either in trap density or in mesh size/configuration. Using only the data from ¾-inch square-mesh traps (with an average annual yield of 623 lb/A), the trap density of 24/A resulted in only 48.5 additional lb/A, or 8%, higher yield than ponds with a density of 18 traps/A. Assuming an average bait cost (½ fish and ½ manufactured bait) of $24 per hundred pounds, and 1/3 pound of bait per trap over 63 days of trapping, bait cost alone for the additional 6 traps/A would result in an increased cost of $29/A, or $.60/lb for the additional yield. These initial findings indicate that lower trap densities, with ¾-inch square-mesh traps, may be justified. Although the lower trap density in this one study did not lower yields significantly, additional studies are needed under an array of environmental and cultural conditions to confirm lower trap density recommendations with square-mesh traps and to determine the most cost-efficient trap densities under various conditions of culture.

Table. Annual crawfish yield (total and by size category) with traps constructed of different size and configuration of mesh wire and used at different densities. Total yields were not significantly different (P>0.05) among mesh configuration/size or density treatments. Rice Research Station, Crowley, LA. 2004.

Summary By Mesh Size/Configuration								
¾-Inch Square-Mesh Traps			**7/8-Inch Square-Mesh Traps**			**3/4-Inch Mix-Mesh Traps**[1]		
Grade	**Yield (lb/A)**	**% of Total**	**Grade**	**Yield (lb/A)**	**% of Total**	**Grade**	**Yield (lb/A)**	**% of Total**
Large	392.3	62.9	Large	456.2	69.8	Large	441.3	71.1
Med	148.3	23.8	Med	146.8	22.4	Med	124.9	20.1
Small	82.8	13.3	Small	51.0	7.8	Small	54.8	8.8
Total	623		**Total**	653		**Total**	621	

Summary By Trap Density						
18 Traps/Acre				**24 Traps/Acre**		
Grade	**Yield (lb/A)**	**% of Total**		**Grade**	**Yield (lb/A)**	**% of Total**
Large	427.4	70.0		Large	432.5	66.0
Med	130.6	21.4		Med	149.4	22.8
Small	52.9	8.7		Small	72.9	11.1
Total	610			**Total**	654	

[1]Consisted of equal numbers of 0.75-inch square- and 0.75-inch hex-mesh traps.

A PRELIMINARY DETERMINATION OF EFFICACY FOR AN EXPERIMENTAL, FORMULATED CRAWFISH BAIT

W.R. McClain, R.P. Romaire, and J.J. Sonnier

INTRODUCTION

Nearly 50 to 60% of the harvest effort in crawfish ponds occurs from late November through mid-March, a time when water temperatures are low and bait needs are met almost solely by "fresh-frozen" fish baits, mainly menhaden and gizzard shad. Crawfish farmers and fishermen use fresh or fresh-frozen fish for crawfish bait in cooler water (< 68^{o}F) – not by choice, but by necessity. Manufactured baits are far less expensive and require no refrigerated storage or further handling. However, the low catch with current commercially available formulated crawfish baits in cool water (usually two to four times lower than fish baits) generally does not justify their use until waters warm and vegetative food resources begin to deplete in late March-early April. The price of fish bait ($600 to $680/ton) is nearly double that of manufactured baits and, notwithstanding the higher price for fish bait, locally available fish species are often in short supply, necessitating the shipments of other species into Louisiana from as far away as the Great Lakes and upper East Coast.

The high cost and erratic supply of typical fish baits have led some to experimenting with manufactured bait products and formulations for use in cool water crawfish trapping. Some of these baits have appeared on the market without published test results. One company is experimenting with a molasses-based bait product that is of a proprietary formulation. This project received a small sample of the test bait for preliminary testing under realistic conditions of culture.

Because most of the acreage in crawfish production in Louisiana is managed under either a crawfish monocropping or rice-crawfish field rotational approach, with greatly differing dynamics, this test bait was tested under both main production scenarios. The LSU AgCenter maintains two separate crawfish research facilities in different regions of the state. Each unit manages research ponds that are not only typical of the respective geographical region but also are designed to simulate the primary production strategy of that region. The facility at the Rice Research Station in Crowley is located in the center of the rice-crawfish rotational cropping region of the state, and the experimental ponds are designed to simulate low-levee, rice-field crawfish production. The facility at the Rice Research Station was used for testing the proprietary bait under a common rice-crawfish rotational strategy, and only those results are reported here. It should be noted however, that the conditions of this test were not conducted under the preferred cool water scenario because the test bait arrived too late in the season. Nonetheless, the test was carried out under warm water conditions, typically the more common period for use of formulated baits.

Pond Area: The pond used in this study was a 1-acre rectangular section adjacent to, and managed as, ponds used in the previous study: ***Effects of Trap Design and Trap Density on Crawfish Yield in a Rice-Crawfish Field Rotational Management Approach***. Treatments of other trials did not interfere with those of this study.

Forage Crop: Rice (variety 'Cocodrie') was harvested on 27 Aug 2003 and the ratoon forage crop was managed for crawfish production.

Experimental Period: Five harvest days beginning May 18 and ending 31 May 2004

Objective: To compare crawfish catch per unit effort (CPUE) with an experimental test bait to that of a commonly used and accepted formulated, commercially manufactured crawfish bait.

Bait: The test bait is of a proprietary and experimental formulation and is simply referred to as a molasses-based bait. The commercial bait was chosen as the control because it has worked well in warm water and has been successfully used by the Louisiana crawfish industry for more than a decade. Because no endorsement is meant to be implied by these results, the control bait is simply referred to as Brand X. Approximately 1/3-pound of bait portions per trap was used.

Traps: ¾-inch hexagonal-mesh pyramid crawfish traps

Experimental Protocol: A completely randomized block design with 15 traps per treatment and replicated over 5 days. Location within the pond constituted the blocking factor. Traps were emptied after varying trap soak (or set) intervals. All traps were emptied of crawfish prior to baiting, and crawfish catches per day were collectively weighed and graded by treatment.

Feed: None

Water Temperature: Average daily water temperatures during the testing period ranged from 76.0 to 85.1^{o}F.

Crawfish Grades: Crawfish were subjected to a grader (passive, water type) and sorted into three grade categories per day per treatment as follows: "Large" - ≤ 15 count/lb, "Medium" - 16-21 count/lb, and "Small" - > 21 count/lb.

Parameters: Crawfish yield (total and by size grade) and crawfish size at harvest

Support: USDA Special Grants – Aquaculture and an unrestricted corporate gift

Comments: Results, by day, for the commercial Brand X bait and molasses-based test bait are presented in Tables 1 to 5. Statistical analyses were not conducted because of the limited number of observations. However, despite the preliminary nature of this study and limited number of observations, an apparent trend in bait effectiveness was obvious. The test bait, under this set of conditions, was generally inferior to the control bait, an industry standard, especially at normal trap-set intervals (24 hr). As the set intervals were shortened, differences in efficacy were reduced. Based on these data and general observations, the disparity in catch was most likely caused by premature depletion of bait in the trap. After the first day, no residuals of the molasses test bait were observed when emptying the traps. Bait residue persistence was observed at about 5 hr or less and appeared to be related to water temperature (hence, the efficacy in the last 5-hr test may have been lower than the first 5-hr test due to higher water temperatures).

Catch effectiveness of the test bait at very short trap-set intervals equaling or nearly equaling the control bait indicated that the attractant quality may be suitable and as effective as one of the current industry standards under this particular set of conditions. However, it should be noted that late in the season when much of the food resources have been depleted and water temperatures and crawfish metabolic activity are high, many bait formulations will work and often are very similar in their effectiveness. Nonetheless, these results suggest that with improved bait stability and retention ability, this experimental bait formulation may have potential similar to other commercial crawfish baits, at least under warm water trapping conditions. Further research is necessary to determine whether the experimental bait may have potential as an effective cool water bait.

Table 1. Day 1, Crawfish catch with ¾-inch hexagonal-mesh traps, baited at 10:00 am and emptied after a 24-hr set following a 4-day interval from last harvest to baiting. *Note: Test bait was not visible in 2 of 3 traps after 5 hours post baiting.* Rice Research Station, Crowley, LA. 2004.

Bait	Crawfish Yield (lb): Total and by Grade Category										Avg. Yield Per Trap
		Grade 1 (Large)			*Grade 2 (Medium)*			*Grade 3 (Small)*			
	Total Yield	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	
Test Bait	9.99	8.29	83.0	10.2	1.50	15.0	16.7	0.20	2.0	20.2	0.67
Control Bait	17.33	15.63	90.2	9.6	1.48	8.5	14.9	0.22	1.3	22.7	1.16
Difference[1]	***58***	***53***			***101***			***91***			***58***

[1]Results with test bait as percentage of the control.

Table 2. Day 2, Crawfish catch with ¾-inch hexagonal-mesh traps, baited at 10:00 am and emptied after a 24-hr set following previous day of harvesting (5.5-hr interval from last harvest to baiting). Rice Research Station, Crowley, LA. 2004.

Bait	Crawfish Yield (lb): Total and by Grade Category										Avg. Yield Per Trap
		Grade 1 (Large)			*Grade 2 (Medium)*			*Grade 3 (Small)*			
	Total Yield	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	
Test Bait	7.66	6.31	82.4	10.2	1.15	15.0	16.6	0.20	2.6	25.2	0.51
Control Bait	11.63	9.08	78.1	10.2	2.31	19.8	15.1	0.24	2.1	20.6	0.77
Difference[1]	***66***	***69***			***50***			***83***			***66***

[1]Results with test bait as percentage of control.

Table 3. Day 3, Crawfish catch with ¾-inch hexagonal-mesh traps, baited at 3:30 pm and emptied after a 17-hr set following previous day of harvesting (5.5-hr interval from last harvest to baiting). Rice Research Station, Crowley, LA. 2004.

Bait	Crawfish Yield (lb): Total and by Grade Category										Avg. Yield Per Trap
		Grade 1 (Large)			*Grade 2 (Medium)*			*Grade 3 (Small)*			
	Total Yield	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	
Test Bait	8.51	6.26	73.6	10.2	2.14	25.1	15.4	0.11	1.3	27.2	0.57
Control Bait	10.12	7.34	72.5	11.0	2.18	21.6	15.6	0.60	5.9	25.2	0.67
Difference[1]	***84***	***85***			***98***			***18***			***84***

[1]Results with test bait as percentage of control.

Table 4. Day 4, Crawfish catch with ¾-inch hexagonal-mesh traps, baited at 8:00 am (following a 5-day interval from last harvest to baiting) and emptied after a 5-hr set. Rice Research Station, Crowley, LA. 2004.

Bait	Crawfish Yield (lb): Total and by Grade Category										Avg. Yield Per Trap
		Grade 1 (Large)			Grade 2 (Medium)			Grade 3 (Small)			
	Total Yield	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	
Test Bait	8.97	7.12	79.4	10.4	1.65	18.4	17.5	0.20	2.2	20.2	0.60
Control Bait	8.84	6.66	75.3	11.0	1.85	21.0	13.5	0.33	3.7	24.2	0.60
Difference[1]	***101***	***107***			***89***			***61***			***100***

[1]Results with test bait as percentage of control.

Table 5. Day 5, Crawfish catch with ¾-inch hexagonal-mesh traps, baited at 9:00 am (following a 3-day interval from last harvest to baiting) and emptied after 5-hr set. Rice Research Station, Crowley, LA 2004.

Bait	Crawfish Yield (lb): Total and by Grade Category										Avg. Yield Per Trap
		Grade 1 (Large)			Grade 2 (Medium)			Grade 3 (Small)			
	Total Yield	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	Yield	% of Total	Count per lb	
Test Bait	5.27	4.30	81.6	9.0	0.79	15.0	18.9	0.18	3.4	22.7	0.35
Control Bait	7.19	6.33	88.0	11.2	0.82	11.4	18.4	0.04	0.6	22.7	0.48
Difference[1]	***73***	***68***			***96***						***73***

[1]Results with test bait as percentage of control.

DETERMINATION OF HARVEST PROFILE, BY MONTH, FOR DIFFERENT CRAWFISH PRODUCTION STRATEGIES

W.R. McClain, R.P. Romaire, and J.J. Sonnier

INTRODUCTION

Methods for producing crawfish can best be described by two major approaches – crawfish monocropping and multi-crop rotational systems – although, many variations within a main approach are common. Crawfish is the sole crop harvested in monoculture systems, and production typically occurs in permanent ponds. This strategy is the production method of choice for many small farms or where marginal lands are available and unsuited for other crops. Permanent ponds, or sites devoted to at least several consecutive production cycles, are typically used for this strategy. Pond size and production input for this approach range from large (more than 300 acres) impounded wetlands with little management to small (less than 15 acres) intensively managed systems. The main advantage of a monocropping strategy is that producers can manage for maximum crawfish production without the various concerns associated with other crops, such as pesticide exposure, seasonal limitations, and other constraints. Yields tend to be highest in these types of systems, and harvesting usually commences sooner each year because of a large number of "holdover" animals and less synchronized reproductive cycles, which allow for numerous early recruits.

Crop rotation systems that include crawfish always involve rice and often soybeans. In these rotational systems, crawfish are either rotated with rice in the same physical location year after year, or crawfish are cultured in different locations each year to conform to typical field rotations of the crops. Most of the integrated farming systems in Louisiana that employ crawfish as a rotational crop use the latter, field rotational strategy. Advantages of the rotational cropping systems are many and include efficient use of land, labor, and farm equipment. Moreover, some fixed cost and the cost of rice establishment can be amortized over two crops instead of just one. Among the disadvantages for the crawfish producer with the field rotational approach are the need to restock yearly, less consistent and sometimes lower yields, and often a delay in the initiation of the harvest.

The LSU AgCenter maintains two separate crawfish research facilities in different regions of the state. Each unit manages research ponds that are not only typical of the respective geographical region but also are designed to simulate the primary production strategy of that region. The facility at the Rice Research Station in Crowley is located in the center of the rice-crawfish rotational cropping region of the state, and the experimental ponds are designed to simulate low-levee, rice-field crawfish production. The facility in Baton Rouge, adjacent to the Mississippi River, is designed to simulate typical permanent ponds, representative of crawfish monocropping systems that prevail east of the Atchafalaya River Basin.

This study compiled data from experimental ponds that were managed to closely simulate both typical commercial production strategies to determine differences in the timing of the harvest and seasonal profiles of the yield. Data were collected over a 10-year period, beginning in 1991, at the Aquaculture Research Station and Rice Research Station of the LSU AgCenter.

Crawfish harvesting data from the Rice Research Station from nine selected years (between 1991 and 2004) were also used to plot the relative amount of harvesting effort against the percentage of annual yield realized by month.

Data: Harvesting data were collected from the Rice Research Station (Crowley, LA) and the Aquaculture Research Station (Baton Rouge, LA) between 1991 and 2004. Data were from multiple experimental ponds at each location and represented varied environmental and biological conditions and included numerous replications. Data were only from ponds that were managed to simulate typical commercial production strategies of either monocropping or rice-crawfish field rotational strategies. Data that represented ponds where non-typical or extreme experimental treatments were imposed were excluded from the dataset. Therefore, the dataset (and resulting findings) closely approximates commercial production practices and conditions, albeit, the data were derived from well-managed systems using small experimental ponds.

Experimental conditions: A myriad of conditions existed during the time period, such as variations in trap density, harvesting effort, bait used, and trap design, but all were within the range of conditions found in, or recommended for, well-managed crawfish ponds. All data were derived from rice forage systems, either in a monocropping approach or rice-crawfish rotational strategy. Harvesting strategies were largely dictated by typical marketing forces.

Comments: Based on pond design and management strategies that simulated commercial production in both permanent ponds (Aquaculture Research Station) and rotational ponds (Rice Research Station), typical harvest profiles for each scenario were developed and are presented in Figure 1. It should be noted that harvesting was justified as early as November in a monoculture production approach in permanent ponds, while harvesting was not generally justified until January or later in a typical rotational cropping approach. By the end of March in the experimental ponds, only 29% of the annual harvest was realized with rotational ponds; 47% was achieved in the permanent ponds. This is significant because crawfish prices are customarily much higher early in the season and usually drop considerably after Easter. Peak yields for both categories of ponds occurred in April, and while yields from permanent ponds declined rapidly (in part because of low demand for smaller size crawfish), yields from rotational ponds (producing larger crawfish because of lower densities) continued until July in some years. This complement of production strategies benefits consumers by extending the availability of quality crawfish over a longer season and benefits producers by lessening the potential for oversupply in the marketplace while providing unique benefits to the producers of each production approach.

The relationship of harvesting effort (or total number of trap sets) to crawfish catch is shown in Figure 2 and is presented by month. Because of differences in catch per unit effort (CPUE), the ratio of catch to effort was expectedly highest for April and May and lower earlier in the season. Unexpected was the difference in catch to effort for June and beyond. The low ratio at the end of the season was partly due to the need to fill orders when fishing frequency may not have been fully warranted, but largely, the CPUE was decreased because of a decreasing crawfish density because of depletion from harvesting. These relationships are important to the producer who has to deal with price fluctuations and relative stable harvesting costs but are also useful in explaining the trend of higher retail prices of crawfish early in the season. Although crawfish prices are often low in June/July when harvesting costs remain unchanged, producers may still realize an economic benefit from harvesting, even at the reduced CPUE, because many of the overhead expenses have been captured by earlier returns.

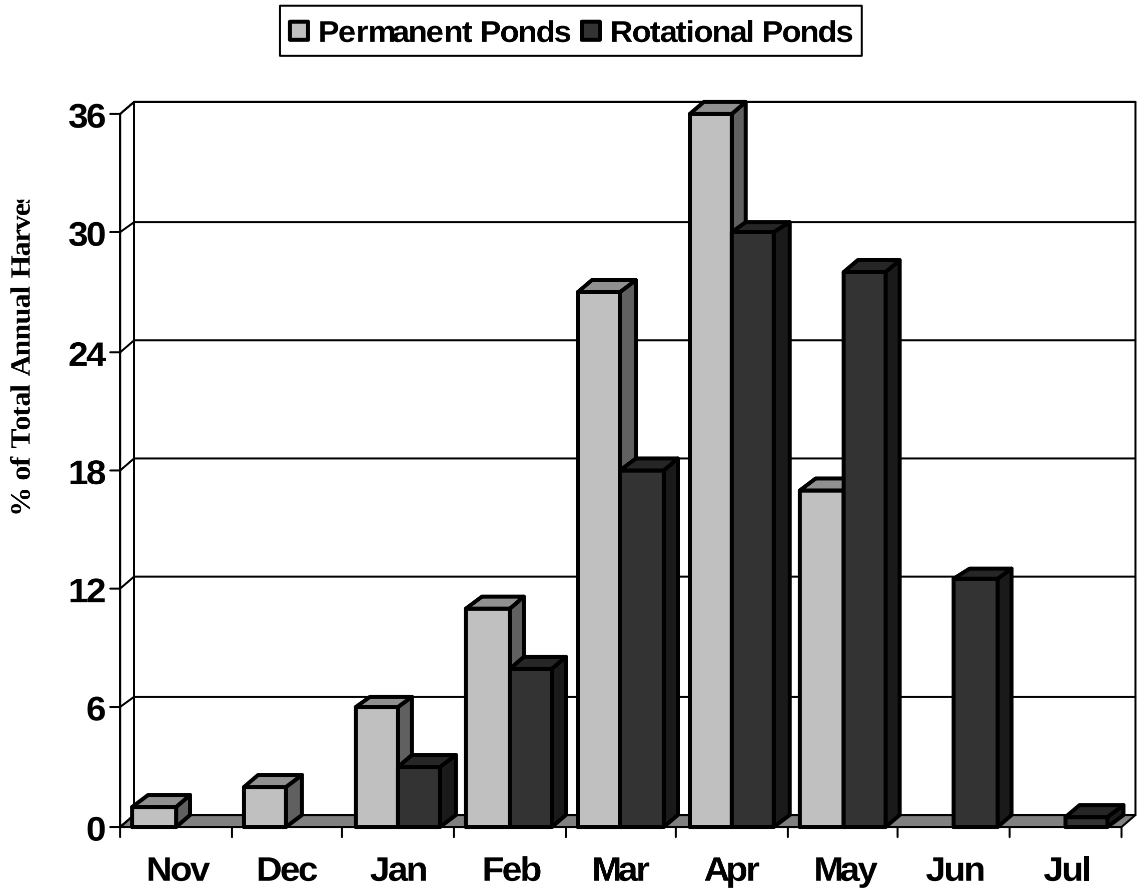

Figure 1. Average crawfish yield, by month, from experimental ponds managed to simulate either commercial crawfish monocropping or rice-crawfish rotational production scenarios. Rice Research Station, Crowley, LA. 2004.

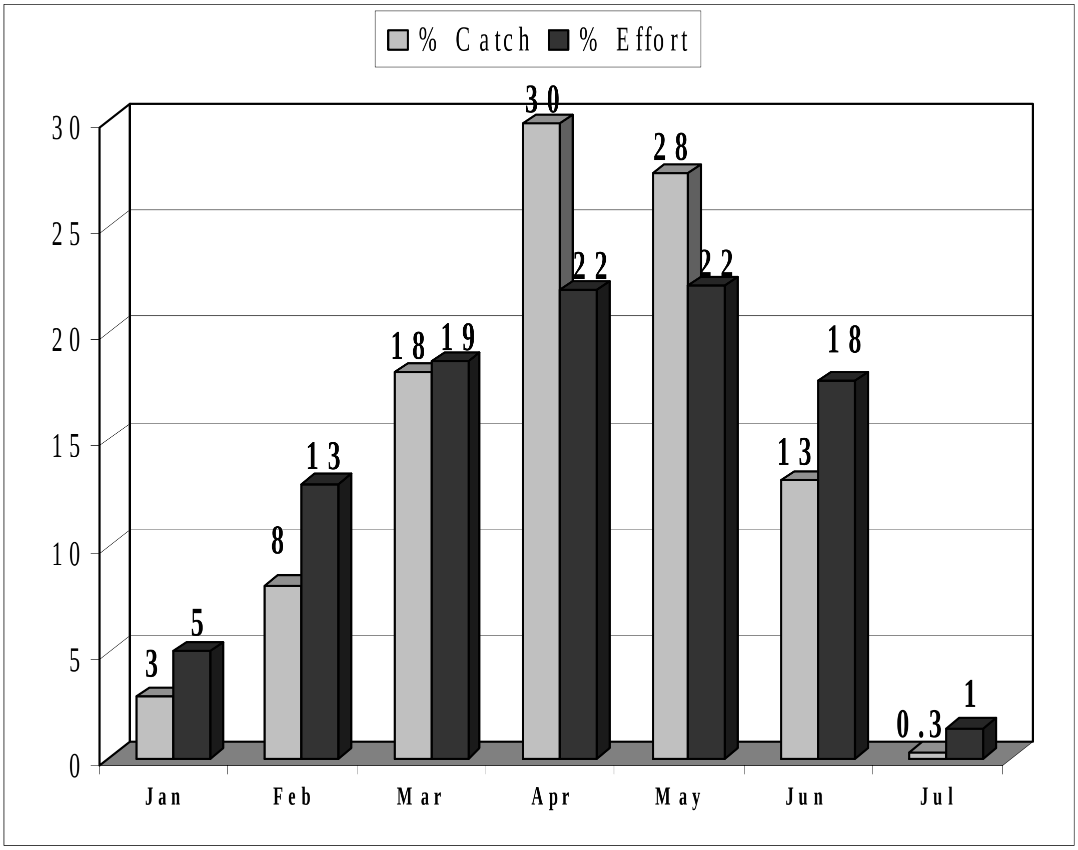

Figure 2. Percent of total annual harvest (% catch), by month, and the associated percentage of annual harvest effort (based on total trap-sets), by month, for a simulated rice-crawfish rotational production strategy. Rice Research Station, Crowley, LA. 2004.

EVALUATION OF SELECTED ASPECTS OF CRAWFISH REPRODUCTION WITH IMPLICATIONS FOR AFFECTING PRODUCTION

W.R. McClain, R.P. Romaire, and J.J. Sonnier

INTRODUCTION

Production of crawfish from aquaculture operations in Louisiana is highly variable from year to year and is exceedingly unpredictable. The most probable contributor to crawfish production variability is related to aspects of crawfish reproductive biology. Unlike most other forms of aquaculture, crawfish production does not rely on controlled reproduction and stocking of known numbers of young produced in hatcheries; rather, crawfish aquaculture depends solely on natural reproduction from indigenous and/or supplemented broodstock. Ironically, scientists and practitioners probably know less about the reproductive biology of crawfish and of factors that influence reproductive success or failure than most other aspects of this animal relating to production. Little research has addressed aspects of reproductive biology of crawfish, especially as they relate to aspects of production, probably because of other biological and economic concerns within the industry but also most probably because of the inherent difficulty of investigating this complex biological function that normally occurs in subsurface burrows.

Excessive reproduction can lead to overpopulation, food shortages, and stunted or sub-marketable size animals. Poor reproduction results in low yields and low economic returns. Reproductive failure is more common when crawfish production occurs in a rotational crop with rice, now the major production strategy in Louisiana. In a rotational cropping scenario, there is a need to restock crawfish each year because there is little opportunity for residual populations to flourish when fields are not continuously used for crawfish culture as with monocropping ponds. However, because so little is known of the cause and effect relationships of the many factors influencing reproductive success, few recommendations are available to producers for managing this aspect of crawfish aquaculture. Therefore, this study was undertaken to investigate aspects of crawfish reproductive biology that may be related to important aspects of crawfish production.

The main objectives of this study were: (1) to compare the physiological condition, survival, spawning, and fecundity of female crawfish broodstock obtained from ponds receiving late-season supplemental feeds to non-fed ponds to ascertain the influence of supplemental nutrition prior to summer burrowing on subsequent reproductive performance and (2) to determine whether there are differences in survival and reproductive traits of brood female crawfish that voluntarily burrow compared with those forced to burrow from intentional pond dewatering.

Artificial Burrow System: Multiple half-gallon plastic containers (with lids) filled with 2 cups of soil and a similar volume of aged pond water served to simulate conditions inside naturally constructed crawfish burrows. The containers were each stocked with single female crawfish and housed in an environmentally controlled laboratory. Temperature in the lab was maintained at about 81°F to provide amenities and conditions approaching that of earthen burrows during the typical burrow occupation (reproductive period) of summer/early autumn.

Crawfish: Mature crawfish (*Procambarus clarkii*) were collected (via baited traps) from open waters of either fed or non-fed ponds (Objective 1) or from either open water (via baited traps), burrows constructed prior to pond draining, or from burrows constructed after pond draining (Objective 2). A random portion (n=10) of each was dissected and assessed for body condition, and the remaining portion of crawfish from each collection was placed directly in the artificial burrows.

Chronology: Crawfish were collected from open waters via baited wire-mesh traps on 29-30 June. Burrows constructed prior to pond draining were flagged during June, ponds were drained on 6 July, and crawfish were extracted from both pre-drain- and post-drain-constructed burrows shortly after pond draining.

Survival/Reproduction Assessment: Artificial burrows were inspected monthly for 6 months beginning in Aug, and crawfish were examined for survival and reproductive success. Spawned crawfish were dissected (following release of young) for tissue index and moisture content, and young were counted. Non-reproducing crawfish were dissected for tissue analysis at completion of the study (20 Jan 2005).

Treatments: Treatments consisted of crawfish collected from fed or non-fed ponds, and crawfish collected from open water or from natural burrows constructed both prior to and after pond draining.

Feed: A commercial pelleted crustacean feed (25% crude protein) was offered twice per week, at 40 lb/A, for 4 weeks prior to crawfish collection.

Parameters: Crawfish survival, reproduction status, number of offspring, and tissue moisture

Statistical Analysis: General Linear Model procedure in SAS, means separated by Duncan's multiple range test

Support: Louisiana Crawfish Promotion and Research Board and USDA Special Grants – Aquaculture

Comments: Survival and reproductive response variables for crawfish subjected to artificial burrows following collection are presented in Table 1. Based on the summaries, very noteworthy observations have emerged. Short-term offerings of feed in this study significantly improved survival and reproduction of female broodstock within the burrows. Hepatopancreas moisture levels (significantly lower with feed) illustrate that fed animals were in better physiological condition, which indicates that improved nutritional status may significantly aid in the survival and fecundity of crawfish broodstock – an invaluable finding for possible development of more effective management strategies for crawfish production. It was also observed that animals extracted from self-constructed burrows had significantly higher survival and reproduction than animals collected from open waters via baited traps. The important inference from this observation is that trap-harvested crawfish may not be conditioned for immediate reclusion to the burrow. The practical implication of this would be a required holding period from stocking to pond draining because nearly all broodstock are trap-harvested. Pond draining shortly after stocking may result in poor recruitment from the introduced broodstock. It should be noted however, that these results are very preliminary, being derived from a limited number of observations and representative of a limited set of biological and environmental conditions. Therefore, further studies are required for corroboration.

Table 1. Selected response variables for female crawfish broodstock collected and held in artificial burrows for reproduction following treatments of feeding or no feeding prior to burrowing, and crawfish collected from open water (via traps) or excavated from burrows constructed either before pond draining or following pond draining of non-fed ponds. Values within columns, by section, with the same superscript were not significantly different ($P > 0.05$). Rice Research Station, Crowley, LA. 2004.

						% Moisture in Tissue	
Treatment[1]	**Wt. (g)**	**% Survived**	**% Spawned[2]**	**% Spawned[3]**	**Avg. No. Young**	**Hepat.**	**Abdom.**
Fed	35.3	82.1^{A}	78.2^{A}	95.3^{A}	414^{A}	84.6^{B}	88.9^{A}
Non-Fed	37.8	72.2^{B}	48.4^{B}	66.7^{B}	420^{A}	86.0^{A}	89.1^{A}
						% Moisture in Tissue	
Treatment[4]	**Wt. (g)**	**% Survived**	**% Spawned[2]**	**% Spawned[3]**	**Avg. No. Young**	**Hepat.**	**Abdom.**
Open Water	42.3	58.8^{B}	23.5^{B}	40.0^{B}	325^{A}	87.6^{A}	89.9^{A}
Pre-Drain Burrows	30.1	95.0^{A}	90.0^{A}	94.7^{A}	446^{A}	84.4^{B}	88.3^{B}
Post-Drain Burrows	34.2	88.1^{A}	81.0^{A}	91.9^{A}	407^{A}	86.8^{A}	90.1^{A}

[1] From crawfish collected via traps and from burrows constructed prior to pond draining
[2] Based on initial number of replicates
[3] Based on surviving animals only
[4] Data from non-fed ponds only

FORAGE BIOMASS PRODUCTION AND PERSISTENCE OF COMMON RICE VARIETIES IN A RICE-CRAWFISH FIELD ROTATIONAL STRATEGY

W.R. McClain, S.D. Linscombe, and J.J. Sonnier

INTRODUCTION

Of the 130,000 acres of crawfish ponds in Louisiana, most are involved in crop rotational strategies. Rice farming provides the basis for rotational strategies involving crawfish. Because rice prices are near historical lows and farming expenses are at all-time highs, many rice producers have integrated crawfish culture into their farming operations to increase income and make efficient use of available resources. Historically, crawfish has been included as an off-season crop for many rice farmers for decades; however, inputs were usually minimal and derived income was considered "extra." Crawfish culture is now regarded by most rice farmers as an indispensable component of their integrated farming systems.

There are two basic rotational strategies used where crawfish production is integrated with rice farming. In both strategies, crawfish culture follows the rice harvest and the crop residue and regrowth serves as crawfish forage. In a rice-crawfish-rice approach, crawfish and rice are grown in rotation to achieve two crops each year. Rice is grown and harvested during the summer while crawfish are grown in the same field from autumn to spring. In the more common strategy, field rotations of the rice crop are employed and, therefore, crawfish culture then occurs in field rotations on the farm. Though this approach requires more land to accommodate the staggering of crops in different fields each year, it is the preferred cropping system for larger commercial rice farmers. Advantages include better management of each crop and an extended crawfish production season.

Rotational cropping allows for efficient use of land, labor, and farm equipment, and costs can be amortized over two or more crops. However, in both crop rotational strategies, the forage crop utilized for crawfish production is derived from rice varieties chosen and bred for the propensity to produce high grain yields. Few comparisons have been made regarding how well the various rice varieties perform (as a ratoon forage crop) under the extended flooded conditions of a subsequent crawfish pond. Variety selection for use in rice-crawfish rotational cropping systems is mostly limited to a few high grain-yielding varieties normally carried by seed companies. Because new and improved varieties are regularly emerging, seed availability of any given variety is often limited to only a few years. Therefore, extensive testing of the various rice varieties under varying conditions of crawfish culture is usually futile because of the relatively short-lived demand for most varieties from a grain production standpoint. Therefore, this study was undertaken to ascertain a cursory comparison of several common rice varieties currently used for grain production in Louisiana. Biomass production and persistence data were obtained from the ratoon crop under typical crawfish production conditions and with a modest density of crawfish.

Pond Area: Two 1-acre ponds

Rice Varieties: Pirogue (short grain), Bengal (medium grain), Cypress (long grain), CL161 (long grain, Newpath-resistant), Francis (long grain), Cheniere (long grain), and Cocodrie (long grain)

Planting Date and Method: Rice was drilled seeded on 20 Apr 2003

Plot Size: 11 x 225 ft, with non-planted buffer between plots; seven plots (treatments) per pond, with treatments duplicated in separate ponds

Main Crop Fertilizer: 8-24-24 at 250 lb/A post plant application on 30 Apr.; 46-0-0 at 200 lb/A (topdress) on 27 May; 46-0-0 at 125 lb/A (topdress) on 21 June

Crawfish Stocking Rate: 65 lb/A from 29 May -1 July
Rice Harvest: 27 Aug

Ratoon Crop Fertilizer: 21-0-0 at 200 lb/A (topdress) on 9 Sept

Ratoon Crop Water Management: Flushed on 28 Aug and as needed until permanent flood

Permanent Flood Date: 10 Oct

Crawfish Harvest: Crawfish were harvested from ponds for a total of 62 days (at 18 traps/A) for an average yield of 690 lb/A

Forage Sampling: Standing crop biomass was determined from random samples in duplicate monthly. All plant materials (both living and dead) were collected from a 0.5 m^2 area in each plot and dried to a constant weight at 150°F

Parameters: Dry forage biomass, collected monthly after flood-up

Comments: Average monthly forage biomass (dry weight basis) for the seven rice varieties is plotted in Figure 1 for comparisons. Values were generally similar for all varieties, and few practical recommendations can be drawn from these results because of the limited number of observations, restricted set of environmental conditions, and low magnitude of the differences. Nonetheless, some trends appear apparent. The variety with the greatest production of biomass was Francis, while Cocodrie produced the lowest amount of ratoon biomass. Besides Francis, the top three in maximum biomass production were Cypress, Bengal, and Pirogue. Bengal reached its peak biomass in December, whereas all others had peaked in November and were declining by December. More important than maximum biomass production is perhaps biomass availability late in the season. This is often critical to continued growth and acceptable crawfish harvest size. Pirogue and Bengal seemed to have a slight edge in late-season forage biomass. Pirogue was observed to have the greatest amount of green regrowth after spring warming. Overall, of those varieties tested, Cheniere and Cocodrie seemed to express the least desirable traits in a ratoon forage crop and Bengal and Pirogue seemed to have a slight edge over the long grains. Despite these seemingly advantages and disadvantages in forage traits, it should be noted that differences in crawfish yield were not examined. It should be further noted that management inputs, such as planting and harvesting date, amount and timing of fertilizer, and water management are likely to impact forage crop production and performance far greater than variety selection. With the limitations on rice variety selection for rotational cropping systems, variety consideration will likely only be pertinent for “fine tuning” after other management inputs are optimized.

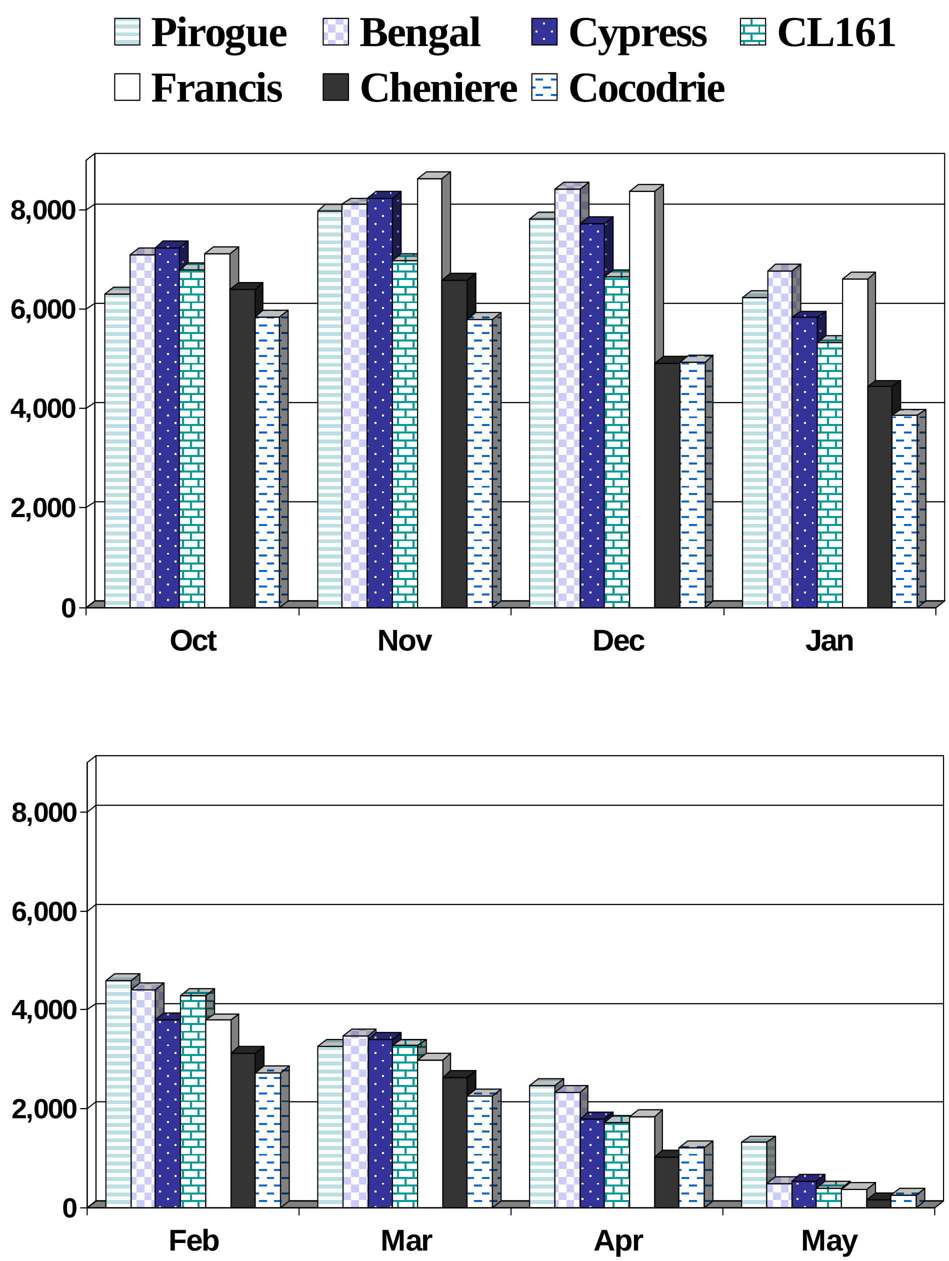

Figure 1. Total forage biomass (lb/A dry weight), by month, for various rice varieties managed as a ratoon crop in a simulated rice-crawfish field rotational approach. Rice Research Station, Crowley, LA. 2004.

PRELIMINARY INVESTIGATION OF THE TOXICITY OF TWO EXPERIMENTAL RICE INSECTICIDES

W.R. McClain, M.J. Stout, and J.J. Sonnier

INTRODUCTION

Crawfish are cultivated in Louisiana by over 1,200 growers who, in 2003, produced about 73 million pounds in 130,000 acres of ponds. The crop was valuated at about $ 47.5 million. Crawfish production is largely located in the south central region and is scattered among the many rice farms. In fact, crawfish and rice production are well integrated and co-exist in rotational cropping systems where the rice field is subsequently used to produce crawfish. Moreover, most of the acreage used to produce crawfish in the state is managed in a rice-crawfish rotational system. Under this production strategy, there is a short overlap in seasons, whereby newly planted rice fields are dispersed among crawfish ponds during the peak crawfish production season. Rice and crawfish ponds are often in close proximity and commonly are separated only by a narrow road or levee.

In recent years, numerous incidents have occurred whereby crawfish production was halted or seriously damaged due to pesticide drift from an application to a nearby rice field, at great economic loss to the crawfish producer. A reduction in available insecticides have led more rice farmers to use the pyrethroid class of insecticides for rice water weevil control, which are typically applied in aerial applications, resulting in drift. A small amount of drift of the highly toxic pyrethroid compounds into a crawfish pond can be very detrimental to the affected crawfish producer.

Efforts are under way to investigate alternative rice insecticide compounds and/or alternative methods of application, both to mitigate problems with drift and crawfish and also for efficacy, economical, and resistance concerns. Among several products investigated by AgCenter researchers for their effects on the rice water weevil, two compounds were also investigated for potential toxic impacts on crawfish.

One "pyrethroid like" granulated compound (Etofenprox) and one granular neonicotonoid insecticide (Dinotefuran) were evaluated for their efficacy in control of the rice water weevil under field conditions (see reports by M. Stout and R. Pousson, ***Water- and Drill-Seeded Tests of Etofenprox*** and ***Water- and Drill-Seeded Tests of Dinotefuran*** for details of those studies). Individual caged crawfish were placed in the field plots in selected treatments of those tests after establishment of the permanent flood but prior to insecticide application and observed for mortality or toxicity. Toxicity trials were as follows: Trial 1 = evaluations of Etofenprox at different rates and Icon-treated seed in a water-seeded test; Trial 2 = evaluations of Dinotefuran at different rates and Icon-treated seed in a water-seeded test; Trial 3 = evaluations of Dinotefuran at different rates and Furadan in a drill-seed test.

Rice Variety and Seeding Rate: ***Trial 1***, Cocodrie, 140 lb/A; ***Trial 2***, Cocodrie, 140 lb/A; ***Trial 3***, Cocodrie, 90 lb/A

Planting Date: ***Trial 1***, Apr 22, 2004; ***Trial 2***, May 5; ***Trial 3***, May 27

Water Management: ***Trial 1*** – Planting flood, Apr 22; drained, Apr 27; permanent flood, May 18 (rice at 3- to 4-leaf stage); ***Trial 2*** – Planting flood, May 5; drained, May 10; flushed, May 12; permanent flood, May 24 (rice at 3-leaf stage); ***Trial 3*** – Flushed, May 31; permanent flood, June 18 (rice at 3- to 4- leaf stage).

Treatments: ***Trial 1*** – Untreated control (UTC); Icon, 0.04 lb ai/A; Etofenprox 1.5% granular, 300 g ai/ha – mid rate; Etofenprox 1.5% granular, 600 g ai/ha – high rate; ***Trial 2***, Untreated control (UTC); Icon, 0.04 lb ai/A; Dinotefuran 1.5% granule, 300 g ai/ha – mid rate; Dinotefuran 1.5% granule, 600 g ai/ha – high rate; ***Trial 3***, Untreated control (UTC); Dinotefuran 1.5% granule, 300 g ai/ha – mid rate; Dinotefuran 1.5% granule, 600 g ai/ha – high rate; Furadan, 0.6 lb ai/A, applied at the same time as dinotefuran

Treatment Date: ***Trial 1***, May 24 (except that Icon was applied as a seed treatment); ***Trial 2***, June 10 (except that Icon was applied as a seed treatment); ***Trial 3***, July 6

Experimental Design: Crawfish were randomly placed in plots where original treatments were assigned based on a randomized complete block design.

Crawfish: Red swamp crawfish (*Procambarus clarkii*); ***Trials 1 and 3***, 12 reps (individual crawfish) per treatment of which 1/3 were immature and remainder were mature. ***Trial 2***, four reps (individual crawfish) per treatment of which all were mature. Approximately half of all crawfish, by treatment by maturity, were females.

Data: Original crawfish were observed for overt toxicity systems or death up to 1 week post-treatment application, and cages were replaced with fresh animals after 1, 3, and 10 days post treatment for ***Trial 1;*** 4 and 11 days post treatment for ***Trial 2;*** and 3 and 7 days post treatment for ***Trial 3***.

Comments: No overt signs of toxicity were observed for crawfish for any of the trials; however, death, presumably associated with treatments, was observed. The following tables chronicle mortality data over time for both original crawfish and fresh replacements. In Trial 1, it was apparent that Etofenprox was highly toxic to crawfish under the conditions of this trial for both the high and medium application rates. A high percentage of fresh animals exposed 3 days after the insecticide application were found dead after 24 hours of exposure. The conclusions with regard to Dinotefuran were not as apparent. In Trial 2, although the number of replications was low, few mortalities were observed. Some mortalities were observed with regard to Dinotefuran treatments in Trial 3, but elevated water temperatures confounded this experimental trial. Although Dinotefuran appeared to be less toxic to crawfish than Etofenprox under the limited conditions of this test, further work is needed to ascertain the practical risk of application when crawfish are present. Further tests are also necessary to determine the "safe entry" period for crawfish in waters where either of these compounds were used.

Table 1. Mortality of original crawfish 1, 3, and 7 days after treatment in Trial 1. Rice Research Station, Crowley, LA 2004.

		1 day after treatment		**3 days after treatment**		**7 days after treatment**	
Treatment	**No. Stocked**	No. Dead	% Dead	No. Dead	% Dead	No. Dead	% Dead
High*	12	12	100	-	-	-	-
Medium*	12	12	100	-	-	-	-
Icon	12	1	8.3	1	8.3	3	25
Control	12	0	0	1	8.3	1	8.3

* Medium and high treatments are in reference to application rate of Etofenprox.

Table 2. Mortality of 24-hr replacements after 1 and 2 days post replacement in Trial 1. Rice Research Station, Crowley, LA 2004.

		1 day after replacement		**2 days after replacement**	
Treatment	**No. Repl.**	No. Dead	% Dead	No. Dead	% Dead
High*	12	9	75	11	92
Medium*	12	8	67	8	67
Icon	1	0	0	0	0

* Medium and high treatments are in reference to application rate of Etofenprox.

Table 3. Mortality of 72-hr replacements after 1 and 4 days post replacement in Trial 1. Rice Research Station, Crowley, LA. 2004.

		1 day after replacement		**4 days after replacement**	
Treatment	**No. Repl.**	No. Dead	% Dead	No. Dead	% Dead
High*	11	7	64	8	73
Medium*	8	5	63	6	75
Control	1	0	0	0	0

* Medium and high treatments are in reference to application rate of Etofenprox.

Table 4. Mortality of 10-day replacements[1] after 4 and 7 days post replacement in Trial 1. Rice Research Station, Crowley, LA. 2004.

		4 days after replacement		**7 days after replacement**	
Treatment	**No. Repl.**	No. Dead	% Dead	No. Dead	% Dead
High*	12	2	17	2	17
Medium*	12	1	8	1	8
Icon	12	1	8	2	17
Control	12	0	0	0	0

* Medium and high treatments are in reference to application rate of Etofenprox.

[1] Cages, whether containing original or replacement animals, were refilled with fresh crawfish after 10 days.

Table 5. Water temperatures (^{o}F) during Trial 1. Minimum/maximum temperatures between non-contiguous dates represent the extreme ranges for those timeframes. Rice Research Station, Crowley, LA. 2004.

Date	**Min.**	**Max.**	**Median**
5/26/2004	73	96	85
5/27/2004	72	92	82
5/28/2004	74	92	83
5/31/2004	74	92	83
6/03/2004	73	94	84
6/07/2004	75	94	85
6/08/2004	78	93	86
6/10/2004	76	91	84

Table 6. Mortality of original crawfish 1, 4, and 7 days after treatment in Trial 2. Rice Research Station, Crowley, LA. 2004.

		1 day after treatment		4 days after treatment		7 days after treatment	
Treatment	**No. Stocked**	No. Dead	% Dead	No. Dead	% Dead	No. Dead	% Dead
High*	4	0	0	1	25	1	25
Medium*	4	0	0	0	0	0	0
Icon	4	1	25	1	25	1	25
Control	4	0	0	0	0	0	0

* Medium and high treatments are in reference to application rate of Dinotefuran.

Table 7. Mortality of 4-day replacements after 1, 3, and 7 days post replacement in Trial 2. Rice Research Station, Crowley, LA 2004.

		1 day after treatment		3 days after treatment		7 days after treatment	
Treatment	**No. Repl.**	No. Dead	% Dead	No. Dead	% Dead	No. Dead	% Dead
High*	1	0	0	0	0	0	0
Icon	1	0	0	0	0	0	0

* High treatment is in reference to application rate of Dinotefuran.

Table 8. Mortality of 11-day replacements[1] after 3 and 7 days post replacement in Trial 2. Rice Research Station, Crowley, LA. 2004.

		3 days after treatment		7 days after treatment	
Treatment	**No. Repl.**	No. Dead	% Dead	No. Dead	% Dead
High*	6	0	0	0	0
Medium*	4	0	0	1	25
Icon	4	0	0	0	0
Control	5	1	20	1	20

* Medium and high treatments are in reference to application rate of Dinotefuran.

[1] Cages, whether containing original or replacement animals, were refilled with fresh crawfish after 11 days.

Table 9. Water temperatures (^{o}F) during Trial 2. Minimum/maximum temperatures between non-contiguous dates represent the extreme ranges for those time frames. Rice Research Station, Crowley, LA. 2004.

Date	**Min.**	**Max.**	**Median**
6/11/2004	76	97	87
6/14/2004	73	99	86
6/15/2004	74	90	82
6/17/2004	78	92	85
6/21/2004	77	103	90
6/24/2004	74	96	85
6/28/2004	72	91	82

Table 10. Mortality of original crawfish 1, 3, and 7 days after treatment in Trial 3. Rice Research Station, Crowley, LA. 2004.

		1 day after treatment		3 days after treatment		7 days after treatment	
Treatment	**No. Stocked**	No. Dead	% Dead	No. Dead	% Dead	No. Dead	% Dead
High*	12	0	0	2	16.7	0	16.7
Medium*	12	4	33.3	4	33.3	4	33.3
Furadan	12	2	16.7	3	25.0	3	25.0
Control	12	0	0	0	0	0	0

* Medium and high treatments are in reference to application rate of Dinotefuran.

Table 11. Mortality of 3-day replacements after 4 and 7 days post replacement in Trial 3. Rice Research Station, Crowley, LA. 2004.

		4 days post replacement		7 days post replacement	
Treatment	**No. Repl.**	No. Dead	% Dead	No. Dead[1]	% Dead[1]
High*	2	0	0	2	100
Medium*	3	1	33.3	2	66.7
Furadan	3	0	0	3	100

* Medium and high treatments are in reference to application rate of Dinotefuran.
[1] Elevated mortality at 7 days likely due to high temperatures (see Table 13).

Table 12. Mortality of 7-day replacements[1] after 3 days post replacement in Trial 3. Rice Research Station, Crowley, LA. 2004.

Treatment	**No. Repl.**	**No. Dead[1]**	**% Dead[2]**
High*	10	9	90.0
Medium*	9	6	66.7
Furadan	9	5	55.6
Control	12	11	91.7

* Medium and high treatments are in reference to application rate of Dinotefuran.
[1] Cages, whether containing original or replacement animals, were refilled with fresh crawfish after 7 days.
[2] Elevated mortality likely due to high temperatures (see Table 13).

Table 13. Water temperatures (°F) during Trial 3. Minimum/maximum temperatures between non-contiguous dates represent the extreme ranges for those time frames. Rice Research Station, Crowley, LA. 2004.

Date	**Min.**	**Max.**	**Median**
7/7/2004	79	91	85
7/9/2004	77	95	86
7/13/2004	74	102	88
7/16/2004	81	107	94

RICE ANTHER CULTURE BREEDING

APPLICATION OF DOUBLED HAPLOID TECHNOLOGY TO DEVELOP ELITE SOUTHERN U.S. LINES

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In 2004, 219 new crosses were made by using bridging parents, which have high yield, resistance to blast and sheath blight, and high regeneration ability. The field materials were composed of 103 F_2 populations, 20,000 progeny rows, 200 entries in Preliminary Yield (PY) tests, 20 entries in Advanced Yield (AY) tests, and 10 entries in the URRN and Commercial Advanced tests. Dozens of doubled haploid (DH) lines with various new plant types have been created, selected, and advanced. These lines recombine the genes from various DH parents. Many new types have shown moderately compact plants, with erect leaves, which differ from Cocodrie and Cheniere, and have more tillers with thick canopy density that differ from Wells and Francis. The panicle sizes of the new lines are comparable with Cocodrie and Francis. Superior breeding lines developed so far have widened the genetic diversity of current cultivars. Among the 784 selected lines that were harvested, 344 lines showed the row weights, which surpass 350 grams while conventional check Cocodrie averages 310 grams per row.

Table 1 summarizes the anther culture responses of breeding material from this project. A total of 428,280 anthers were plated. About 27,522 plants were regenerated with mean anther culturability at 6.49%. Two crosses were anther cultured to establish the mapping populations for sheath blight resistance (Table 2). These breeding materials and genetic stock were evaluated for further advance in various breeding nurseries.

The data from the PY trial indicated that 20 of 100 DH lines showed similar or better yields than Cocodrie (7,797 lb/A). PY797 (CCDR/9770532DH2), PY773 (AC425DH2/AC431DH2), PY848 (CCDR/ 9770532DH2), PY781 (AC110DH3/0043752), and PY774 (AC425DH2/ AC636DH1) showed yield increases of 9.6, 8.3, 5.7, 5.6, and 2.3%, respectively (Table 3). The AY data indicated that three of 20 DH entries showed better yields than Cocodrie. AY13, AY7, and AY2 showed 4.1, 3.5, and 1.8% yield increases compared with Cocodrie (7,734 lb/A) (Table 4). Five of these lines (AY and PY) will be advanced to the 2005 URRN and Commercial Advanced tests.

Yield data of the URRN trial (LA, AR, MS, MO, and TX) showed that 10 DH lines performed well. LA2011 (9,169 lb/A), LA2128 (8,523 lb/A), LA2071 (8,380 lb/A), LA2091 (8,170 lb/A), and LA2062 (8,100 lb/A) were ranked 1st, 4th, 8th, 21st, and 24th among 200 entries. The results are promising compared with the best entries from AR (3rd, 8,534 lb/A), TX (65th, 7,561 lb/A), and MS (72nd, 7503 lb/A) (Table 5).

The Commercial Advanced yield trial revealed that six DH lines (LA2011, LA2071, LA2091, LA2062, LA2085, and LA2128) showed similar or better yields than Cocodrie. The average yields of these lines from eight locations (RRS, Mowata, Mamou, Jeff Davis, Lake Arthur, Pine Island, Morehouse, and St. Joe) are ranked 1st, 2nd, 3rd, 5th, 7th, and 11th when compared with other varieties in the trials (Table 6).

The DH lines provided by this project not only demonstrate high yields but also show wide adaptability in statewide and multi-state yield trials. Based on above results, two lines are under consideration for seed increase and potential release. LA2011 is a medium-grain, semidwarf, very high-yielding DH line. This line was ranked first in 2004 URN tests. LA2128 is a long-grain, semidwarf, very high-yielding DH line.

Table 1. Anther culturabilities from various anther culture crosses in 2004. Rice Research Station, Crowley, LA. 2004.

Anther Culture Cross No.	Generation	AP[1]	CP[2]	CR[3]	PR[4]	AC[5]
257	F5	1440	20	1.4%	5	0.3%
268	F5	3120	250	8.0%	60	1.9%
274	F5	720	150	20.8%	10	1.4%
305	F5	1680	1400	83.3%	365	21.7%
404	F5	600	100	16.7%	5	0.8%
754	F4	840	350	41.7%	95	11.3%
761	F4	1440	1210	84.0%	271	18.8%
762	F4	2760	860	31.2%	780	28.3%
763	F4	1080	470	43.5%	345	31.9%
771	F4	600	90	15.0%	98	16.3%
773	F4	480	70	14.6%	25	5.2%
804	F4	1320	260	19.7%	33	2.5%
861	F4	600	80	13.3%	60	10.0%
885	F4	480	30	6.3%	5	1.0%
886	F4	1800	510	28.3%	20	1.1%
890	F4	1920	130	6.8%	58	3.0%
891	F4	1680	80	4.8%	5	0.3%
892	F4	120	20	16.7%	5	4.2%
920	F4	4680	410	8.8%	94	2.0%
922	F4	600	110	18.3%	20	3.3%
923	F4	1200	230	19.2%	54	4.5%
929	F4	600	110	18.3%	50	8.3%
931	F4	1200	460	38.3%	165	13.8%
933	F4	120	260	216.7%	80	66.7%
934	F4	600		0.0%	107	17.8%
936	F4	1440	170	11.8%	33	2.3%
944	F4	480	70	14.6%	8	1.7%
964	F4	2040	1130	55.4%	55	2.7%
1012	F4	1320	210	15.9%	25	1.9%
1019	F4	480	100	20.8%	10	2.1%
1025	F2	2280	180	7.9%	10	0.4%
1029	F2	1680	1020	60.7%	290	17.3%
1030	F2	2160	470	21.8%	145	6.7%
1033	F2	960	298	31.0%	134	14.0%
1034	F2	1680	450	26.8%	105	6.3%
1039	F2	4560	770	16.9%	93	2.0%
1048	F2	3240	780	24.1%	294	9.1%
1049	F2	480	50	10.4%	99	20.6%
1050	F2	2760	840	30.4%	1315	47.6%
1052	F2	2040	170	8.3%	280	13.7%
1053	F2	1080	150	13.9%	71	6.6%
1054	F2	3480	540	15.5%	185	5.3%
1057	F2	3000	410	13.7%	250	8.3%

Continued.

Table 1. Continued.

Anther Culture Cross No.	Generation	AP[1]	CP[2]	CR[3]	PR[4]	AC[5]
1059	F2	10560	760	7.2%	605	5.7%
1061	F2	2040	660	32.4%	242	11.9%
1063	F2	480	150	31.3%	89	18.5%
1065	F2	5880	520	8.8%	355	6.0%
1067	F2	1200	310	25.8%	219	18.3%
1069	F2	3600	810	22.5%	512	14.2%
1070	F2	5160	1500	29.1%	1065	20.6%
1071	F2	480	120	25.0%	58	12.1%
1073	F2	4680	1220	26.1%	850	18.2%
1075	F2	1800	200	11.1%	61	3.4%
1076	F2	1200	740	61.7%	314	26.2%
1078	F2	15120	2210	14.6%	649	4.3%
1079	F2	1560	280	17.9%	121	7.8%
1081	F2	1920	360	18.8%	114	5.9%
1083	F2	600	200	33.3%	84	14.0%
1084	F2	2160	520	24.1%	355	16.4%
1087	F2	4080	100	2.5%	62	1.5%
1088	F2	1440	440	30.6%	105	7.3%
1092	F2	5520	860	15.6%	170	3.1%
1094	F2	2880	375	13.0%	131	4.5%
1095	F2	2640	120	4.5%	15	0.6%
1096	F2	5520	1280	23.2%	715	13.0%
1099	F2	5520	850	15.4%	354	6.4%
1107	F2	4560	450	9.9%	317	7.0%
1109	F2	3360	980	29.2%	386	11.5%
1110	F2	3600	700	19.4%	294	8.2%
1111	F2	240	30	12.5%	5	2.1%
1112	F2	840	160	19.0%	67	8.0%
1113	F2	1920	480	25.0%	150	7.8%
1114	F2	2280	390	17.1%	247	10.8%
1115	F2	720	160	22.2%	149	20.7%
1118	F2	3960	960	24.2%	143	3.6%
1119	F2	600	130	21.7%	55	9.2%
1122	F2	3000	290	9.7%	109	3.6%
1131	F2	7440	1870	25.1%	565	7.6%
1133	F2	2160	280	13.0%	335	15.5%
1134	F2	1920	270	14.1%	39	2.0%
1135	F2	1560	490	31.4%	115	7.4%
1138	F2	1920	330	17.2%	52	2.7%
1140	F2	2880	890	30.9%	214	7.4%
1142	F2	1920	350	18.2%	149	7.8%
1143	F2	2040	340	16.7%	55	2.7%
1147	F2	2040	260	12.7%	105	5.1%

Continued.

Table 1. Continued.

Anther Culture Cross No.	Generation	AP[1]	CP[2]	CR[3]	PR[4]	AC[5]
1150	F2	240	60	25.0%	65	27.1%
1152	F2	1440	210	14.6%	37	2.6%
1153	F2	4560	1180	25.9%	189	4.1%
1154	F2	840	130	15.5%	13	1.5%
1155	F2	840	300	35.7%	123	14.6%
1156	F2	2880	410	14.2%	184	6.4%
1158	F2	480	140	29.2%	59	12.3%
1160	F2	3360	670	19.9%	119	3.5%
1161	F2	840	180	21.4%	10	1.2%
1162	F2	1920	270	14.1%	20	1.0%
1162	F2	1440	410	28.5%	195	13.5%
1170	F2	5880	990	16.8%	210	3.6%
1173	F2	3000	430	14.3%	130	4.3%
1174	F2	4320	860	19.9%	64	1.5%
1175	F2	3360	420	12.5%	77	2.3%
1176	F2	480	60	12.5%	15	3.1%
1177	F2	1320	360	27.3%	177	13.4%
1179	F2	3240	540	16.7%	86	2.7%
1180	F2	4320	640	14.8%	380	8.8%
1181	F2	1800	330	18.3%	129	7.2%
1216	F1	120	40	33.3%	9	7.5%
1217	F1	360	120	33.3%	18	5.0%
1218	F1	720	60	8.3%	26	3.6%
1220	F1	1080	150	13.9%	67	6.2%
1223	F1	360	10	2.8%	4	1.1%
1224	F1	1560	170	10.9%	4	0.3%
1226	F1	1080	250	23.1%	60	5.6%
1227	F1	360	60	16.7%	18	5.0%
1228	F1	2400	1120	46.7%	998	41.6%
1231	F1	2520	1600	63.5%	700	27.8%
1232	F1	1800	770	42.8%	583	32.4%
1233	F1	3720	1470	39.5%	749	20.1%
1234	F1	480	170	35.4%	70	14.6%
1236	F1	3600	130	3.6%	99	2.8%
1237	F1	840	140	16.7%	30	3.6%
1238	F1	840	640	76.2%	631	75.1%
1239	F1	1800	810	45.0%	145	8.1%
1240	F1	4080	210	5.1%	15	0.4%
1243	F1	1320	530	40.2%	206	15.6%
1244	F1	480	90	18.8%	10	2.1%
1245	F1	4320	1620	37.5%	601	13.9%
1246	F1	10080	260	2.6%	10	0.1%
1247	F1	840	310	36.9%	30	3.6%

Continued.

Table 1. Continued.

Anther Culture Cross No.	Generation	AP[1]	CP[2]	CR[3]	PR[4]	AC[5]
1248	F1	2280	270	11.8%	50	2.2%
1250	F1	2880	1490	51.7%	259	9.0%
1251	F1	1800	610	33.9%	104	5.8%
1255	F1	360	50	13.9%	5	1.4%
1256	F1	1680	200	11.9%	5	0.3%
1257	F1	1080	200	18.5%	55	5.1%
1262	F1	1320	1090	82.6%	75	5.7%
1263	F1	480	90	18.8%	5	1.0%
1264	F1	960	470	49.0%	55	5.7%
1266	F1	1440	250	17.4%	220	15.3%
1267	F1	600	160	26.7%	50	8.3%
1268	F1	840	170	20.2%	5	0.6%
1271	F1	1320	320	24.2%	110	8.3%
1272	F1	1680	400	23.8%	20	1.2%
1275	F1	1080	500	46.3%	25	2.3%
1278	F1	3120	1040	33.3%	45	1.4%
1280	F1	1200	190	15.8%	5	0.4%
1281	F1	2280	320	14.0%	70	3.1%
1282	F1	360	50	13.9%	15	4.2%
1284	F1	960	360	37.5%	55	5.7%
1285	F1	240	40	16.7%	10	4.2%
1288	F1	1080	290	26.9%	55	5.1%
1289	F1	360	60	16.7%	5	1.4%
1298	F1	480	50	10.4%	10	2.1%
1300	F1	480	50	10.4%	25	5.2%
1302	F1	1560	130	8.3%	15	1.0%
1303	F1	360	40	11.1%	4	1.1%
1304	F1	3120	830	26.6%	30	1.0%
1306	F1	1440	160	11.1%	30	2.1%
1307	F1	480	30	6.3%	5	1.0%
1308	F1	2040	150	7.4%	15	0.7%
1311	F1	240	30	12.5%	5	2.1%
1315	F1	2160	600	27.8%	15	0.7%
1316	F1	960	170	17.7%	10	1.0%
1317	F1	1200	90	7.5%	40	3.3%
1318	F1	600	210	35.0%	110	18.3%
1324	F1	3480	300	8.6%	5	0.1%
1329	F1	4440	570	12.8%	20	0.5%
1334	F1	480	180	37.5%	20	4.2%
1340	F1	720	130	18.1%	15	2.1%
1349	F1	2880	1010	35.1%	50	1.7%
1350	F1	3120	820	26.3%	50	1.6%
1352	F1	2160	715	33.1%	45	2.1%

Continued.

Table 1. Continued.

Anther Culture Cross No.	Generation	AP[1]	CP[2]	CR[3]	PR[4]	AC[5]
1362	F1	1080	300	27.8%	35	3.2%
1363	F1	360	200	55.6%	5	1.4%
1368	F1	1800	725	40.3%	35	1.9%
1372	F1	5640	460	8.2%	65	1.2%
1374	F1	1560	300	19.2%	10	0.6%
1375	F1	1560	240	15.4%	10	0.6%
1387	F1	3840	1050	27.3%	30	0.8%
1388	F1	1680	1370	81.5%	110	6.5%
1393	F1	2160	1000	46.3%	70	3.2%
1394	F1	3960	950	24.0%	5	0.1%
1395	F1	1080	770	71.3%	20	1.9%
1401	F1	4200	1040	24.8%	70	1.7%
1402	F1	960	480	50.0%	15	1.6%
1404	F1	2160	430	19.9%	90	4.2%
1406	F1	7320	1170	16.0%	55	0.8%
1410	F1	3120	780	25.0%	10	0.3%
1413	F1	4920	1150	23.4%	15	0.3%
1415	F1	2280	1690	74.1%	50	2.2%
1417	F1	840	1070	127.4%	75	8.9%
1422	F1	1920	20	1.0%	13	0.7%
1423	F1	3000	660	22.0%	110	3.7%
1427	F1	2160	860	39.8%	40	1.9%
1435	F1	2040	80	3.9%	5	0.2%
1436	F1	2880	580	20.1%	5	0.2%
1437	F1	1920	170	8.9%	5	0.3%
1438	F1	2040	270	13.2%	20	1.0%
1441	F1	720	240	33.3%	60	8.3%
1442	F1	1080	270	25.0%	60	5.6%
1443	F1	2160	850	39.4%	80	3.7%
1444	F1	960	470	49.0%	15	1.6%
1445	F1	600	380	63.3%	9	1.5%
1446	F1	1320	590	44.7%	125	9.5%
Total		428280	94683	22.1%	27522	6.4%

[1]AP = Number of anthers plated; [2]CP= Number of callus produced; [3]CR= Callus induction rate, number of callus produced/number of anther plated x 100%; [4]PR= Number of green plantlets regenerated; [5]AC= Anther culturability, number of plants regenerated/number of anther plated x 100%.

Table 2. Anther culture of two crosses to establish. Rice Research Station, Crowley, LA. 2004.

Cross	AP[1]	CP[2]	CR[3]	PR[4]	AC[5]
Cocodrie/MCR01-0277	235,800	7,850	3.3%	1,690	0.72%
Cocodrie/Chu0066601	71,040	5,730	8.1%	660	0.93%

[1]AP= Number of anthers plated; [2]CP= Number of callus produced; [3]CR= Callus induction rate, number of callus produced/number of anther plated x 100%; [4]PR= Number of green plantlets regenerated; [5]AC= Anther culturability, number of plants regenerated/number of anther plated x 100%.

Table 3 . Preliminary yield test of DH lines in 2004. Rice Research Station, Crowley, LA. 2004.

Entry	Pedigree	Seedling Vigor	Days to 50% Heading	Plant Height (in)	Yield (lb/A)
797	CCDR/9770532DH2	5	89	40	8543
773	AC425DH2/AC431DH2	6	90	42	8444
848	CCDR/9770532DH2	4	86	39	8244
781	AC110DH3/0043752	5	88	40	8230
784	AC167DH3/AC105DH3	5	88	39	8154
804	61764DH3	6	88	44	8052
789	CCDR/98LL0401	5	88	40	8045
792	AC105DH2/AC101DH2	6	88	39	8025
788	9502008-A	6	88	38	7998
772	AC425DH2/AC431DH2	5	90	46	7982
774	AC425DH2/AC636DH1	4	85	39	7974
798	AC110DH2/AC108DH2	5	91	40	7972
785	AC167DH3/AC105DH3	5	87	39	7955
799	AC110DH2/AC108DH2	5	90	42	7945
816	AC110DH4	5	89	39	7944
795	0043676/0047272	5	86	41	7876
810	AC105DH2/AC157DH2	4	85	45	7847
780	AC105DH3/AC285DH2	6	90	36	7833
808	79283	5	89	41	7833
796	AC101DH2/967648DH4	5	89	41	7830
775	**CCDR**	**5**	**89**	**36**	**7797**

Table 4. Anova analysis of yield component and panicle major traits. Rice Research Station, Crowley, LA. 2004.

Pedigree	Panicle number /Yd^2	Number of spikelet per panicle	Fertility (%)	1000-Grain Weight (g)	Panicle Weight (g)	Yield (lb/A)
0047272/0046181	334	170.60	82.25	23.97	3.38	8048.30
0043752/0047277	332	175.50	80.26	26.99	3.80	8008.00
CCDR/9770532DH2	329	173.19	91.00	24.29	3.81	7876.70
CCDR(CK1)	374	141.17	81.46	24.53	2.82	7734.00
AC105DH2/AC101DH2	339	173.97	82.07	22.65	3.22	7722.30
CCDR/9770532DH2	313	185.75	83.80	23.87	3.72	7623.00
AC102DH2/97CR210DH2	305	157.23	85.47	27.96	3.75	7460.70
0043676/AC105DH3	305	172.98	75.97	24.57	3.24	7423.70
CHNR(CK2)	329	174.04	87.08	23.54	3.55	7294.30
FRAN(CK4)	299	179.92	79.49	24.26	3.46	7276.70
0043676/AC105DH3	267	203.43	71.05	23.43	3.38	7192.30
(AC71190H2/97HB52)DH 2/(CCDR/97-71333DH2)	234	197.17	80.42	29.49	4.66	7145.70
CCDR/98LL0401	352	159.48	80.82	25.58	3.29	7082.30
CCDR/9770532DH2	283	176.63	83.35	24.26	3.58	7074.70
CCDR/98PIM0151	385	161.77	81.56	27.15	3.58	6995.70
WELLS(CK3)	331	196.02	73.66	24.99	3.61	6967.30
9863910DH2/AR1053	311	176.00	73.61	25.97	3.38	6918.70
0043676/AC105DH3	286	222.23	73.45	23.19	3.77	6884.70
JEFF(CK5)	266	124.37	92.75	27.78	3.20	6524.30
AC110DH2/97CR210DH2	320	170.50	79.66	29.37	3.99	6376.00
AC102DH2/97CR210DH2	227	186.87	78.01	28.49	4.15	6068.70
AR1053/97CR233DH1	336	137.49	79.94	28.56	3.10	6051.70
7050	289	206.41	83.00	21.38	3.67	6039.00
AC176DH1/9959322DH2	258	167.83	82.07	26.51	3.68	5953.00
97CR210DH2/AC157DH2	286	182.43	78.19	28.25	4.00	5204.00
Mean	307	174.92	80.82	25.64	3.59	6997.83
MSE	36	21.06	4.37	0.58	0.45	451.37
CV	9	12.04	5.40	2.25	12.40	6.45

NB: Means with the same letter(s) in a column are not statistically significant at 5% level, according to Duncan multiple range test.

Table 5. Yield performance of 10 DH lines in 2004 URN trial. Rice Research Station, Crowley, LA. 2004.

Entry	RU #	Pedigree	LA	TX	AR	MS	MO	*Mean*
011	RU0402011	61764DH3	7499	10074	9934	9083	8701	*9058*
017	FRNS	FRNS	7473	9134	8060	8337	10702	*8741*
071	RU0202091	9865216DH2	7751	9476	7914	8824	8607	*8514*
058	RU0002174	CHNR	7161	8921	7856	9285	9321	*8509*
018	PI606331	CCDR	7504	8839	8682	8746	8739	*8502*
128	RU0402128	0043752/0047277	7990	9685	7894	8529	7936	*8407*
042	RU0402042	AC110DH2/AC108DH2	7187	8837	7692	9098	9218	*8406*
062	RU0402062	0043752/0047277	7558	9140	7602	9043	8591	*8387*
149	RU0402149	AC101DH2/AC102DH2	6566	8323	8031	8886	7065	*7774*
085	RU0402085	0043676/AC105DH3	7048	7740	8403	7979	7348	*7704*
088	RU0402088	AC111DH3/AC468DH2	7405	8168	7100	8566	6786	*7605*
051	RU0402051	DREW/AC167DH1	6342	8364	7617	8423	7194	*7588*
091	RU0402091	9863910DH2/AR 1053	6909	9335	8267	7033	6049	*7519*

Table 6. Yield data of DH lines in CA test from eight locations in Louisiana. 2004.

Entry	Source	RRS	Mowata	Mamou	Jeff Davis	Lake Arthur	Pine Island	More-house	St. Joe	*Mean*
239	04URN 011	7031	6648	8486	7041	8238	5327	10064	7776	*7576*
246	04URN 071	7137	6217	8416	6896	8378	5550	9795	7907	*7537*
245	04URN 091	7461	6973	8575	5069	7627	5006	9088	7902	*7213*
215	BANKS	7490	6598	8416	6464	6525	5146	8449	7232	*7040*
242	04URN 062	7284	6353	8468	4623	6655	5788	8943	8177	*7036*
209	FRANCIS	7193	6667	8075	5823	6227	5072	8754	8258	*7009*
206	CHENIERE	7594	5676	7484	5647	6855	5592	8424	8451	*6965*
243	04URN 085	7338	6816	7733	4459	7444	5491	9567	6746	*6949*
247	04URN 128	7258	6817	7877	4601	6945	5908	8778	7286	*6934*
248	04URN 149	7038	6170	8334	6802	6895	4635	8351	7047	*6909*
207	COCODRIE	7615	6361	7145	4810	6871	5582	8536	7938	*6857*
240	04URN 042	7014	5845	8141	4474	6585	5688	8373	7650	*6721*
210	MEDARK	7040	6216	6333	5982	6882	4605	9044	7250	*6669*
208	WELLS	6571	5657	7914	4927	6534	5395	8748	7146	*6612*
241	04URN 051	6956	5497	7116	5109	6277	4340	8691	7286	*6409*
244	04URN 088	6593	6181	7850	3307	6404	5012	8162	7146	*6332*

RICE PATHOLOGY STUDIES, 2004[1]

D.E. Groth, M.J. Frey, and J. Nugent

Sheath blight, bacterial panicle blight, and blast are three of the most important diseases of rice. How a farmer manages these diseases often means the difference between a profit and a loss. A number of factors affect disease development, including varietal resistance, cultural practices, cropping history, and pesticide usage. Environmental conditions also greatly affect disease development but are out of the farmer's hands. However, knowing which conditions are favorable for disease development allows the producer to initiate the appropriate disease control conditions. Cultural management often plays an important role as evidenced by the fact that sheath blight was a minor disease until the introduction of semidwarf varieties, high N rates, and soybeans as a rotational crop.

Data from research tests suggest that rice diseases annually cause at least an average range of 12 to 15% loss in yield in the South. With present production costs and price of rice, this average yield loss translates into an average 33 to 40% loss in potential net return due to rice diseases. Direct losses to disease include reduction in plant stands, lodging, spotted kernels, fewer and smaller grains per plant, and a general reduction in plant efficiency. Indirect losses include the cost of fungicides used to manage disease, application costs, and reduced yields associated with special cultural practices that reduce disease but may not be conducive to producing maximum yields.

The major diseases of rice in Louisiana are the fungal disease blast, caused by Pyricularia grisea; sheath blight, caused by Thanatephorus cucumeris (Rhizoctonia solani); stem rot, caused by Magnaporthe salvinii (Sclerotium oryzae); brown spot, caused by Cochiobolus miyabeanus; narrow brown spot, caused by Sphaerulina oryzina (Cercospora janseana); and kernel smut, caused by Neovossia horrida. Seedling diseases caused by species of Achlya and Pythium are also important in water-seeded rice. Bacterial panicle blight has been identified as a major disease and is caused by the bacterium Burkholderia glumae. Minor diseases include crown rot, causal agent unknown; leaf scald, caused by Gerlachia oryzae; leaf smut, caused by Entyloma oryzae; sheath rot, caused by Sarocladium oryzae; stackburn disease, caused by Alternaria padwickii; sheath spot, caused by Rhizoctonia oryzae; crown sheath rot, caused by Gaeumannomyces graminis var. graminis; black kernel, caused by Curvularia lunata; seedling blights, caused by various fungi; false smut, caused by Ustilaginoidea virens; root rots, caused by several fungi; and several miscellaneous leaf, stem, and glume spotting diseases.

Host resistance and fungicides play an important role in limiting these losses. The objective of these studies is to develop disease management practices that economically reduce rice diseases and increase the yield and quality of rice.

This report is on current research evaluating both registered and experimental compounds (Table 1). It also represents only one year of data, and multiple years are needed to evaluate agronomic practices effectively. Therefore, no specific recommendation of a product or practice is implied. For specific recommendations and more information, contact your local cooperative extension agent.

The use of a foliar fungicide to reduce rice diseases is often justified under severe disease conditions. Some factors that favor the use of a fungicide include: 1) history of disease in the field, 2) varietal susceptibility, 3) high yield potential, 4) rice is being grown for seed, 5) rice was planted late, and 6) rice ratooned. The primary targets for rice fungicide applications are sheath blight and blast. Generally, secondary rice diseases are not severe enough to justify a fungicide application. However, control of these secondary diseases, from sheath blight and blast applications, often contributes to the overall increase in yield and quality.

All of the fungicides tested have benefits and disadvantages. Tilt gives good sheath blight and leaf smut control but no control of blast. Moncut had good activity against sheath blight, but it had the narrowest disease control spectrum. Quadris combines excellent sheath blight activity with control of blast but is weak against narrow brown leaf spot and Cercospora sheath blotch.

[1] This research is supported in part by funds provided by rice producers through the Louisiana Rice Research Board and various agricultural chemical companies.

Many other factors affect fungicide efficacy, including application timing, cultural practices, inoculum levels, weather, varietal resistance, spray volume, type of adjuvants added to the spray solution, and the application method used. Problems can develop from these factors that limit fungicide activity. One problem occurs when fungicides are applied by air. Most of the material is deposited on the upper third of the canopy. Redistribution by rain and dew is then required to move the fungicide into the lower canopy where most of the disease is present. Redistribution into the lower canopy is necessary since these fungicides are either non-systemic, or if systemic, they are only locally systemic or only move upward in the plant. Weathering associated with redistribution is also detrimental since some fungicidal activity is lost. Other conditions that limit fungicide activity include drift, volatility, and calibration errors. Rainfall immediately after application, before the fungicide can dry on the plant or be absorbed by the plant, can remove significant amounts of fungicides from the foliage and impair yield performance. Normally, a 4-hour drying period is adequate after application.

Since all fungicides labeled are very specific as to the diseases they control, scouting rice is extremely important to determine disease incidence and severity. Fields should be scouted weekly for disease development beginning when the first tillers begin to develop and continuing through heading. Rice should be sampled at several (20 or more) locations throughout the field. The size of the field and the disease distribution will determine the extent of sampling. At each sampling location, 25 to 50 tillers should be examined for disease symptoms (refer to the Louisiana Agricultural Experiment Station Bulletin No. 828, Rice Diseases and Disorders in Louisiana). Other diseases that require fungicides for control, especially the rice blast disease, must be noted between scouting stops because damaging levels can develop from light infestations that were not detected at the scouting stops. For sheath blight, the percentage of tillers infected at the sampling locations should be averaged to determine the disease incidence for the field. Spraying a fungicide for sheath blight is warranted if an average of 5 to 10% of the tillers (approximately 20-40% positive stops) are infected during joint elongation stages of growth in susceptible varieties. Spraying moderately susceptible varieties is warranted if more than 15% of the tillers are infected (approximately 50% positive stops). Unfortunately, there is no good scouting/prediction system for blast or bacterial panicle blight at this time, and when leaf blast is found, preventive sprays to protect the head are recommended for susceptible varieties. Prevailing temperatures at heading predict bacterial panicle blight. Disease identification is extremely important since several diseases can be confused.

Table 1. List of fungicides and bactericides tested in 2004.

	Common Name	**Company**
Quadris 2.08 SC	Azoxystrobin	Syngenta
Moncut 75 WP	Flutolanil	Gowan
Stratego 2.08 EC	Trifloxystrobin / Propiconazole	Bayer
GEM 500 SC	Trifloxystrobin	Bayer
Kocide 2001 53 DF	Copper Hydroxide	Griffin
S-0208 20 WP	Oxolinic Acid	Valent
Topcop 12.2 F	Copper Sulfate	Stoller Chemical
Quilt 1.16 SC	Azoxystrobin/ Propiconazole	Syngenta

2004 Varietal and URN Disease Resistance Evaluation

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Various, ~100 lb/A

Plot Size: One to three 6-ft rows

Planting Method/Date: Hege planter (drill-seeded), Apr 21

Fertilization: Preplant 21-63-63, Mar 22; preflood 120-0-0, May 28; topdressed 46-0-0, June 2 and 16

Experimental Design: Randomized complete block design with two to four replications

Water Management: Flushed, May 1; permanent flood, May 31

Herbicides: 4 qt Arrosolo + 1 oz Aim, May 27; 16 oz Clincher, May 20; 1 oz/A Londax, May 4

Insecticides: 1 oz Icon preplant, Apr 20; 2 oz/A Karate, June 26

Fungicides: N/A

Inoculation Dates: Inoculated with 12 ml/row of a *Rhizoctonia solani* culture grown on a rice grain:rice hull mixture, June 10; all other inoculum came from natural sources.

Application Equipment: N/A

Application Dates: N/A

Disease Ratings: Sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), brown spot (BS) severity ratings, Aug 23-25; leaf blast (LB), July 20 or Aug 2

Drained: N/A

Harvest: N/A

Results: See Tables 2 to 9

Comments: Sheath blight severity was moderate, and other diseases were light to moderate in severity. Leaf blast ratings were collected from an upland disease nursery.

Table 2. Disease reaction of various varieties and experimental lines to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS) at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code	LB	SB	NB	LS	BS
Part Rated	Leaf	Plant	Leaf	Leaf	Leaf
Rating Data Type	Severity	Severity	Severity	Severity	Severity
Rating Unit	0-9	0-9	0-9	0-9	0-9
Rating Date	07-20-2004	08-23-2004	08-23-2004	08-23-2004	08-23-2004
Trt.# Treatment					
1 Cheniere	5.5 b-e	6.8 a-d	3.8 bc	3.5 bcd	1.8 cde
2 Cocodrie	2.3 j-m	7.0 abc	3.5 bcd	1.5 ghi	1.0 ef
3 CL121	4.8 d-g	7.3 ab	2.5 d-g	3.5 bcd	1.3 ef
4 CL161	4.5 efg	7.3 ab	3.5 bcd	3.8 bc	1.8 cde
5 Banks	1.8 lm	5.0 ghi	1.5 g-k	1.5 ghi	2.0 b-e
6 Cybonnet	1.5 m	6.5 b-e	2.8 c-f	3.0 c-f	1.0 ef
7 Cypress	4.5 efg	6.8 a-d	4.0 ab	3.3 cde	2.0 b-e
8 Francis	6.3 bc	6.0 def	0.8 j-m	2.8 c-g	1.3 ef
9 Jefferson	3.3 hij	7.5 a	3.8 bc	3.0 c-f	1.0 ef
10 Wells	5.5 b-e	6.0 def	0.5 klm	1.5 ghi	1.0 ef
11 Priscilla	5.8 bcd	6.0 def	0.5 klm	3.5 bcd	2.8 a-d
12 Saber	1.3 mn	6.0 def	3.0 b-e	2.0 e-i	2.3 b-e
13 LaGrue	7.5 a	5.5 fgh	0.8 j-m	1.0 hij	2.3 b-e
14 Lemont	4.0 ghi	7.3 ab	2.0 e-i	2.8 c-g	2.8 a-d
15 LM-1	4.3 fgh	6.8 a-d	2.5 d-g	2.8 c-g	2.3 b-e
16 Bengal	6.5 ab	6.3 c-f	0.8 j-m	5.8 a	1.5 de
17 Medark	6.5 ab	6.0 def	0.5 klm	6.0 a	2.0 b-e
18 Pirogue	6.5 ab	4.5 ijk	1.0 i-m	5.5 a	2.3 b-e
19 Dellrose	5.3 c-f	6.8 a-d	1.3 h-l	5.8 a	2.3 b-e
20 Della	6.5 ab	3.8 kl	0.5 klm	4.8 ab	2.3 b-e
21 Dellmati	2.3 j-m	4.8 hij	0.3 lm	2.3 d-h	3.3 ab
22 CL-XL8	2.0 klm	4.3 i-l	0.0 m	0.8 ij	3.0 abc
23 XP710	1.5 m	3.8 kl	0.0 m	0.0 j	3.0 abc
24 XP712	2.8 jkl	3.8 kl	0.3 lm	1.8 f-i	2.3 b-e
25 XP716	3.0 ijk	4.0 jkl	0.0 m	1.8 f-i	2.0 b-e
26 XP721	1.8 lm	4.8 hij	0.0 m	2.3 d-h	2.8 a-d
27 XP723	1.8 lm	4.8 hij	0.5 klm	0.8 ij	2.3 b-e
28 2008	4.5 efg	6.8 a-d	2.0 e-i	3.0 c-f	3.0 abc
29 2195	2.3 j-m	7.0 abc	2.3 e-h	2.8 c-g	1.5 de
30 2002	5.0 d-g	7.3 ab	3.5 bcd	4.8 ab	1.3 ef
31 2183	6.5 ab	5.8 efg	1.8 f-j	5.3 a	1.8 cde
32 2140	3.0 ijk	6.5 b-e	0.8 j-m	1.0 hij	3.8 a
33 CL02	1.8 lm	7.5 a	5.0 a	5.8 a	1.5 de
34 CL29	4.5 efg	6.0 def	3.5 bcd	2.3 d-h	1.5 de
35 0104055	4.3 fgh	4.8 hij	1.3 h-l	2.0 e-i	2.8 a-d
36 Toro-2	5.0 d-g	6.5 b-e	0.3 lm	2.8 c-g	2.0 b-e
37 LMT-1	5.0 d-g	6.0 def	0.3 lm	1.5 ghi	3.3 ab
38 XL-8	2.0 Lm	5.0 ghi	0.0 m	0.5 j	2.5 b-e
LSD (P=.05)	1.20	0.88	1.09	1.45	1.29
Standard Deviation	0.86	0.63	0.78	1.04	0.92
CV	21.66	10.72	48.72	36.64	45.22
Replicate F	4.854	0.553	2.151	1.788	3.143
Replicate Prob(F)	0.0033	0.6474	0.0979	0.1535	0.0281
Treatment F	19.614	14.813	13.601	10.229	2.914
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not differ significantly (P=.05, LSD).

Table 3. Disease reaction of various varieties and experimental lines in the Group I Uniform Regional Rice Nursery to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS) at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code	LB	SB	NB	LS	BS
Rating Unit	0-9	0-9	0-9	0-9	0-9
Rating Date	07-20-2004	08-24-2004	08-24-2004	08-24-2004	08-24-2004
Trt.# Treatment					
1 LBNT/9902/3/DAWN/969	5.3 cd	6.8 abc	0.5 f	2.0 d-h	1.0 cd
2 9502008/3/CPRS//82CA	4.5 ef	7.3 ab	3.8 ab	4.0 b	1.0 cd
3 92:13826(VSTA/LBNT//	4.0 fg	6.5 a-d	1.0 ef	3.8 bc	2.3 abc
4 9101001//TBNT/KATY/3	2.3 hi	7.0 abc	2.0 de	6.0 a	1.0 cd
5 TACAURI/3/CPRS//82CA	5.3 cd	7.3 ab	4.8 a	2.3 d-h	1.3 bcd
6 JEFF/CCDR	3.5 g	5.5 de	2.8 bcd	2.5 c-g	1.3 bcd
7 NWBT/3/LBNT/9902//LB	4.8 de	6.5 a-d	0.5 f	2.0 d-h	2.8 ab
8 CPRS//82CAY21/TBNT/…	4.0 fg	7.3 ab	2.3 cde	1.5 fgh	2.5 abc
9 RU9302165(8902207x2-	3.8 g	6.8 abc	4.8 a	1.3 gh	2.3 abc
10 LGRU//LMNT/RA73/3/LG	2.5 hi	5.5 de	0.5 f	1.0 h	1.8 a-d
11 61764DH3	6.0 b	5.0 e	0.5 f	4.0 b	3.3 a
12 (CPRS/PANDA (FAM188)	3.5 g	6.3 bcd	3.5 abc	2.8 b-f	3.3 a
13 L201//TBNT/BLMT/3/JD	5.0 cde	5.5 de	3.5 abc	2.0 d-h	2.3 abc
14 TBNT/LA110//LMNT	7.0 a	6.0 cde	3.3 bcd	1.5 fgh	1.5 bcd
15 8804032/DLLA	5.3 cd	6.5 a-d	4.8 a	2.8 b-f	2.0 a-d
16 CPRS/JKSN	5.5 bc	7.5 a	4.0 ab	2.8 b-f	1.3 bcd
17 FRANCIS	5.5 bc	6.0 cde	1.0 ef	3.0 b-e	1.0 cd
18 COCODRIE	2.8 h	7.5 a	3.8 ab	1.8 e-h	1.5 bcd
19 JEFFERSON	3.8 g	7.0 abc	3.3 bcd	1.8 e-h	0.5 d
20 CYBONNET	2.0 i	7.0 abc	2.3 cde	3.3 bcd	2.3 abc
LSD (P=.05)	0.74	1.09	1.36	1.33	1.59
Standard Deviation	0.52	0.77	0.96	0.94	1.12
CV	12.13	11.81	36.68	36.24	62.92
Replicate F	3.065	1.487	2.391	0.621	0.563
Replicate Prob(F)	0.0352	0.2276	0.0781	0.6044	0.6415
Treatment F	26.090	3.674	10.061	6.444	1.961
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0264

Means followed by same letter do not differ significantly (P=.05, LSD).

Table 4. Disease reaction of various varieties and experimental lines in the Group II Uniform Regional Rice Nursery to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS) at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code	LB	SB	NB	LS	BS
Rating Unit	0-9	0-9	0-9	0-9	0-9
Rating Date	07-20-2004	08-24-2004	08-24-2004	08-24-2004	08-24-2004
Trt.# Treatment					
21 BRAZ/TBNT/3/164986-4	4.3 c	5.8 efg	0.3 fg	4.5 a-d	1.3 cd
22 9502008/3/MBLE//LMNT	2.0 ef	7.3 abc	3.5 bc	3.3 c-g	1.3 cd
23 BF4-274	4.8 bc	6.5 cde	0.5 efg	2.5 f-i	2.0 a-d
24 RU8201176/4/LBNT/STB	3.0 de	5.5 fg	1.0 efg	1.3 ijk	2.3 abc
25 JSMN/DLLA	1.8 f	7.0 bcd	0.0 g	0.5 jk	3.3 a
26 (CPRS/PELDE)96:3944/	4.3 c	6.0 efg	4.0 ab	2.5 f-i	2.3 abc
27 RU9201176/3/KATY//TB	2.0 ef	5.5 fg	4.0 ab	2.3 f-i	0.8 d
28 BNGL//MERC/RICO/3/ME	4.8 bc	6.3 def	0.0 g	6.0 a	1.3 cd
29 (RU8303116/LMNT)RU91	4.8 bc	8.0 a	4.5 ab	2.3 f-i	1.5 bcd
30 961215	2.8 ef	5.3 g	1.5 de	2.0 g-j	2.5 abc
31 9502065/3/BNGL//MERC	6.3 a	5.8 efg	0.5 efg	4.3 b-e	3.0 a
32 JEFF/(VSTA/LBNT//L20	4.3 c	6.5 cde	4.0 ab	4.8 abc	2.8 ab
33 CPRS/3/(L201//TBNT/B	4.0 cd	7.8 ab	5.0 a	2.8 e-i	0.8 d
34 NWBT/KATY//9902207x2	2.3 ef	7.0 bcd	2.5 cd	1.5 h-k	1.5 bcd
35 8904186S919/8903052	4.8 bc	6.0 efg	0.8 efg	3.3 c-g	1.3 cd
36 IR36/8603006	6.3 a	6.3 def	1.0 efg	3.0 d-h	2.3 abc
37 PIROGUE	5.8 ab	5.3 g	0.5 efg	4.8 abc	2.5 abc
38 BENGAL	5.5 ab	6.5 cde	0.8 efg	3.8 c-f	2.0 a-d
39 MEDARK	5.5 ab	6.0 efg	1.3 ef	5.5 ab	2.3 abc
40 LAGRUE	6.3 a	5.3 g	1.0 efg	0.3 k	2.3 abc
LSD (P=.05)	1.02	0.97	1.14	1.52	1.41
Standard Deviation	0.72	0.69	0.81	1.08	1.00
CV	16.93	10.95	44.12	35.46	51.62
Replicate F	0.644	0.664	0.540	2.339	0.912
Replicate Prob(F)	0.5899	0.5774	0.6569	0.0831	0.4408
Treatment F	17.339	5.565	17.501	8.651	2.049
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0195

Means followed by same letter do not differ significantly (P=.05, LSD).

Table 5. Disease reaction of various varieties and experimental lines in the Group III Uniform Regional Rice Nursery to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS) at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code	LB	SB	NB	LS	BS
Rating Unit	0-9	0-9	0-9	0-9	0-9
Rating Date	07-20-2004	08-24-2004	08-24-2004	08-24-2004	08-24-2004
Trt.# Treatment					
41 LMNT//82CAY21/CICA8/	3.5 d-g	6.3 b-e	0.5 d	2.3 d-g	2.0 abc
42 AC110DH2/AC108DH2	3.3 efg	7.0 abc	0.8 cd	4.0 ab	2.0 abc
43 ((NWBT/RU8303181)87:	2.8 gh	7.0 abc	3.8 a	1.5 fgh	1.5 a-e
44 LBNT/9902//NWBT/3/KA	2.5 gh	5.0 fg	0.5 d	1.8 e-h	2.8 a
45 DREW/3/CPRS//82CAY21	4.5 bcd	5.8 d-g	3.0 ab	3.5 a-d	0.5 cde
46 CCDR/97URRN26	4.8 bc	6.3 b-e	0.8 cd	1.5 fgh	1.5 a-e
47 KBNT/CPRS	2.5 gh	5.0 fg	0.3 d	1.5 fgh	2.3 ab
48 9502008-A/DREW	3.0 fgh	7.5 a	2.0 bc	1.5 fgh	1.3 a-e
49 (PCOS/RU8703196//GFM	5.0 abc	7.5 a	2.8 ab	2.5 c-f	0.3 de
50 LBNT/9902//NWBT/3/KA	2.0 h	7.0 abc	3.0 ab	3.0 b-e	1.5 a-e
51 DREW/AC167DH1	3.3 efg	5.5 efg	0.0 d	3.8 abc	1.5 a-e
52 BF7-42	3.5 d-g	6.5 a-e	2.8 ab	0.8 h	0.3 de
53 CPRS/3/(L201//TBNT/B	4.5 bcd	7.3 ab	3.8 a	4.5 a	0.5 cde
54 8904186S919/NWBT	6.0 a	6.8 a-d	1.0 cd	2.8 b-f	1.3 a-e
55 L201//TBNT/BLMT	4.3 b-e	4.8 g	0.3 d	1.8 e-h	2.3 ab
56 SABER	2.5 gh	6.0 c-f	0.5 d	1.0 gh	0.5 cde
57 PRISCILLA	5.3 ab	5.5 efg	0.5 d	1.0 gh	1.8 a-d
58 CHENIERE	5.0 abc	6.5 a-e	2.8 ab	2.5 c-f	1.0 b-e
59 CYPRESS	4.0 c-f	7.0 abc	3.0 ab	2.0 e-h	0.0 e
60 DREW	2.0 h	5.5 efg	1.3 cd	3.5 a-d	1.8 a-d
LSD (P=.05)	1.06	1.08	1.26	1.29	1.65
Standard Deviation	0.75	0.76	0.89	0.91	1.16
CV	20.31	12.13	53.79	39.33	88.68
Replicate F	0.767	0.259	0.254	3.928	0.132
Replicate Prob(F)	0.5172	0.8548	0.8582	0.0128	0.9405
Treatment F	9.624	5.124	8.599	5.669	1.765
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0511

Means followed by same letter do not differ significantly (P=.05, LSD).

Table 6. Disease reaction of various varieties and experimental lines in the Group IV Uniform Regional Rice Nursery to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS) at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code	LB	SB	NB	LS	BS
Rating Unit	0-9	0-9	0-9	0-9	0-9
Rating Date	08-02-2004	08-24-2004	08-24-2004	08-24-2004	08-24-2004
Trt.# Treatment					
61 LBNT/9902//NWBT/3/KA	2.3 hi	5.3 f-i	1.3 def	2.5 b-e	0.3 ef
62 0043752/0047277	2.5 hi	7.5 ab	2.3 bcd	1.5 efg	0.8 c-f
63 BF5-1-1	5.5 cd	7.0 abc	2.8 bc	0.8 fg	1.0 b-f
64 BNGL/RICO/3/ORIN//M1	2.3 hi	5.3 f-i	1.0 efg	1.5 efg	0.5 def
65 9502008-A/DREW	3.0 gh	7.8 a	3.3 ab	3.0 a-e	0.5 def
66 (BF3-566)	5.3 cd	7.0 abc	0.5 fg	2.5 b-e	1.0 b-f
67 BRAZ/TBNT/3/164986-4	5.8 bc	6.0 def	0.0 g	4.5 a	0.0 f
68 9502008-A/DREW	1.8 i	7.5 ab	3.0 abc	2.0 c-f	0.8 c-f
69 PSCL/JEFF	2.8 gh	6.3 cde	2.0 cde	2.0 c-f	1.0 b-f
70 NWBT/3/LBNT/9902//LB	4.8 de	5.3 f-i	0.0 g	4.0 ab	0.0 f
71 9865216DH2	5.5 cd	4.5 i	0.8 fg	3.5 abc	1.8 bc
72 ((NWBT/RU8303181)87:	3.5 fg	6.8 bcd	2.8 bc	1.8 def	0.8 c-f
73 9002065/MILLIE	4.8 de	5.5 e-h	0.3 fg	0.0 g	1.5 bcd
74 8904186S919/NWBT	6.8 a	5.3 f-i	0.3 fg	3.3 a-d	3.0 a
75 (GFMT*2/TQNG)TX4110/	4.8 de	7.3 ab	1.0 efg	3.0 a-e	1.5 bcd
76 961237	2.5 hi	5.0 ghi	0.3 fg	0.8 fg	2.0 ab
77 V7817/SKBT	6.5 ab	7.0 abc	4.0 a	1.8 def	0.8 c-f
78 PSCL/JEFF	4.0 ef	5.8 efg	0.3 fg	2.3 c-f	1.8 bc
79 BANKS	2.5 hi	4.8 hi	0.8 fg	0.8 fg	1.3 b-e
80 WELLS	4.8 de	6.0 def	0.5 fg	2.3 c-f	0.8 c-f
LSD (P=.05)	0.96	0.97	1.03	1.56	1.24
Standard Deviation	0.68	0.68	0.73	1.10	0.88
CV	16.66	11.16	54.34	50.79	84.79
Replicate F	0.828	0.606	0.087	1.216	1.997
Replicate Prob(F)	0.4841	0.6138	0.9670	0.3123	0.1246
Treatment F	21.075	8.921	11.720	4.380	2.730
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0018

Means followed by same letter do not differ significantly (P=.05, LSD).

Table 7. Disease reaction of various varieties and experimental lines in the Group V Uniform Regional Rice Nursery to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS) at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code		LB	SB	NB	LS	BS
Rating Unit		0-9	0-9	0-9	0-9	0-9
Rating Date		08-02-2004	08-24-2004	08-24-2004	08-24-2004	08-24-2004
Trt.#	Treatment					
81	NWBT/3/LBNT/9902//LB	2.0 h	4.5 ef	0.5 gh	0.5 gh	1.0 cde
82	9502008-A/DREW	2.5 gh	6.5 a-d	1.5 e-h	3.0 b-e	2.0 bcd
83	8804032/KATY	5.0 b-e	8.0 a	0.5 gh	3.5 bcd	0.0 e
84	BRAZ/TBNT/3/164986-4	4.5 c-f	5.5 c-f	0.5 gh	6.0 a	1.5 b-e
85	0043676/AC105DH3	3.0 fgh	7.0 abc	4.0 abc	2.5 c-f	0.0 e
86	(CPRS/PANDA (FAM188)	2.5 gh	6.5 a-d	2.5 c-f	1.0 fgh	0.5 de
87	NWBT/3/LBNT/9902//LB	4.5 c-f	5.5 c-f	1.0 fgh	1.0 fgh	2.0 bcd
88	AC111DH3/AC468DH2	3.0 fgh	7.5 ab	4.0 abc	1.0 fgh	2.0 bcd
89	(CPRS/PANDA (FAM188)	2.0 h	7.0 abc	1.5 e-h	1.5 e-h	0.0 e
90	NWBT/3/LBNT/9902//LB	4.5 c-f	6.0 b-e	0.5 gh	0.5 gh	0.5 de
91	9863910DH2/AR 1053	4.0 d-g	6.5 a-d	0.0 h	2.5 c-f	2.5 abc
92	((NWBT/RU8303181)87:	3.5 e-h	7.0 abc	2.5 c-f	1.5 e-h	0.5 de
93	LMNT//82CAY21/CICA8/	5.0 b-e	7.0 abc	0.5 gh	4.0 bc	0.0 e
94	9502008/3/CPRS//82CA	5.5 bcd	6.0 b-e	1.5 e-h	2.5 c-f	1.5 b-e
95	PSCL/JEFF	5.0 b-e	5.5 c-f	1.0 fgh	4.0 bc	1.0 cde
96	LGRU//LMNT/RA73/3/LG	3.0 fgh	4.0 f	0.0 h	1.0 fgh	2.5 abc
97	9502008-A//AR 1188/C	2.0 h	7.5 ab	2.0 d-g	1.5 e-h	1.0 cde
98	((NWBT/RU8303181)87:	6.0 bc	6.5 a-d	4.5 ab	1.5 e-h	0.0 e
99	JEFF/ADAR	4.0 d-g	6.5 a-d	5.0 a	2.5 c-f	1.0 cde
100	TBNT/LA110//LMNT/3/T	4.5 c-f	6.0 b-e	0.0 h	0.5 gh	2.5 abc
101	(CPRS/PELDE)96:3944/	3.0 fgh	5.5 c-f	1.5 e-h	1.0 fgh	1.5 b-e
102	LGRU//LMNT/RA73/3/LG	5.5 bcd	5.0 def	0.0 h	0.5 gh	1.5 b-e
103	9502008//KATY/902207	2.5 gh	6.0 b-e	2.5 c-f	3.5 bcd	1.0 cde
104	(GFMT*2/TQNG)TX4110/	3.5 e-h	6.0 b-e	0.0 h	2.5 c-f	0.0 e
105	KATY/STBN//9101001/5	2.0 h	5.0 def	0.0 h	1.0 fgh	0.5 de
106	CPRS//20001-5/LMNT/3	3.5 e-h	5.0 def	1.5 e-h	4.5 ab	3.0 ab
107	((NWBT/RU8303181)87:	4.0 d-g	6.5 a-d	3.0 b-e	2.5 c-f	1.0 cde
108	BRAZ/TBNT/3/164986-4	5.0 b-e	6.5 a-d	0.0 h	4.5 ab	1.0 cde
109	LGRU/WELLS	6.0 bc	6.0 b-e	1.0 fgh	1.5 e-h	2.0 bcd
110	(CPRS/PANDA (FAM188)	4.0 d-g	6.5 a-d	3.5 a-d	2.0 d-g	2.0 bcd
111	LBNT/9902/3/DAWN/969	2.5 gh	4.5 ef	1.5 e-h	3.0 b-e	0.5 de
112	9502008/AR 1121	3.0 fgh	6.5 a-d	2.0 d-g	3.0 b-e	0.5 de
113	((NWBT/RU8303181)87:	2.5 gh	6.5 a-d	3.5 a-d	2.0 d-g	2.5 abc
114	8303116/LMNT//NWBT	3.5 e-h	6.5 a-d	3.5 a-d	2.5 c-f	0.5 de
115	KATY/CPRS//NWBT/…/3/	2.0 h	7.5 ab	4.0 abc	3.5 bcd	2.0 bcd
116	(VSTA/LBNT//RSMT)RU9	3.5 e-h	5.5 c-f	2.5 c-f	1.0 fgh	1.0 cde
117	COCODRIE	3.0 fgh	7.0 abc	3.0 b-e	2.5 c-f	2.0 bcd
118	HIDALGO	6.5 ab	7.0 abc	3.0 b-e	3.5 bcd	1.5 b-e
119	L205	8.0 a	5.5 c-f	3.5 a-d	2.5 c-f	1.0 cde
120	DELLMATI	2.5 gh	5.0 def	0.0 h	0.0 h	4.0 a
LSD (P=.05)		1.79	1.62	1.76	1.57	1.83
Standard Deviation		0.89	0.80	0.87	0.78	0.91
CV		23.29	13.07	47.7	34.92	70.99
Replicate F		0.574	2.786	0.594	0.745	0.061
Replicate Prob(F)		0.4530	0.1031	0.4456	0.3933	0.8062
Treatment F		5.165	2.587	5.873	5.943	2.189
Treatment Prob(F)		0.0001	0.0019	0.0001	0.0001	0.0082

Means followed by same letter do not differ significantly (P=.05, LSD).

Table 8. Disease reaction of various varieties and experimental lines in the Group VI Uniform Regional Rice Nursery to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS), at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code		LB	SB	NB	LS	BS
Rating Unit		0-9	0-9	0-9	0-9	0-9
Rating Date		08-02-2004	08-24-2004	08-24-2004	08-24-2004	08-24-2004
Trt.#	Treatment					
121	BRAZ/TBNT/3/164986-4	6.0 abc	5.5 b-e	0.0 e	5.0 a	3.5 a
122	LCSN//NWBT/KATY	2.5 gh	6.0 a-d	2.0 a-e	1.0 ef	0.5 de
123	((NWBT/RU8303181)87:	3.0 fgh	6.0 a-d	4.0 a	2.0 c-f	0.5 de
124	RU9201176/3/KATY//TB	2.5 gh	7.0 ab	4.0 a	2.5 b-e	0.0 e
125	96 INT/AR 1188	4.0 d-g	6.0 a-d	3.0 abc	1.5 def	3.0 ab
126	(CPRS/PANDA (FAM188)	3.0 fgh	6.5 abc	2.0 a-e	2.5 b-e	1.5 b-e
127	BRAZ/TBNT/3/164986-4	4.0 d-g	5.5 b-e	0.5 de	5.0 a	3.5 a
128	0043752/0047277	3.0 fgh	6.5 abc	1.0 cde	1.5 def	1.0 cde
129	(CPRS/PANDA (FAM188)	2.5 gh	7.5 a	2.5 a-d	2.5 b-e	1.5 b-e
130	CPRS//NWBT/KATY	2.0 h	6.5 abc	0.0 e	3.0 bcd	1.5 b-e
131	JSMN/DLLA//CPRS/KDM	2.5 gh	7.5 a	4.0 a	3.0 bcd	0.5 de
132	((NWBT/RU8303181)87:	4.5 c-f	6.0 a-d	4.0 a	1.0 ef	1.0 cde
133	941009	3.0 fgh	5.5 b-e	0.5 de	1.5 def	3.0 ab
134	BNGL/3/STRN/MERC…	6.0 abc	5.5 b-e	0.0 e	3.0 bcd	3.5 a
135	(CPRS/PANDA (FAM188)	4.0 d-g	6.5 abc	1.0 cde	1.5 def	1.5 b-e
136	BRAZ/TBNT/3/164986-4	6.0 abc	5.5 b-e	0.0 e	3.5 abc	1.5 b-e
137	MERC/RICO//BNGL/3/SM	7.0 a	5.5 b-e	2.5 a-d	3.0 bcd	3.0 ab
138	((NWBT/RU8303181)87:	3.0 fgh	5.5 b-e	1.0 cde	1.0 ef	2.0 a-d
139	4582	2.5 gh	5.0 cde	1.5 b-e	0.5 f	3.0 ab
140	MERC/RICO//BNGL/3/SM	6.5 ab	5.5 b-e	0.0 e	5.0 a	1.0 cde
141	((NWBT/RU8303181)87:	3.0 fgh	6.5 abc	3.0 abc	1.0 ef	2.0 a-d
142	4484	2.0 h	4.5 de	0.5 de	0.5 f	3.5 a
143	MBLE//TQNG/MBLE (MCR	3.0 fgh	5.5 b-e	0.0 e	4.0 ab	2.0 a-d
144	(CPRS/PELDE)96:3944/	4.5 c-f	7.0 ab	3.5 ab	1.0 ef	1.5 b-e
145	L201//TBNT/BLMT/3/CP	3.0 fgh	5.5 b-e	1.0 cde	3.0 bcd	2.0 a-d
146	MERC/RICO//MERC/3/ME	6.0 abc	6.0 a-d	0.0 e	4.0 ab	0.0 e
147	((NWBT/RU8303181)87:	2.0 h	5.5 b-e	1.0 cde	3.0 bcd	2.5 abc
148	NWBT/3/LBNT/9902//LB	2.5 gh	7.0 ab	1.5 b-e	1.0 ef	1.5 b-e
149	AC101DH2/AC102DH2	4.0 d-g	7.0 ab	1.5 b-e	2.5 b-e	0.0 e
150	((92:13797(VSTA/LBNT	3.5 e-h	4.0 e	3.0 abc	1.5 def	1.0 cde
151	RICO/V4716//ORION-17	4.5 c-f	5.5 b-e	0.0 e	5.0 a	1.5 b-e
152	YD-4/RSMT	4.0 d-g	5.5 b-e	3.5 ab	2.5 b-e	0.5 de
153	BF5-143-1	5.0 b-e	5.5 b-e	2.0 a-e	1.5 def	1.0 cde
154	8603006/3/MARS/NWRX/	6.0 abc	7.0 ab	0.5 de	2.5 b-e	1.5 b-e
155	CPRS//CPRS/TONG	3.5 e-h	6.0 a-d	3.5 ab	2.5 b-e	2.0 a-d
156	8403113/GGHW	4.5 c-f	6.0 a-d	0.0 e	0.5 f	2.0 a-d
157	8603006/3/MARS/NWRX/	6.5 ab	6.0 a-d	2.0 a-e	2.5 b-e	2.5 abc
158	DELLROSE	5.0 b-e	7.0 ab	1.5 b-e	3.5 abc	2.5 abc
159	DIXIEBELLE	5.5 a-d	6.5 abc	0.5 de	2.0 c-f	0.0 e
160	FRANCIS	4.5 c-f	6.0 a-d	0.0 e	1.5 def	1.0 cde
LSD (P=.05)		1.93	1.69	2.00	1.89	1.92
Standard Deviation		0.95	0.84	0.99	0.93	0.95
CV		23.87	13.94	63.85	39.28	56.72
Replicate F		2.688	0.160	0.817	0.057	0.886
Replicate Prob(F)		0.1092	0.6912	0.3717	0.8118	0.3523
Treatment F		4.557	1.661	3.948	3.851	2.430
Treatment Prob(F)		0.0001	0.0587	0.0001	0.0001	0.0033

Means followed by same letter do not differ significantly (P=.05, LSD).

Table 9. Disease reaction of various varieties and experimental lines in the Group VII Uniform Regional Rice Nursery to leaf blast (LB), sheath blight (SB), narrow brown leaf spot (NB), leaf smut (LS), and brown spot (BS) at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code	LB	SB	NB	LS	BS
Rating Unit	0-9	0-9	0-9	0-9	0-9
Rating Date	08-02-2004	08-25-2004	08-25-2004	08-25-2004	08-25-2004
Trt.# Treatment					
161 NWBT/3/LBNT/9902//LB	5.0 b-e	5.5 cde	1.0 def	1.5 e-h	0.5 bc
162 BNGL//TDCN/LMNT	5.5 bcd	6.5 bc	0.5 ef	4.5 abc	2.5 ab
163 (RU8303116/LMNT)RU91	5.0 b-e	8.0 a	2.5 bcd	2.5 c-g	3.0 a
164 LBNT/9902/3/DAWN/969	4.5 c-f	5.0 def	1.0 def	1.0 fgh	0.5 bc
165 CCDR//AR 1142/LA 203	4.5 c-f	7.0 ab	5.0 a	2.0 d-h	0.0 c
166 BF7-40	6.0 abc	6.5 bc	3.0 bc	0.0 h	0.0 c
167 NWBT/3/LBNT/9902//LB	5.5 bcd	5.5 cde	0.0 f	0.5 gh	0.5 bc
168 CH1/3/CPRS//82CAY21/	4.5 c-f	6.5 bc	0.5 ef	5.0 ab	1.0 abc
169 PSCL/MDSN	4.5 c-f	5.0 def	0.5 ef	2.0 d-h	2.5 ab
170 INKY RICE CROSS 9612	5.0 b-e	5.0 def	0.5 ef	1.0 fgh	0.5 bc
171 CPRS/KBNT	5.5 bcd	6.5 bc	2.5 bcd	4.0 a-d	1.5 abc
172 94:56117(MARS/CM101)	7.5 a	6.5 bc	0.0 f	3.0 b-f	1.5 abc
173 V6DW/STTD//L201/3/VS	3.0 fgh	5.5 cde	0.5 ef	0.5 gh	1.5 abc
174 CH1/3/CPRS//82CAY21/	5.0 b-e	7.0 ab	1.0 def	4.0 a-d	2.0 abc
175 ((NWBT/RU8303181)87:	3.5 e-h	6.5 bc	3.5 ab	2.5 c-g	3.0 a
176 LGRU-2/DREW	2.0 h	4.5 ef	0.5 ef	0.5 gh	1.5 abc
177 CPRS/KBNT	2.5 gh	6.0 bcd	1.5 c-f	2.0 d-h	1.0 abc
178 PSCL/JEFF	3.0 fgh	6.0 bcd	3.0 bc	2.0 d-h	0.5 bc
179 KBNT LPA1-1/BBLE	4.0 d-g	5.0 def	0.5 ef	3.0 b-f	0.5 bc
180 CPRS/9502008-A	3.0 fgh	7.0 ab	2.0 b-e	4.0 a-d	1.5 abc
181 (CPRS/PANDA (FAM188)	2.5 gh	7.0 ab	3.0 bc	1.5 e-h	1.5 abc
182 DREW/5/NWBT/3/DAWN/9	2.5 gh	4.5 ef	2.0 b-e	4.5 abc	0.0 c
183 9502065/3/MERC/RICO/	5.5 bcd	6.0 bcd	0.0 f	3.5 b-e	3.0 a
184 PSCL/JEFF	3.5 e-h	5.0 def	1.0 def	1.0 fgh	2.0 abc
185 LGRU//LMNT/RA73/3/LG	2.0 h	4.0 f	0.0 f	0.0 h	2.0 abc
186 8603006/3/MARS/NWRX/	5.0 b-e	7.0 ab	1.5 c-f	5.0 ab	2.0 abc
187 CCDR/(GFMT*2/TQNG)TX	3.0 fgh	5.0 def	0.0 f	2.5 c-g	0.0 c
188 RNS3/5/IR36M4/4/L201	3.0 fgh	4.5 ef	0.5 ef	1.0 fgh	2.0 abc
189 CPRS//82CAY21/TBNT/3	4.0 d-g	8.0 a	5.0 a	6.0 a	0.0 c
190 ((NWBT/RU8303181)87:	3.0 fgh	6.0 bcd	3.5 ab	3.0 b-f	1.5 abc
191 8603006/3/MARS/NWRX/	5.0 b-e	6.5 bc	1.5 c-f	1.5 e-h	2.5 ab
192 CPRS/KBNT//9502008	5.5 bcd	7.0 ab	0.5 ef	2.0 d-h	2.0 abc
193 8804032/KATY	3.5 e-h	7.0 ab	2.5 bcd	4.5 abc	0.0 c
194 8603006/3/MARS/NWRX/	5.5 bcd	5.5 cde	0.5 ef	3.0 b-f	2.0 abc
195 902207x2/LNWBT/KATY/	2.5 gh	6.0 bcd	2.0 b-e	2.0 d-h	0.0 c
196 RSMT/KATY	2.5 gh	5.0 def	2.5 bcd	1.0 fgh	2.0 abc
197 RXMT//MARS/TBNT	6.5 ab	5.5 cde	0.0 f	0.0 h	2.5 ab
198 CPRS/4/KCAI/LEAH//LE	4.0 d-g	7.0 ab	2.0 b-e	2.5 c-g	1.0 abc
199 CYPRESS	4.5 c-f	6.5 bc	1.5 c-f	3.0 b-f	0.5 bc
200 XL 8	2.0 h	5.0 def	0.0 f	0.5 gh	2.5 ab
LSD (P=.05)	1.53	1.44	1.62	2.45	2.41
Standard Deviation	0.76	0.71	0.80	1.21	1.19
CV	18.46	11.93	54.5	51.8	87.54
Replicate F	0.022	0.394	1.238	0.213	0.009
Replicate Prob(F)	0.8837	0.5339	0.2727	0.6469	0.9258
Treatment F	6.470	3.836	5.633	3.329	1.315
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.1979

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Sheath Blight Fungicide Trial

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cocodrie, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, Mar 23

Fertilization: Preplant 21-63-63, Mar 22; preflood 120-0-0, Apr 29; topdressed 46-0-0, June 2 and 16

Experimental Design: Randomized complete block design with four replications

Water Management: Flushed, Mar 31; permanent flood, May 1

Herbicides: 4 qt Arrosolo + 0.66 oz/A Permit, Apr 15; 16 oz/A Clincher, Apr 29; Londax 1 oz/A, May 4

Insecticides: 1 oz Icon preplant, Mar 24; 2 oz/A Karate Z, June 26

Fungicides: Various, see Table 10

Inoculation Dates: 100 ml/plot of a *Rhizoctonia solani* culture grown on a rice grain:rice hull mixture, June 10

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
PD+7	6/15	10 AM	84^o F	3 mph	85%	30%	moderate
B	6/18	9 AM	83^o F	0 mph	84%	0%	heavy
H	6/28	7 AM	76^o F	0 mph	96%	fog	heavy
H+5	7/2	11 AM	84^o F	1 mph	88%	80%	moderate
H+10	7/7	9 AM	82^o F	1 mph	87%	60%	heavy
H+15	7/13	8 AM	79^o F	6 mph	83%	0%	heavy

Disease Ratings: Sheath blight severity ratings, July 21; Percent tillers infected July 8 and 20

Drained: July 11

Harvest: July 28

Results: See Table 10

Comments: Sheath blight severity was severe, and other diseases failed to develop or were very light.

Table 10. Effect of various fungicides, rates, and timings on sheath blight development and yield of Cocodrie rice at the Rice Research Station, Crowley, LA. 2004.

Pathogen Code							SB	SB	SB	Yield	Milling	Milling
Rating Unit							%	%	0-9	lb/A	% Head	% Total
Rating Date							07-08-2004	07-20-004	07-21-2004	07-28-2004	09-14-2004	09-14-2004
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg						
1	Uninoculated check						5.3 ij	12.3 op	4.3 i-m	8671 a-g	60.1 a-f	71.3 a-d
2	Unsprayed Check						81.8 a	93.5 a	7.8 a	7202 l	58.8 c-g	70.1 a-f
3	Tilt	3.6	EC	10	fl oz/A	B	32.3 d-h	58.0 c-i	6.3 a-g	8208 c-k	58.8 c-g	70.8 a-f
4	Quadris	2.08	SC	9	fl oz /A	B	4.5 ij	16.0 nop	3.8 klm	8877 a-f	59.1 c-g	69.6 a-f
5	Quadris	2.08	SC	9	fl oz /A	PD+7	1.8 j	15.5 nop	4.3 i-m	8695 a-g	59.4 b-g	69.1 c-f
6	Stratego	2.08	EC	16	fl oz /A	B	19.0 f-j	37.0 h-o	5.0 f-l	8684 a-g	59.5 b-g	70.1 a-f
7	Gem	25	DF	8	oz/A	B	34.8 c-g	62.8 b-h	6.5 a-f	8039 f-l	59.7 b-g	71.0 a-e
8	Moncut	70	DF	0.7	lb/A	B	40.0 c-f	80.3 a-e	7.8 a	7621 i-l	60.5 a-e	71.0 a-e
9	Moncut	70	DF	1.0	lb/A	B	25.3 d-j	72.0 a-f	7.0 a-d	7621 i-l	60.9 a-d	71.0 a-e
10	Moncut	70	DF	1.3	lb/A	B	38.3 c-f	61.5 b-h	7.3 abc	7665 h-l	59.1 c-g	70.0 a-f
11	Quilt	1.66	SC	34	fl oz /A	PD+7	5.5 ij	18.8 nop	4.3 i-m	9064 a-d	63.0 a	72.4 a
12	Quilt	1.66	SC	20	fl oz /A	PD+7	4.0 ij	7.3 p	3.3 m	9253 ab	60.7 a-e	71.4 abc
	Quadris	2.08	SC	6.3	fl oz /A	PD+7						
13	Stratego	2.08	SC	16	fl oz /A	PD+7	18.8 f-j	53.5 f-j	6.8 a-e	8064 f-l	61.0 a-d	71.1 a-e
14	Quilt	1.66	SC	28	fl oz /A	B	5.0 ij	9.8 p	3.8 klm	9429 a	62.3 ab	68.6 def
15	Quadris	2.08	SC	6	fl oz /A	B	9.5 hij	22.8 l-p	4.5 h-m	8734 a-g	59.8 b-f	71.4 abc
16	Quilt	1.66	SC	14	fl oz /A	B	6.3 ij	15.0 nop	4.0 j-m	8913 a-f	62.2 ab	71.6 abc
	Quadris	2.08	SC	5.2	fl oz /A	B						
17	Quadris	2.08	EC	6	fl oz /A	H	43.3 cde	37.5 h-o	5.3 e-k	8537 a-i	59.0 c-g	70.4 a-f
18	Stratego	2.08	EC	16	fl oz /A	B	8.8 hij	21.0 l-p	4.5 h-m	8997 a-e		
	PX056	1	EC	0.125	% V/V	B						
19	Quadris	2.08	SC	9	fl oz /A	B	26.8 d-i	49.5 f-k	6.0 b-h	8238 c-k		
	PX056	1	EC	0.125	% V/V	B						
20	Tilt	3.6	EC	10	fl oz /A	B	11.0 g-j	32.3 i-p	5.0 f-l	8446 b-j		
	PX056	1	EC	0.125	% V/V	B						
21	GEM	25	DF	8	oz/A	B	18.5 f-j	45.3 g-m	6.3 a-g	8407 b-j		
	PX056	1	EC	0.125	% V/V	B						
22	Moncut	70	DF	1	lb/A	B	6.3 ij	21.8 l-p	6.0 b-h	8485 b-i		
	PX056	1	EC	0.125	% V/V	B						
23	Headline	2.08	F	12	fl oz /A	B	11.8 g-j	32.5 i-p	6.3 a-g	8903 a-f		
	PX056	1	EC	0.125	% V/V	B						

Continued.

Table 10. Continued.

Pathogen Code							SB	SB	SB	Yield	Milling	Milling
Rating Unit							%	%	0-9	lb/A	% Head	% Total
Rating Date							07-08-2004	07-20-004	07-21-2004	07-28-2004	09-14-2004	09-14-2004
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg						
24	Headline	2.08	F	12	fl oz/A	B	4.0 ij	21.3 l-p	4.8 g-m	8882 a-f	60.8 a-d	70.6 a-f
25	Moncut	4	SC	32	fl oz/A	B	12.0 g-j	46.3 f-l	5.8 c-i	8555 a-h	60.8 a-d	71.5 abc
26	Moncut	4	SC	22.4	fl ozA	B	18.3 f-j	54.8 e-i	6.5 a-f	8018 f-l	59.9 b-f	70.6 a-f
27	Moncut	4	SC	16	fl oz/A	B	32.5 d-h	82.5 a-d	7.3 abc	7886 g-l	60.6 a-e	71.0 a-e
31	Stratego	2.08	EC	19	fl oz/A	B	25.3 d-j	40.3 h-n	6.0 b-h	8903 a-f	61.1 a-d	71.3 a-e
32	Quadris	2.08	SC	9	fl oz/A	H	21.0 e-j	27.8 j-p	5.0 f-l	8712 a-g	58.2 d-g	69.4 b-f
33	GEM	25	DF	8	oz/A	H	47.3 cd	56.3 d-i	5.5 d-j	8158 d-k	61.1 a-d	68.1 f
35	Tilt	3.6	EC	4	fl oz /A	PD+7 & B	6.8 ij	15.3 nop	4.3 i-m	9441 a	61.5 abc	72.1 ab
	Quadris	2.08	SC	12	fl oz /A	PD+7 & B						
36	GEM	25	DF	8	oz/A	H+5 d	78.5 ab	85.8 ab	7.5 ab	7830 g-l	59.4 b-g	70.9 a-f
37	GEM	25	DF	8	oz/A	H+10 d	90.5 a	90.3 a	7.8 a	7327 kl	56.8 g	68.5 ef
38	GEM	25	DF	8	oz/A	H+15 d	57.3 bc	87.0 ab	7.8 a	7538 jkl	58.4 d-g	70.1 a-f
39	Quadris	2.08	SC	9	fl oz /A	H+5 d	77.3 ab	69.5 a-g	7.0 a-d	8108 e-l	57.3 fg	69.1 c-f
40	Quadris	2.08	SC	9	fl oz/A	H+10 d	84.0 a	82.8 abc	7.5 ab	7344 kl	57.7 efg	70.2 a-f
LSD (P=.05)							24.13	26.40	1.62	924.6	2.99	2.80
Standard Deviation							17.24	18.86	1.15	660.4	1.46	1.37
CV							65.93	44.31	20.53	7.82	2.45	1.95
Replicate F							0.219	2.117	1.362	2.324	0.006	4.981
Replicate Prob(F)							0.8829	0.1018	0.2579	0.0785	0.9392	0.0325
Treatment F							8.820	8.143	5.729	3.448	1.804	1.062
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	0.0475	0.4319

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Moncut Fungicide on Fertilizer Aerial Trial

Location: Rocket Farm, North of Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cheniere, 75 lb/A

Plot Size: 10 to 15 acres

Planting Method/Date: Drill-seeded, Mar 25

Fertilization: Used standard agronomic practices

Experimental Design: Unreplicated blocks

Water Management: Used standard agronomic practices

Herbicides: Used standard agronomic practices

Insecticides: Used standard agronomic practices

Fungicides: Various treatments, see Table 11

Inoculation Dates: Natural inoculum

Application Equipment: Commercial aircraft 5 gal/A for fluids, fungicide on fertilizer applied at the rate of 100 lb/A 21-0-0 of fertilizer

Application Dates:

Growth Stage	Date
GR	May 15
B	June 10

Disease Ratings: Sheath blight severity ratings, July 25; infestation levels, July 14

Drained: July 24

Harvest: July 21

Results: See Table 11

Comments: Sheath blight severity was moderate, and other diseases were light in severity.

Table 11. Effect of foliar and fertilizer applied fungicides on sheath blight (SB) development, yield, and milling. Scale: 0 = no disease and 9 = maximum disease possible. North of Crowley, LA. 2004.

Treatment	Sheath Blight Rating (0-9)	Milling % (H/T)	Yield (bbl/A)
Unsprayed Check	6.8	58.1/66.6	42
Moncut 4F 1 lb ai/A	6.0	58.7/67.3	36
Stratego 2.08 SC 16 oz/A	5.3	59.7/68.0	43
Quilt 1.16 SC 28 oz/A	5.0	59.5/68.4	44

2004 Sheath Blight Yield Loss and Fungicide Timing Trial

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cocodrie, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, Mar 23

Fertilization: Preplant 21-63-63, Mar 22; preflood 120-0-0, Apr 29; topdressed 46-0-0, June 2 and 16

Experimental Design: Randomized complete block design with four replications

Water Management: Flushed, Mar 31; permanent flood, May 1

Herbicides: 4 qt Arrosolo + 0.66 oz/A Permit, Apr 15; 16 oz/A Clincher, Apr 29; 1 oz/A Londax, May 4

Insecticides: 1 oz Icon preplant, Mar 22; 2 oz/A Karate Z, June 26

Fungicides: Various, see Table 12

Inoculation Dates: 100 ml/plot of a *Rhizoctonia solani* culture grown on a rice grain:rice hull mixture; GR, June 1; PD, June 10; B, June 17; and B Split, June 23

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
PD+7	Jun 15	10:00 am	84F	3 mph	85%	30%	light
B	Jun 20	7:30 am	92F	0 mph	90%	0%	heavy
50% H	Jun 28	7:30 am	74F	0 mph	99%	fog	heavy

Disease Ratings: Sheath blight severity ratings, July 22; leaf blast July 29

Drained: July 11

Harvest: July 29

Results: See Table 12

Table 12. Effect of foliar fungicide timing and time of epidemic initiation on sheath blight (SB) development, yield, and milling. Scale: 0 = no disease and 9 = maximum disease possible. Rice Research Station, Crowley, LA. 2004.

Pathogen Code							SB	SB	SB	SB	SB	SB	Yield
Rating Data Type							Infection	Infect	Infect	Infect	Infected	Severity	
Rating Unit							%	%	%	%	%	0-9	lb/A
Rating Date							06-10-2004	06-21-2004	07-02-2004	07-09-2004	07-19-2004	07-20-2004	08-02-2004
Pest Stage at Eval							PD	Late B	pollen	Grain fi	Grain fi	Grain Fill	
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg							
1	Uninoculated						0.5 cd	8.3 de	6.3 g	3.8 ef	12.3 de	4.5 c-f	8605 ab
	Unsprayed												
2	Uninoculated						0.3 cd	6.5 de	3.8 g	2.8 f	14.0 de	3.8 c-f	8675 ab
	QUADRIS	2.08	SC	9	OZ/A	PD+7							
3	Uninoculated						0.3 cd	6.5 de	8.5 g	3.3 f	4.8 e	3.0 ef	8505 ab
	QUADRIS	2.08	SC	9	OZ/A	BOOT							
4	Uninoculated						0.3 cd	9.5 de	6.8 g	4.5 ef	16.3 de	3.3 def	8835 a
	QUADRIS	2.08	SC	9	OZ/A	HEAD							
5	Inoculate GR					GR	4.5 a	49.0 a	85.0 a	95.8 a	96.0 a	8.0 a	6307 d
	Unsprayed												
6	Inoculate GR					GR	3.3 ab	27.0 bc	15.5 fg	11.8 c-f	23.0 de	5.0 bcd	8670 ab
	QUADRIS	2.08	SC	9	OZ/A	PD+7							
7	Inoculate GR					GR	3.5 ab	40.0 ab	35.8 c-f	32.3 bc	34.3 cd	5.3 bc	8086 ab
	QUADRIS	2.08	SC	9	OZ/A	BOOT							
8	Inoculate GR					GR	2.5 abc	27.3 bc	49.8 bc	27.0 b-e	24.5 de	4.5 c-f	7811 bc
	QUADRIS	2.08	SC	9	OZ/A	HEAD							
9	Inoculate PD					PD	0.8 cd	22.0 cd	66.8 ab	88.8 a	98.8 a	8.0 a	7002 cd
	Unsprayed												
10	Inoculate PD					PD	0.0 d	7.5 de	6.0 g	2.3 f	7.5 de	2.8 f	8443 ab
	QUADRIS	2.08	SC	9	OZ/A	PD+7							
11	Inoculate PD					PD	0.3 cd	15.5 cde	23.0 efg	23.0 b-f	29.8 de	4.3 c-f	8470 ab
	QUADRIS	2.08	SC	9	OZ/A	BOOT							
12	Inoculate PD					PD	0.8 cd	14.5 cde	40.3 cde	34.0 bc	32.8 cd	5.3 bc	8605 ab
	QUADRIS	2.08	SC	9	OZ/A	HEAD							
13	Inoculate Boot					B-2-4"	0.0 d	10.8 de	57.3 bc	74.5 a	82.3 ab	7.8 a	6816 cd
	Unsprayed												
14	Inoculate Boot					B-2-4"	0.5 cd	8.5 de	9.5 g	6.5 def	24.5 de	5.3 bc	8440 ab
	QUADRIS	2.08	SC	9	OZ/A	PD+7							
15	Inoculate Boot					B-2-4"	0.5 cd	12.5 cde	4.0 g	5.3 def	7.3 de	3.8 c-f	8470 ab
	QUADRIS	2.08	SC	9	OZ/A	BOOT							
16	Inoculate Boot					B-2-4"	0.0 d	16.8 cde	26.5 d-g	27.0 b-e	17.5 de	4.0 c-f	8769 ab
	QUADRIS	2.08	SC	9	OZ/A	HEAD							
17	Inoculate Late Boot					Bsplit	0.5 cd	6.5 de	48.3 bcd	87.0 a	94.5 a	8.0 a	6801 d
	Unsprayed												
18	Inoculate Late Boot					Bsplit	0.5 cd	9.0 de	18.0 efg	36.3 b	59.0 bc	6.8 ab	8344 ab
	QUADRIS	2.08	SC	9	OZ/A	PD+7							
19	Inoculate Late Boot					Bsplit	2.0 bcd	6.8 de	10.0 g	8.8 def	24.5 de	4.5 c-f	8373 ab
	QUADRIS	2.08	SC	9	OZ/A	BOOT							
20	Inoculate Late Boot					Bsplit	0.5 cd	5.5 e	24.5 efg	28.3 bcd	31.3 de	4.8 cde	8386 ab
	QUADRIS	2.08	SC	9	OZ/A	HEAD							

Continued.

Table 12. Continued.

Pathogen Code						SB	SB	SB	SB	SB	SB	Yield
Rating Data Type						Infection	Infect	Infect	Infect	Infected	Severity	
Rating Unit						%	%	%	%	%	0-9	lb/A
Rating Date						06-10-2004	06-21-2004	07-02-2004	07-09-2004	07-19-2004	07-20-2004	08-02-2004
Pest Stage at Eval						PD	Late B	pollen	Grain fi	Grain fi	Grain Fill	
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg						
LSD (P=.05)						2.42	15.67	23.23	23.46	27.61	1.77	1001.2
Standard Deviation						1.71	11.08	16.43	16.59	19.52	1.25	708.0
CV						161.01	71.57	60.26	55.07	53.16	24.46	8.72
Replicate F						0.619	1.095	1.352	2.443	1.656	0.456	1.110
Replicate Prob(F)						0.6054	0.3588	0.2667	0.0734	0.1867	0.7143	0.3527
Treatment F						2.418	4.683	8.272	14.266	10.303	7.431	4.566
Treatment Prob(F)						0.0054	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Moncut Seed Treatment Trial for Sheath Blight Control

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Lemont, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, May 7

Fertilization: Preplant 21-63-63, May 7; preflood 120-0-0, June 8

Experimental Design: A randomized complete block design with four replications

Water Management: Permanent flood, June 10

Herbicides: 4 qt Arrosolo + 1 oz/A Aim + 1 qt Basagran, May 31; 0.4 oz/A Regiment, June 9

Insecticides: 1 oz Icon preplant, May 7; 2 oz/A Karate Z, July 7

Fungicides: Various, see Table 13

Inoculation Dates: Sheath blight inoculated on June 12

Application Equipment: N/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew

All treatments applied to seeds.

Disease Ratings: Plant stands were determined for a 2-ft row length of on June 6, and sheath blight infestations were determined on July 7, 19, and Aug 10.

Drained: Aug 15

Harvest: Aug 30

Results: See Table 13

Comments: Poor erratic stands were due to 18 inches of rain over several days after planting and some seedling disease development. Sheath blight was erratic and light, and plot canopies were thin and erratic. The foliar application at boot was not applied due to lack of disease.

Table 13. Effect of Moncut rice seed treatments on stand establishment, sheath blight infection, and yield. Rice Research Station, Crowley, LA. 2004.

Disease Code						Stand	SB	SB	SB	Yield
Rating Data Type							Infect	Infect	Infect	
Rating Unit						pl/2 ft	%	%	%	g/plot
Rating Date						06-06-2004	07-06-2004	07-19-2004	08-10-2004	08-30-2004
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg					
1	Untreated Check					6.5 a	27.8 a	25.3 a	24.8 a	7720 a
2	Moncut	70	DF	0.71	seed	10.0 a	29.3 a	27.5 a	31.3 a	7892 a
3	Moncut	70	DF	1.07	seed	10.5 a	22.0 a	21.0 a	31.0 a	7766 a
4	Moncut	70	DF	1.43	seed	10.0 a	12.0 a	22.8 a	22.8 a	8034 a
LSD (P=.05)						7.15	26.79	23.13	20.61	1070.1
Standard Deviation						4.64	17.39	15.01	13.38	694.5
CV						53.01	76.76	61.76	48.37	8.91
Replicate F						1.651	3.549	2.029	2.420	3.591
Replicate Prob(F)						0.2301	0.0479	0.1635	0.1168	0.0464
Treatment F						0.709	0.607	0.111	0.320	0.250
Treatment Prob(F)						0.6013	0.6651	0.9764	0.8589	0.9040

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Seed Treatment Trial for Stand Establishment

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cocodrie, ~60 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, May 7

Fertilization: Preplant 21-63-63, May 7; preflood 120-0-0, June 8

Experimental Design: A randomized complete block design with four replications

Water Management: Permanent flood, June 10

Herbicides: 4 qt Arrosolo + 1 oz/A Aim + 1 qt Basagran, May 31; 0.4 oz/A Regiment, June 9

Insecticides: 1 oz Icon preplant, May 7; 2 oz/A Karate Z, July 7

Fungicides: Various, see Table 14

Inoculation Dates: All soilborne inoculum was from natural sources

Application Equipment: N/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew

All treatments applied to seeds by the representative company.

Disease Ratings: Plant stands were determined for a 2-ft row length of on May 24 and June 9

Drained: Aug 15

Harvest: Aug 30

Results: See Table 14

Comments: Stand differences were due to 18 inches of rain after planting and some seedling disease development. Blast was light and developed late in the season.

Table 14. Effect of various rice seed treatments on stand establishment and yield. Rice Research Station, Crowley, LA. 2004.

Disease Code			Stand	Stand	Yield
Rating Unit			pl/2 ft	pl/2 ft	lb/A
Rating Date			05-25-2004	06-09-2004	08-27-2004
Trt No.	Treatment Name	Rate Oz/cwt			
Syngenta					
1	Check		3.5 b	3.8 b	8595 a
2	Apron XL Maxim	0.24 0.04	5.5 ab	6.5 ab	8122 a
3	Apron XL Maxim Azoxystrobin	0.24 0.04 0.5	5.5 ab	7.0 ab	8292 a
4	Apron XL Maxim Azoxystrobin	0.24 0.04 1	4.5 ab	7.8 a	8029 a
5	Vitivax 200 Allegiance	4 0.36	4.5 ab	5.8 ab	8595 a
6	Allegiance Flint	0.36 ------	7.3 a	8.0 a	8145 a
LSD (P=.05)			2.97	3.74	1056.8
Standard Deviation			1.97	2.48	701.3
CV			38.46	38.44	8.45
Replicate F			0.468	0.475	1.010
Replicate Prob(F)			0.7089	0.7040	0.4159
Treatment F			1.692	1.580	0.492
Treatment Prob(F)			0.1972	0.2253	0.7769
Gustafson					
1	Check		6.8 c	8.8 b	7232 a
2	Vitivax 200 Allegiance	3.0 0.36	9.8 abc	16.3 a	7937 a
3	Trilex Allegiance	0.64 0.36	12.8 a	13.3 ab	7335 a
4	Trilex Allegiance Zinc	0.64 0.36 8	10.3 ab	17.0 a	7348 a
5	Trilex Allegiance Zinc	0.64 0.36 10	8.8 bc	12.3 ab	7210 a
6	Apron XL Maxim	0.32 0.04	8.5 bc	12.0 ab	7492 a
LSD (P=.05)			3.25	5.50	998.8
Standard Deviation			2.15	3.65	662.8
CV			22.78	27.57	8.93
Replicate F			2.810	2.119	0.680
Replicate Prob(F)			0.0752	0.1406	0.5778
Treatment F			3.499	2.750	0.662
Treatment Prob(F)			0.0270	0.0588	0.6575

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Variety by Fungicide Trial

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cocodrie, Cypress, Bengal, Francis, and Cheniere, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, Mar 23

Fertilization: Preplant 21-63-63, Mar 22; preflood 120-0-0, Apr 29; topdressed 46-0-0, June 2 and 16

Experimental Design: Factorial arranged in a randomized complete block design with four replications

Water Management: Flushed, Mar 31; permanent flood, May 1

Herbicides: 4 qt Arrosolo + 1 oz/A Londax, Apr 15; 16 oz/A Clincher, Apr 29; 1 oz/A Londax, May 4

Insecticides: 1 oz Icon preplant, Mar 22; 2 oz/A Karate Z, June 26

Fungicides: Various, see Table 15

Inoculation Dates: 100 ml/plot of a *Rhizoctonia solani* culture grown on a rice grain:rice hull mixture, June 10

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
B	June 18	7 am	77F	0 mph	90%	25%	heavy
50% H	June 28	7 am	74F	0 mph	96%	100%	heavy

Disease Ratings: Sheath blight severity ratings, July 20; infestation, see Table 15

Drained: July 11

Harvest: July 28

Results: See Table 15

Comments: Sheath blight severity was moderate, other diseases failed to develop.

Table 15. Effect of varietal resistance, sheath blight inoculation, and fungicide applications on sheath blight development, and yield of rice at the Rice Research Station, Crowley, LA in 2004.

Pathogen Code							SB	SB	SB	SB	SB	SB	Yield
Rating Data Type							Infection	Infect	Infect	Infect	Infect	Severity	
Rating Unit							%	%	%	%	%	0-9	lb/A
Rating Date							06-10-2004	06-21-2004	07-02-2004	07-09-2004	07-19-2004	07-20-2004	08-02-2003
Pest Stage at Evaluation							PD	Late B	Pollination	Grain filling	Grain filled	Late Grain	
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg							
1	Cypress Uninoculated Check						0.5 b	6.3 d-g	16.0 de	8.8 de	13.5 def	4.3 cde	7860 e
2	Cypress Inoculated Check						0.5 b	24.3 ab	79.5 ab	89.0 a	98.5 a	7.5 ab	6666 f
3	Cypress Moncut	70	DF	0.7	LB/A	B & H	0.3 b	7.3 d-g	20.3 de	11.8 de	20.8 d	4.3 cde	7994 de
4	Cypress Quadris	2.08	SC	9	FL OZ/A	B & H	2.5 a	13.5 cd	17.5 de	7.3 de	10.0 def	3.5 d-g	8354 b-e
5	Cocodrie Uninoculated Check						0.3 b	8.3 c-g	11.8 de	15.3 de	17.8 de	4.5 cd	8687 a-d
6	Cocodrie Inoculated Check						0.5 b	26.8 a	85.5 a	88.8 a	100.0 a	8.0 a	6508 f
7	Cocodrie Moncut	70	DF	0.7	LB/A	B & H	0.3 b	15.5 c	24.5 d	15.8 de	15.0 def	4.3 cde	8375 b-e
8	Cocodrie Quadris	2.08	SC	9	FL OZ/A	B & H	1.0 b	16.3 bc	19.3 de	9.0 de	11.8 def	3.8 def	8870 ab
9	Bengal Uninoculated Check						0.3 b	2.3 fg	9.8 de	7.3 de	12.3 def	3.5 d-g	8178 b-e
10	Bengal Inoculated Check						0.5 b	4.5 fg	14.0 de	18.0 d	36.8 c	5.0 c	8275 b-e
11	Bengal Moncut	70	DF	0.7	LB/A	B & H	0.0 b	3.5 fg	7.5 e	7.8 de	9.5 ef	3.5 d-g	8464 b-e
12	Bengal Quadris	2.08	SC	9	FL OZ/A	B & H	0.3 b	5.0 efg	16.8 de	8.3 de	7.0 ef	2.8 fgh	8941 ab
13	Francis Uninoculated Check						0.0 b	1.5 g	9.0 e	5.0 e	5.8 f	2.5 gh	8036 cde
14	Francis Inoculated Check						0.0 b	15.5 c	47.0 c	58.8 c	85.5 b	6.8 b	8016 cde
15	Francis Moncut	70	DF	0.7	LB/A	B & H	0.0 b	6.3 d-g	11.3 de	6.5 de	8.0 ef	2.5 gh	8612 a-e
16	Francis Quadris	2.08	SC	9	FL OZ/A	B & H	0.0 b	5.5 d-g	11.5 de	6.5 de	4.5 f	2.0 h	8827 abc
17	Cheniere Uninoculated Check						0.0 b	5.8 d-g	12.8 de	13.0 de	15.0 def	3.8 def	8308 b-e

Continued.

Table 15. Continued.

Pathogen Code							SB	SB	SB	SB	SB	SB	Yield
Rating Data Type							Infection	Infect	Infect	Infect	Infect	Severity	
Rating Unit							%	%	%	%	%	0-9	lb/A
Rating Date							06-10-2004	06-21-2004	07-02-2004	07-09-2004	07-19-2004	07-20-2004	08-02-2003
Pest Stage at Evaluation							PD	Late B	Pollination	Grain filling	Grain filled	Late Grain	
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg							
18	Cheniere						0.3 b	24.0 ab	66.8 b	73.3 b	90.8 ab	7.3 ab	7007 f
	Inoculated Check												
19	Cheniere						0.3 b	10.3 c-f	13.5 de	12.5 de	13.3 def	3.3 efg	8709 a-d
	Moncut	70	DF	0.7	LB/A	B & H							
20	Cheniere						0.3 b	13.0 cde	10.5 de	7.5 de	6.3 f	2.5 gh	9370 a
	Quadris	2.08	SC	9	FL OZ/A	B & H							
LSD (P=.05)							1.38	8.07	15.10	11.66	11.20	1.25	813.2
Standard Deviation							0.97	5.70	10.68	8.25	7.92	0.88	575.1
CV							259.91	53.06	42.32	35.11	27.22	20.73	7.01
Replicate F							1.000	2.908	1.004	11.412	2.302	0.101	0.534
Replicate Prob(F)							0.3995	0.0423	0.3975	0.0001	0.0867	0.9589	0.6606
Treatment F							1.316	7.092	20.453	47.695	73.603	16.225	6.635
Treatment Prob(F)							0.2102	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Panicle Blight Foliar Trial on Francis and Bengal

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cocodrie, Cypress, Bengal, Francis, and Cheniere, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, Apr 3

Fertilization: Preplant 21-63-63, Mar 24; preflood 120-0-0, May 7; topdressed 46-0-0, June 4

Experimental Design: Factorial arranged in a randomized complete block design with four replications

Water Management: Flushed, Apr 15; permanent flood, May 8

Herbicides: 4 qt Arrosolo + 1 oz/A Londax, May 6

Insecticides: 1 oz Icon preplant, Apr 2; 2 oz/A Karate Z, June 17

Fungicides: Various, see Table 16

Inoculation Dates: All inoculum was from natural sources

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
B	June 18	9:30 am	84F	0 mph	80%	25%	heavy

Disease Ratings: Sheath blight severity ratings, July 29

Drained: Aug 4

Harvest: Aug 18

Results: See Table 16

Comments: Sheath blight severity was very light, and other diseases failed to develop.

Table 16. Effect of various bactericides on bacterial panicle blight and rice yield of variety Francis and Bengal at the Rice Research Station in Crowley, LA. 2004.

Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg	PB	Yield
Pathogen Code							PB	Yield
Rating Data Type								
Rating Unit							0-9	g/plot
Rating Date							07-20-2004	08-02-2004
Francis								
1	Unsprayed Check						3.3 ab	9477 a
2	S-0208	20	WP	0.33	LB A/A	H	2.3 bc	9614 a
3	S-0208	20	WP	0.5	LB A/A	H	2.0 c	9059 a
4	Top Cop	12.2	F	1	QT/A	H	3.0 abc	9595 a
5	Kocide	53	WP	2	LB/A	H	3.5 a	9269 a
6	Agramycin	10	WP	8	OZ/A	H	3.0 abc	9306 a
LSD (P=.05)							1.11	898.9
Standard Deviation							0.74	596.6
CV							26.04	6.36
Replicate F							2.653	6.172
Replicate Prob(F)							0.0864	0.0061
Treatment F							2.510	0.520
Treatment Prob(F)							0.0766	0.7575
Bengal								
1	Unsprayed Check						1.8 b	8256 a
2	S-0208	20	WP	0.33	LB A/A	H	1.5 b	9424 a
3	S-0208	20	WP	0.5	LB A/A	H	2.5 ab	8984 a
4	Top Cop	12.2	F	1	QT/A	H	2.5 ab	9016 a
5	Kocide	53	WP	2	LB/A	H	3.3 a	8865 a
6	Agramycin	10	WP	8	OZ/A	H	2.3 ab	9409 a
LSD (P=.05)							1.18	1459.7
Standard Deviation							0.78	968.7
CV							34.03	10.77
Replicate F							0.068	0.925
Replicate Prob(F)							0.9758	0.4528
Treatment F							2.534	0.784
Treatment Prob(F)							0.0745	0.5771

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Blast Fungicide Trial on M202

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: M 202, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, May 7

Fertilization: Preplant 21-63-63, May 4; preflood 120-0-0, June 8

Experimental Design: Randomized complete block design with four replications

Water Management: Flushed, May 27; permanent flood, June 10

Herbicides: 4 qt Arrosolo + 1 oz/A Aim + 1 qt Basagran, May 31; 0.4 oz/A Regiment, June 9

Insecticides: 1 oz Icon preplant, May 7; 2 oz/A Karate Z, July 7

Fungicides: Various, see Table 17

Inoculation Dates: All inoculum was from natural sources

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
0.5 in B	July 9	3 pm	89F	3 mph	67%	90%	heavy
60% H	July 20	8 am	94F	0 mph	92%	0%	heavy

Disease Ratings: Blast infestations, Aug 6

Drained: Aug 15

Harvest: Aug 24

Results: See Table 17

Comments: Blast severity was high, and other diseases were low in severity. Yield potential was limited due to severe blast.

Table 17. Effect of various fungicides, rates, and timings against rotten neck blast, rice yield, and milling on the variety M202 at the Rice Research Station, Crowley, LA. 2004.

Disease Code Rating Unit Rating Date Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	RNB % 08-06-2004	Yield lb/A 08-24-2004	Milling % Head 09-15-2004	Milling % Total 09-15-2004
1	Unsprayed check						88.3 a	1292 e	39.4 c	55.7 cd
2	Quadris	2.08	SC	9	OZ/A	H	60.5 b-e	1976 a-e	55.3 ab	64.2 ab
3	Quadris	2.08	SC	9	OZ/A	B + H	42.8 efg	2194 a-d	54.6 ab	64.2 ab
4	Quadris	2.08	SC	12	OZ/A	H	73.5 abc	2066 a-d	50.7 ab	62.3 ab
5	Quadris	2.08	SC	12	OZ/A	H	70.0 a-d	1837 b-e	53.0 ab	62.9 ab
	PX056	1	EC	0.125	% V/V	H				
6	Gem	25	WG	6	OZ WT/A	H	74.5 abc	1712 de	39.2 c	55.3 d
7	Gem	25	WG	6	OZ WT/A	B + H	36.8 fgh	2467 abc	51.9 ab	62.3 abc
8	Gem	25	WG	8	OZ WT/A	H	68.0 a-d	2376 a-d	54.4 ab	63.8 ab
9	Gem	25	WG	8	OZ WT/A	H	79.3 ab	1889 a-e	49.8 abc	60.3 bcd
	PX056	1	EC	0.125	% V/V	H				
10	USF2004	4.14	SC	3	OZ/A	B + H	49.0 d-g	2593 a	56.0 ab	63.5 ab
11	Stratego	2.08	EC	16	OZ/A	B	34.0 fgh	2555 a	55.3 ab	64.7 ab
	Gem	25	WG	6	OZ WT/A	H				
LSD (P=.05)							23.19	708.4	10.55	6.60
Standard Deviation							16.23	495.7	4.95	3.10
CV							28.65	23.47	9.58	4.95
Replicate F							1.751	4.637	1.265	0.016
Replicate Prob(F)							0.1702	0.0066	0.2784	0.9015
Treatment F							6.460	2.091	2.453	2.041
Treatment Prob(F)							0.0001	0.0288	0.0463	0.0892

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Blast Fungicide Trial on Bengal

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: LM1, Cypress, Bengal, and Lemont, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, May 7

Fertilization: Preplant 21-63-63, May 7; preflood 120-0-0, June 8

Experimental Design: Factorial arranged in a randomized complete block design with four replications

Water Management: Permanent flood, June 10

Herbicides: 4 qt Arrosolo + 1.6 oz/A Aim, May 29

Insecticides: 1 oz Icon preplant, May 7; 2 oz/A Karate Z, July 7

Fungicides: Various, see Table 18

Inoculation Dates: All inoculum was from natural sources

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
B	July 22	3:30 pm	90F	2 mph	57%	40%	dry
H	July 28	7:30 am	78F	0 mph	82%	0%	heavy
H+5	Aug 1	8:45 am	79F	0 mph	87%	0%	heavy
H+10	Aug 6	8:30 am	73F	3 mph	81%	100%	mod.
H+15	Aug 11	1:15 pm	90F	3 mph	68%	25%	light

Disease Ratings: Percent heads with blast, Aug 17 and 27

Drained: Aug 15

Harvest: Aug 30

Results: See Table 18

Comments: Blast severity was light and developed late in the season.

Table 18. Effect of fungicide rate and timing on blast development and yield of Bengal rice at the Rice Research Station, in Crowley, LA. 2004.

Pathogen Code							Blast	Blast	Yield
Rating Data Type							%	%	lb/A
Rating Date							08-17-2004	08-27-2004	08-27-2004
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg			
1	Unsprayed Check						3.8 bc	26.5 a	7775 c
2	Quadris	2.08	SC	12	OZ/A	B & H	0.5 f	14.5 de	8126 abc
3	Quadris	2.08	SC	9	OZ/A	B & H	1.3 def	14.5 de	8575 abc
4	Quadris	2.08	SC	6	OZ/A	B & H	0.5 f	13.5 de	8525 abc
5	Quadris	2.08	SC	12	OZ/A	H	2.3 b-f	15.8 b-e	8574 abc
6	Quadris	2.08	SC	9	OZ/A	H	1.5 c-f	14.8 cde	8865 a
7	Quadris	2.08	SC	6	OZ/A	H	2.3 b-f	12.3 e	8546 abc
8	Quadris	2.08	SC	9	OZ/A	H+5	4.5 ab	16.0 b-e	8130 abc
9	Quadris	2.08	SC	9	OZ/A	H+10	4.3 b	19.0 bcd	7921 bc
10	Quadris	2.08	SC	9	OZ/A	H+15	6.8 a	21.0 abc	8094 abc
11	Quadris	2.08	SC	9	OZ/A	B	3.8 bc	17.8 b-e	8510 abc
12	Quadris	2.08	SC	12	OZ/A	B	2.8 b-f	16.3 b-e	8131 abc
13	Unsprayed Check						3.0 b-e	21.3 ab	8081 abc
14	Gem	70	DF	8	OZ WT/A	B	0.8 ef	12.8 de	8672 ab
15	Gem	70	DF	8	OZ WT/A	H	1.8 c-f	15.0 b-e	8601 ab
16	Gem	70	DF	8	OZ WT/A	H+10	3.3 bcd	17.8 b-e	7999 bc
LSD (P=.05)							2.47	6.29	818.7
Standard Deviation							1.73	4.40	572.9
CV							64.75	26.24	6.89
Replicate F							7.744	0.298	6.475
Replicate Prob(F)							0.0003	0.8269	0.0010
Treatment F							3.828	2.836	1.247
Treatment Prob(F)							0.0002	0.0035	0.2749

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Lake Arthur Fungicide Trial

Location: Errol Lounsberry Farm, Lake Arthur, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cocodrie, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, Mar 23

Fertilization: Preplant 21-63-63, Mar 23; preflood 120-0-0, May 6

Experimental Design: Randomized complete block design with four replications

Water Management: Flushed, Mar 26 and Apr 21; permanent flood, May 7

Herbicides: 4 qt Arrosolo + 1.0 oz/A Permit, May 6

Insecticides: 1 oz Icon preplant, Mar 23

Fungicides: Various, see Table 19

Inoculation Dates: Inoculum from natural sources

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
B	June 16	9:30 am	83F	10 mph	85%	80%	heavy
60% H	July 8	12:00 N	89F	0 mph	70%	80%	mod
H + 5	July 12	0:30 am	78F	0 mph	68%	30%	heavy
H + 10	July 16	9:40 am	86F	6 mph	66%	20%	light
H + 15	July 21	9:45 am	84F	2 mph	78%	40%	heavy

Disease Ratings: Sheath blight severity ratings, Aug 6

Drained: July 29

Harvest: Aug 9

Results: See Table 19

Comments: Sheath blight severity was moderate, and other diseases failed to develop.

Table 19. Effect of fungicide applications on sheath blight development and rice yield and milling at the Errol Lounsberry Farm, Lake Arthur, LA. 2004.

Pathogen Code						SB	SB	Yield	Milling	Milling
Rating Unit						%	0-9	lb/A	% Head	% Total
Rating Date						08-06-2004	08-09-2004	08-09-2004	09-20-2004	09-20-2004
Trt No.	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	Grow Stg					
1	Unsprayed						93.0 ab	7.6 a	5999.1 h	64.1 a	69.3 d
2	Tilt	3.6	EC	10	FL OZ/A	B	82.4 a-d	7.4 ab	6310.9 d-h	64.1 a	69.5 cd
3	Quadris	2.08	SC	12	FL OZ/A	B	67.6 c-f	6.2 def	6903.1 ab	65.8 a	70.7 abc
4	Quadris	2.08	SC	9	FL OZ/A	B	72.2 b-f	6.6 b-e	6813.9 abc	64.8 a	70.0 a-d
5	Stratego	2.08	EC	16	FL OZ/A	B	93.0 ab	7.4 ab	6351.5 d-h	64.5 a	69.5 bcd
6	Gem	25	DF	8	OZ/A	B	76.8 a-e	7.4 ab	6627.4 a-e	64.4 a	69.7 a-d
7	Moncut	70	DF	1.0	LB/A	B	82.0 a-d	7.2 abc	6362.3 d-h	65.5 a	70.4 a-d
8	Moncut	70	DF	1.3	LB/A	B	86.4 a-d	6.8 a-d	6529.2 b-f	65.4 a	70.7 ab
9	Quilt	1.66	SC	34	FL OZ/A	B	56.6 ef	5.6 f	6984.1 a	65.2 a	70.2 a-d
10	Quilt	1.66	SC	20	FL OZ/A	B	66.2 def	6.4 c-f	6693.0 a-d	65.0 a	70.2 a-d
	Quadris	2.08	SC	6.3	FL OZ/A	B					
11	Stratego	2.08	EC	19	FL OZ/A	B	86.6 a-d	7.4 ab	6503.0 b-g	65.1 a	70.3 a-d
12	Moncut	70	DF	1.0	LB/A	H	82.8 a-d	5.8 ef	6411.0 c-h	65.2 a	70.4 a-d
13	GEM	25	DF	8	OZ/A	H	52.4 f	5.8 ef	6594.5 a-f	65.5 a	70.3 a-d
14	GEM	25	DF	8	OZ/A	H+5 d	75.6 a-f	7.0 a-d	6241.6 e-h	65.7 a	70.7 ab
15	GEM	25	DF	8	OZ/A	H+10 d	91.0 abc	7.2 abc	6002.7 h	64.9 a	70.1 a-d
16	GEM	25	DF	8	OZ/A	H+15 d	97.2 a	7.6 a	6100.2 gh	64.8 a	70.4 a-d
17	Quadris	2.08	SC	9	FL OZ/A	H	64.4 def	5.6 f	6629.6 a-e	66.0 a	70.8 a
18	Quadris	2.08	SC	9	FL OZ/A	H+5 d	91.2 abc	7.0 a-d	6205.3 fgh	65.1 a	70.1 a-d
19	Quadris	2.08	SC	9	FL OZ/A	H+10 d	85.6 a-d	6.8 a-d	6019.5 h	63.8 a	69.4 d
20	Quadris	2.08	SC	9	FL OZ/A	H+15 d	92.0 ab	6.8 a-d	6292.4 d-h	65.0 a	70.0 a-d
LSD (P=.05)							24.15	0.94	421.48	2.36	1.24
Standard Deviation							19.09	0.75	333.21	1.13	0.59
CV							23.94	11.01	5.18	1.74	0.84
Replicate F							3.585	4.514	14.051	0.000	0.403
Replicate Prob(F)							0.0099	0.0025	0.0001	1.0000	0.5330
Treatment F							2.270	4.040	3.897	0.543	1.225
Treatment Prob(F)							0.0064	0.0001	0.0001	0.9040	0.3311

Means followed by same letter do not differ significantly (P=.05, LSD).

2004 Jeff Davis Fungicide Trial

Location: Jimmy Hoppe Farm, Fenton, LA

Soil Type: Crowley silt loam (pH 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 cmole/kg)

Variety/Seed Rate: Cocodrie, 100 lb/A

Plot Size: 4 x 16 ft

Planting Method/Date: Drill-seeded, Mar 12

Fertilization: Preplant 21-63-63, Mar 12; preflood 120-0-0, Apr 24

Experimental Design: Randomized complete block design with four replications

Water Management: Flushed, Mar 23; permanent flood, Apr 24

Herbicides: 4 qt Stam + 1.5 pt Basagran, Apr 1; 20 oz Clincher + 1.5 oz Londax, Apr 23

Insecticides: 1 oz Icon preplant, Mar 12; 2 oz/A Karate Z, June 24

Fungicides: Various, see Table 20

Inoculation Dates: All inoculum was from natural sources

Application Equipment: CO_2 backpack sprayer, 8002 tips, 15 gal/A

Application Dates:

Growth Stage	Date	Time	Temp	Wind	RH	Clouds	Dew
B (JDE)	June 11	9:45 am	85F	10 mph	75%	40%	light
B (JDW)	June 11	11:00 am	76F	3 mph	90%	100%	heavy
5% H	June 16	11:30 am	76F	3 mph	90%	100%	heavy

Disease Ratings: Sheath blight severity ratings, July 21; infestation level, July 22

Drained: July 21

Harvest: Aug 5

Results: See Table 20

Comments: Sheath blight severity was very high, and other diseases were light in severity.

Table 20. Effect of fungicide applications on sheath blight development rice yield and milling at the Jimmy Hoppe Farm, Fenton, LA. 2004.

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	SB	SB	Yield	Milling	Milling
Disease Code							SB	SB	Yield	Milling	Milling
Rating Unit							0-9	% Tiller	lb/A	% Head	% Total
Rating Date							07-20-2004	07-21-2004	08-05-2005	09-16-2004	09-16-2004
West											
1	Unsprayed Check						8.2 a	82.8 ab	5752 d	56.0 c	67.8 d
2	Quilt	1.67	SC	34	FL OZ/A	B	6.4 def	57.4 bcd	7384 abc	59.0 bc	69.2 cd
3	Quilt	1.67	SC	20	FL OZ/A	B	5.8 f	34.8 d	8114 a	61.1 ab	70.7 abc
	Quadris	2.08	SC	6.3		B					
4	Quilt	1.67	SC	34	FL OZ/A	LB	6.8 cde	79.0 abc	6927 c	59.8 ab	70.8 ab
5	Quilt	1.67	SC	20	FL OZ/A	LB	5.6 f	70.2 abc	7303 abc	63.0 a	72.2 a
	Quadris	2.08	SC	6.3	FL OZ/A	LB					
6	Quadris	2.08	SC	12.3	FL OZ/A	B	6.0 ef	49.4 cd	7779 ab	61.7 ab	71.2 ab
7	Quadris	2.08	SC	9.2	FL OZ/A	LB	7.2 bcd	90.4 a	6678 c	60.7 ab	71.2 ab
8	Stratego	2.08	SC	16	FL OZ/A	B	7.6 abc	86.8 ab	7101 bc	60.7 ab	70.6 bc
9	Stratego	2.08	SC	16	FL OZ/A	LB	7.8 ab	96.8 a	6996 bc	60.3 ab	70.7 abc
LSD (P=.05)							0.88	30.26	835.3	3.29	1.50
Standard Deviation							0.69	23.43	646.8	1.43	0.65
CV							10.04	32.56	9.09	2.37	0.92
Replicate F							2.438	0.655	4.519	10.284	3.747
Replicate Prob(F)							0.0672	0.6274	0.0052	0.0125	0.0889
Treatment F							9.314	3.928	5.443	3.801	7.501
Treatment Prob(F)							0.0001	0.0025	0.0002	0.0383	0.0050

Means followed by same letter do not differ significantly (P=.05, LSD).

Continued.

Table 20. Continued.

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	SB 0-9 07-20-2004	SB % Tiller 07-21-2004	Yield lb/A 08-05-2005	Milling % Head 09-16-2004	Milling % Total 09-16-2004
East											
1	Unsprayed Check						8.4 a	96.0 a	4934 cd	44.5 c	66.0 c
2	Tilt	3.6	EC	10	FL OZ/A	B	8.2 ab	96.2 a	4999 cd	45.2 c	66.1 c
3	Quadris	2.08	SC	12	FL OZ/A	B	7.6 ab	90.0 ab	5512 bcd	48.3 bc	67.2 abc
4	Quadris	2.08	SC	9	FL OZ/A	B	7.4 b	78.6 b	6338 ab	55.0 ab	69.4 ab
5	Stratego	2.08	EC	16	FL OZ/A	B	7.8 ab	95.4 a	5907 a-d	53.2 abc	69.6 ab
6	Gem	25	DF	8	OZ/A	B	8.0 ab	95.6 a	5545 bcd	48.6 bc	68.3 abc
7	Moncut	70	DF	1.0	LB/A	B	8.0 ab	98.2 a	4849 cd	48.0 bc	68.2 abc
8	Moncut	70	DF	1.3	LB/A	B	7.8 ab	94.2 a	4669 d	58.1 a	69.8 ab
9	Quilt	1.66	SC	34	FL OZ/A	B	6.2 c	63.0 c	7009 a	56.9 ab	70.4 a
10	Stratego	2.08	EC	19	FL OZ/A	B	7.6 ab	92.6 ab	6100 abc	55.3 ab	67.1 bc
LSD (P=.05)							0.81	14.80	1259.0	9.23	3.28
Standard Deviation							0.64	11.58	985.0	4.08	1.45
CV							8.27	12.87	17.63	7.95	2.13
Replicate F							4.562	0.555	3.533	3.121	4.489
Replicate Prob(F)							0.0044	0.6964	0.0157	0.1111	0.0632
Treatment F							4.521	4.498	2.932	2.959	2.347
Treatment Prob(F)							0.0005	0.0005	0.0103	0.0609	0.1099

Means followed by same letter do not differ significantly (P=.05, LSD).

DEVELOPING CONTROL MEASURES FOR BACTERIAL PANICLE BLIGHT CAUSED BY *BURKHOLDERIA GLUMAE*

M.C. Rush, P.A. Bollich, S. Zhang, and D.E. Groth

Rice bacterial panicle blight (BPB), which was found to be caused by the virulent bacterium *Burkholderia glumae*, is a recurrent and sporadic problem of rice in the southern United States with the potential for causing severe loss in susceptible rice cultivars under conditions of high night-time temperature and high humidity during the heading stages. Rice breeders need to know the reactions of their elite lines or cultivars to this pathogen. An experiment was conducted to screen the reactions of the uniform rice nursery (URRN) entries in the 2004 test to BPB caused by *B. glumae*. The lines were tested for resistance by inoculating them in a field nursery grown at the Rice Research Station, Crowley, LA, in the 2004 season. A nursery was also conducted in cooperation with Dr. Shannon Pinson to develop data for quantitative trait loci (QTL) analysis of resistance to *B. glumae* in the cross Lemont by Teqing.

We are also summarizing the results of 3 years of research on the pathogens causing BPB and methods for identifying seed-lots infected with pathogenic *Burkholderia* species and quantifying the bacteria in infected seed. *B. glumae* is seedborne and the disease is spread by planting infected seeds.

MATERIALS AND METHODS

Bacterial Panicle Blight Nursery

A nursery to screen the susceptibility of URRN entries to BPB was conducted at the Rice Research Station in 2004. This nursery included the 200 URRN entries, five previously identified resistant/susceptible check lines and cultivars, 10 lines identified as resistant in the 2003 BPB nursery, and three lines identified as susceptible in the 2003 BPB nursery. The nursery was planted with a Hege tray planter in rows with a 7-in spacing between rows. Three 6- ft row plots were planted for each entry, with three replications in a completely randomized design (CRD). The plots were fertilized with 21-62-62 (N-P-K) preplant and 120-0-0 (N-P-K) preflood. Herbicides included Arrosolo+Londax followed by Clincher. Preplant Icon and Karate Z later in the season were used for insect control. The center row of each plot was inoculated with a 24-hr culture of *B. glumae* (isolate #951886-4-1c). The pathogen culture was applied with a hand sprayer at the panicles 50% emerging from the boot stage of growth. Panicle blight ratings (0-9 scale) were used to record disease severity 3 weeks after inoculation.

QTL Nursery

Two reps were planted May 12, 2004, and one May 28, 2004. Fertilization, herbicides, and insecticides were the same as for the third planting of progeny rows. The center of each three-row plot was inoculated with *B. gluma,* by hand-spraying as panicles were emerging. Plots were rated with the BPB 0-9 rating at maturity.

Etiology of BPB and Identification of Infected Seed-Lots

Rice produced in the southern United States has a long history of loss to panicle blighting of unknown etiology. The damage in Louisiana was severe in 1995, 1998, and 2000, years of record-high temperatures, with yield losses in some fields estimated to be as high as 40%. In 1996-97, the cause of this panicle blighting was identified by our laboratory as the bacterial plant pathogen *Burkholderia glumae*. Further etiology studies have implicated several *Burkholderia* spp. as potential causes of BPB on Louisiana rice.

Our research is directed toward identifying the pathogen or pathogens causing the BPB disease on rice, studying the effects of selected environmental factors on growth of these pathogens, developing a method for rapidly identifying the disease on fresh plant samples, and developing a method for identifying infected certified seed with high levels of the causal bacterial pathogens. Specifically, the goals of our research were to clarify the causal relationships of the *Burkholderia* spp. associated with blighted rice, to develop procedures for extracting pathogenic bacteria from infected seeds, to develop monoclonal and polyclonal antibodies specific for pathogenic *Burkholderia* spp., to develop a capture format enzyme-linked immunosorbant assay (ELISA) system for identifying rice seed-lots with bacterial pathogens, and to develop PCR and Real Time-PCR techniques to identify the pathogens in fresh field samples and from infected seed-lots. Development of this technology will help to optimize yields of rice in Louisiana and to minimize some of the economic uncertainty related to rice production.

RESULTS

The reactions of test entries to BPB in the nursery are presented in Table 1. None of the entries were immune to the BPB disease. The varieties Cocodrie, Frances, Jefferson, Bengal, Medark, LeGrue, Saber, Cheniere, Priscilla, Cypress, Banks, XL8, and Wells had ratings in the moderately susceptible to susceptible range (6-9). The variety Pirogue had a rating in the resistant range (0-3).

The resistant control varieties/lines Nipponbare (3.3), LM1 (4.7), and AB647 (3.7) had resistant to moderately resistant ratings. Moderately resistant control line LR2065 had an average rating of 6.0 in 2004.

QTL Nursery

Reactions of progeny rows in the QTL evaluation are listed in Table 2. These data were sent to Dr. Shannon Pinson for analysis. Lemont, the susceptible parent in the cross, had a maximum mean rating of 6.0 in the 2004 nursery. Teqing, the moderately resistant parent, had a mean rating of 4.5. Several lines in the nursery had resistant ratings of 2 or 3. This suggested the possibility of transgressive segregation for resistance.

Results of Recent Research on Bacterial Panicle Blight Etiology and Identification of Infected Seed-Lots
Isolation of cultures. Four hundred two bacterial isolates were isolated on the semi-specific S-PG medium from field collected, diseased rice tissues showing symptoms of panicle blighting. These isolates were purified using serial dilution in sterile water and replating on S-PG medium. A total of 420 single isolates were obtained. These isolates were subjected to pathogenicity tests on rice (*Oryza sativa* L. cv. Cypress).

Results to date include the identification of two species of *Burkholderia* (*B. glumae* and *B. gladioli*) as causes of BPB in the United States through greenhouse seedling and panicle inoculations. Isolates of these two species produce similar symptoms on rice.

Identification of pathogen species. Our earlier Biolog™ analysis of field isolates of *Burkholderia* species isolated from infected rice grains indicated that several species, including *B. glumae, B. gladioli, B. multivorans, B. plantarii*, *B. vietnamiensis*, and *B. cocovenenans*, were involved. However, later PCR identifications with species specific primers indicated that most of our isolates were *B. glumae*. We reran all Biolog™ analysis using an automated Biolog plate reader. In our earlier experiments, data were read manually.

Among the 292 *Burkholderia* strains tested, 242 and 13 isolates reacted with *B. glumae* and *B. gladioli* primers, respectively. Except for the ATCC *B. plantarii*, none of the tests identified *B. plantarii* using *B. plantarii* primers. Thirty-seven isolates did not react with any of the above three primers. No amplification was seen in negative controls such as the ATCC *B. gladioli* and *B. plantarii* reference cultures.

The nucleotide sequence analysis PCR products of *B. glumae* and *B. gladioli* showed more then 98% sequence similarity with already published *B. glumae* and *B. gladioli* sequences. Further, the bacterial DNA isolated from fresh panicle blighted green tissues and seed extracts reacted only with *B. glumae* or *B. gladioli* primers.

Our early fatty acid analyses, based on the MIDI Sherlock® Microbial Identification System developed by MIDI Inc., identified most of our *B. glumae* isolates as *B. cepacia* GC subgroup B because the MIDI Sherlock® Microbial Identification System does not include *B. glumae* in its database. It also identified some of the *B. glumae* and *B. gladioli* strains as *B. gladioli.* Four strains, identified as *B. gladioli* by fatty acid analysis, reacted with *B. gladioli* PCR primers. After a thorough screening of all our isolates with *B. gladioli* species specific primer, we have identified a total of 13 isolates as *B. gladioli* based on reaction to specific primers and by the MIDI Sherlock® Microbial Identification System for fatty acid analysis.

Table 1. Results of 2004 URRN panicle blight nursery screening test conducted at the LSU Agricultural Center Rice Research Station in 2004.

Rep	**Entry**	**RU#**	**Pedigree or Identity**	**Rating (0-9)**	**Rep**	**Rating (0-9)**	**Rep**	**Gr**	**Rating (0-9)**	**Mean**
I	001	RU0301093	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS		II		III	L		
I	001	RU0301093	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS	7	II	7	III	L	7	7.0
I	001	RU0301093	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS		II		III	L		
I	002	RU0202002	9502008/3/CPRS//82CAY21/TBNT		II		III	L		
I	002	RU0202002	9502008/3/CPRS//82CAY21/TBNT	5	II	8	III	L	4	5.7
I	002	RU0202002	9502008/3/CPRS//82CAY21/TBNT		II		III	L		
I	003	RU9903092	92:13826(VSTA/LBNT//RSMT)//MBLE		II		III	L		
I	003	RU9903092	92:13826(VSTA/LBNT//RSMT)//MBLE	5	II	6	III	L	6	5.7
I	003	RU9903092	92:13826(VSTA/LBNT//RSMT)//MBLE		II		III	L		
I	004	RU0101093	9101001//TBNT/KATY/3/LGRU		II		III	L		
I	004	RU0101093	9101001//TBNT/KATY/3/LGRU	5	II	7	III	L	8	6.7
I	004	RU0101093	9101001//TBNT/KATY/3/LGRU		II		III	L		
I	005	RU0302005	TACAURI/3/CPRS//82CAY21/TBNT		II		III	L		
I	005	RU0302005	TACAURI/3/CPRS//82CAY21/TBNT	4	II	5	III	L	4	4.3
I	005	RU0302005	TACAURI/3/CPRS//82CAY21/TBNT		II		III	L		
I	006	RU0103089	JEFF/CCDR		II		III	L		
I	006	RU0103089	JEFF/CCDR	6	II	6	III	L	4	5.3
I	006	RU0103089	JEFF/CCDR		II		III	L		
I	007	RU0301096	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	007	RU0301096	NWBT/3/LBNT/9902//LBLE/4/DREW	5	II	7	III	L	7	6.3
I	007	RU0301096	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	008	RU0202008	CPRS//82CAY21/TBNT/…		II		III	L		
I	008	RU0202008	CPRS//82CAY21/TBNT/…	7	II	9	III	L	7	7.7
I	008	RU0202008	CPRS//82CAY21/TBNT/…		II		III	L		
I	009	RU0103123	RU9302165(8902207x2-25KR)/DXBL		II		III	L		
I	009	RU0103123	RU9302165(8902207x2-25KR)/DXBL		II	6	III	L		
I	009	RU0103123	RU9302165(8902207x2-25KR)/DXBL		II		III	L		
I	010	RU0101105	LGRU//LMNT/RA73/3/LGRU/4/LGRU		II		III	L		
I	010	RU0101105	LGRU//LMNT/RA73/3/LGRU/4/LGRU	4	II	7	III	L	8	6.3
I	010	RU0101105	LGRU//LMNT/RA73/3/LGRU/4/LGRU		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	011	RU0402011	61764DH3		II		III	L		
I	011	RU0402011	61764DH3	8	II	7	III	L	7	7.3
I	011	RU0402011	61764DH3		II		III	L		
I	012	RU0403012	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF		II		III	L		
I	012	RU0403012	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF	6	II	4	III	L	6	5.3
I	012	RU0403012	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF		II		III	L		
I	013	RU0301121	L201//TBNT/BLMT/3/JDON		II		III	L		
I	013	RU0301121	L201//TBNT/BLMT/3/JDON	7	II	7	III	L	7	7.0
I	013	RU0301121	L201//TBNT/BLMT/3/JDON		II		III	L		
I	014	RU0404014	TBNT/LA110//LMNT		II		III	L		
I	014	RU0404014	TBNT/LA110//LMNT	6	II	6	III	L	8	6.7
I	014	RU0404014	TBNT/LA110//LMNT		II		III	L		
I	015	RU0304122	8804032/DLLA		II		III	L		
I	015	RU0304122	8804032/DLLA	5	II	5	III	L	6	5.3
I	015	RU0304122	8804032/DLLA		II		III	L		
I	016	RU0404016	CPRS/JKSN		II		III	L		
I	016	RU0404016	CPRS/JKSN	7	II	8	III	L	5	6.7
I	016	RU0404016	CPRS/JKSN		II		III	L		
I	017	FRNS	FRNS		II		III	L		
I	017	FRNS	FRNS	4	II	7	III	L	7	6.0
I	017	FRNS	FRNS		II		III	L		
I	018	PI606331	CCDR		II		III	L		
I	018	PI606331	CCDR	7	II	8	III	L	6	7.0
I	018	PI606331	CCDR		II		III	L		
I	019	PI593892	JEFF		II		III	L		
I	019	PI593892	JEFF	4	II	3	III	L	6	4.3
I	019	PI593892	JEFF		II		III	L		
I	020	CYBT	CYBONNET		II		III	L		
I	020	CYBT	CYBONNET	3	II	8	III	L	5	5.3
I	020	CYBT	CYBONNET		II		III	L		
I	021	RU0301127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	021	RU0301127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO	7	II	8	III	M	6	7.0
I	021	RU0301127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	022	RU0402022	9502008/3/MBLE//LMNT/20001-5		II		III	L		
I	022	RU0402022	9502008/3/MBLE//LMNT/20001-5	5	II	8	III	L	8	7.0
I	022	RU0402022	9502008/3/MBLE//LMNT/20001-5		II		III	L		
I	023	RU0103190	BF4-274		II		III	L		
I	023	RU0103190	BF4-274	2	II	5	III	L	3	3.3
I	023	RU0103190	BF4-274		II		III	L		
I	024	RU0101099	RU8201176/4/LBNT/STBN//NWBT/3/MILL		II		III	L		
I	024	RU0101099	RU8201176/4/LBNT/STBN//NWBT/3/MILL	6	II	4	III	L	6	5.3
I	024	RU0101099	RU8201176/4/LBNT/STBN//NWBT/3/MILL		II		III	L		
I	025	RU0002140	JSMN/DLLA		II		III	L		
I	025	RU0002140	JSMN/DLLA	9	II	9	III	L	8	8.7
I	025	RU0002140	JSMN/DLLA		II		III	L		
I	026	RU0103184	(CPRS/PELDE)96:3944/JEFF		II		III	L		
I	026	RU0103184	(CPRS/PELDE)96:3944/JEFF	3	II	6	III	L	5	4.7
I	026	RU0103184	(CPRS/PELDE)96:3944/JEFF		II		III	L		
I	027	RU0301105	RU9201176/3/KATY//TBNT/NWRX		II		III	L		
I	027	RU0301105	RU9201176/3/KATY//TBNT/NWRX	5	II	5	III	L	7	5.7
I	027	RU0301105	RU9201176/3/KATY//TBNT/NWRX		II		III	L		
I	028	RU0402028	BNGL//MERC/RICO/3/MERC/…		II		III	M		
I	028	RU0402028	BNGL//MERC/RICO/3/MERC/…	7	II	5	III	M	5	5.7
I	028	RU0402028	BNGL//MERC/RICO/3/MERC/…		II		III	M		
I	029	RU0203029	(RU8303116/LMNT)RU9103049/KBNT		II		III	L		
I	029	RU0203029	(RU8303116/LMNT)RU9103049/KBNT	6	II	8	III	L	7	7.0
I	029	RU0203029	(RU8303116/LMNT)RU9103049/KBNT		II		III	L		
I	030	RU0301030	961215		II		III	L		
I	030	RU0301030	961215	4	II	7	III	L	3	4.7
I	030	RU0301030	961215		II		III	L		
I	031	RU0202183	9502065/3/BNGL//MERC/RICO		II		III	M		
I	031	RU0202183	9502065/3/BNGL//MERC/RICO	6	II	2	III	M	2	3.3

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	031	RU0202183	9502065/3/BNGL//MERC/RICO		II		III	M		
I	032	RU0203032	JEFF/(VSTA/LBNT//L201/3/SKBT)RU9404077		II		III	L		
I	032	RU0203032	JEFF/(VSTA/LBNT//L201/3/SKBT)RU9404077	5	II	4	III	L	7	5.3
I	032	RU0203032	JEFF/(VSTA/LBNT//L201/3/SKBT)RU9404077		II		III	L		
I	033	RU0404033	CPRS/3/(L201//TBNT/BLMT)		II		III	L		
I	033	RU0404033	CPRS/3/(L201//TBNT/BLMT)	6	II	6	III	L	6	6.0
I	033	RU0404033	CPRS/3/(L201//TBNT/BLMT)		II		III	L		
I	034	RU0202195	NWBT/KATY//9902207x2		II		III	L		
I	034	RU0202195	NWBT/KATY//9902207x2	7	II	6	III	L	8	7.0
I	034	RU0202195	NWBT/KATY//9902207x2		II		III	L		
I	035	RU0304157	8904186S919/8903052		II		III	L		
I	035	RU0304157	8904186S919/8903052	7	II	5	III	L	4	5.3
I	035	RU0304157	8904186S919/8903052		II		III	L		
I	036	RU0304194	IR36/8603006		II		III			
I	036	RU0304194	IR36/8603006	6	II	7	III		6	6.3
I	036	RU0304194	IR36/8603006		II		III			
I	037	RU9902134	PIRO		II		III	S		
I	037	RU9902134	PIRO	6	II	3	III	S	1	3.3
I	037	RU9902134	PIRO		II		III	S		
I	038	PI561735	BNGL		II		III	M		
I	038	PI561735	BNGL	8	II	8	III	M	6	7.3
I	038	PI561735	BNGL		II		III	M		
I	039	MDRK	MEDARK		II		III	M		
I	039	MDRK	MEDARK	8	II	7	III	M	3	6.0
I	039	MDRK	MEDARK		II		III	M		
I	040	LGRU	LGRU		II		III	L		
I	040	LGRU	LGRU	7	II	5	III	L	6	6.0
I	040	LGRU	LGRU		II		III	L		
I	041	RU0301041	LMNT//82CAY21/CICA8/3/DLMT/4/BASMATI-(120)/BOND//BSMT122		II		III	L		
I	041	RU0301041	LMNT//82CAY21/CICA8/3/DLMT/4/BASMATI-(120)/BOND//BSMT122	5	II	6	III	L	4	5.0
I	041	RU0301041	LMNT//82CAY21/CICA8/3/DLMT/4/BASMATI-(120)/BOND//BSMT122		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	042	RU0402042	AC110DH2/AC108DH2		II		III	L		
I	042	RU0402042	AC110DH2/AC108DH2	6	II	5	III	L	6	5.7
I	042	RU0402042	AC110DH2/AC108DH2		II		III	L		
I	043	RU0403043	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	043	RU0403043	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	4	II	6	III	L	4	4.7
I	043	RU0403043	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	044	RU0301044	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU		II		III	L		
I	044	RU0301044	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU	4	II	6	III	L	6	5.3
I	044	RU0301044	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU		II		III	L		
I	045	RU0202192	DREW/3/CPRS//82CAY21/TBNT		II		III	L		
I	045	RU0202192	DREW/3/CPRS//82CAY21/TBNT	5	II	8	III	L	4	5.7
I	045	RU0202192	DREW/3/CPRS//82CAY21/TBNT		II		III	L		
I	046	RU0403046	CCDR/97URRN26		II		III	L		
I	046	RU0403046	CCDR/97URRN26	4	II	4	III	L	3	3.7
I	046	RU0403046	CCDR/97URRN26		II		III	L		
I	047	RU0301047	KBNT/CPRS		II		III	L		
I	047	RU0301047	KBNT/CPRS	7	II	7	III	L	7	7.0
I	047	RU0301047	KBNT/CPRS		II		III	L		
I	048	RU0302094	9502008-A/DREW		II		III	L		
I	048	RU0302094	9502008-A/DREW	9	II	6	III	L	6	7.0
I	048	RU0302094	9502008-A/DREW		II		III	L		
I	049	RU0303169	(PCOS/RU8703196//GFMT)RU9503150/(RXMT/IR48//RSMT)94BPRE18		II		III	L		
I	049	RU0303169	(PCOS/RU8703196//GFMT)RU9503150/(RXMT/IR48//RSMT)94BPRE18	6	II	4	III	L	4	4.7
I	049	RU0303169	(PCOS/RU8703196//GFMT)RU9503150/(RXMT/IR48//RSMT)94BPRE18		II		III	L		
I	050	RU0301050	LBNT/9902//NWBT/3/KATY/NWBT/4/DREW		II		III	L		
I	050	RU0301050	LBNT/9902//NWBT/3/KATY/NWBT/4/DREW	4	II	7	III	L	4	5.0
I	050	RU0301050	LBNT/9902//NWBT/3/KATY/NWBT/4/DREW		II		III	L		
I	051	RU0402051	DREW/AC167DH1		II		III	L		
I	051	RU0402051	DREW/AC167DH1	7	II	8	III	L	5	6.7
I	051	RU0402051	DREW/AC167DH1		II		III	L		
I	052	RU0103104	BF7-42		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	052	RU0103104	BF7-42	7	II	6	III	L	5	6.0
I	052	RU0103104	BF7-42		II		III	L		
I	053	RU0404053	CPRS/3/(L201//TBNT/BLMT)		II		III	L		
I	053	RU0404053	CPRS/3/(L201//TBNT/BLMT)	8	II	8	III	L	7	7.7
I	053	RU0404053	CPRS/3/(L201//TBNT/BLMT)		II		III	L		
I	054	RU0404054	8904186S919/NWBT		II		III	L		
I	054	RU0404054	8904186S919/NWBT	9	II	9	III	L	8	8.7
I	054	RU0404054	8904186S919/NWBT		II		III	L		
I	055	RU0104055	L201//TBNT/BLMT		II		III	L		
I	055	RU0104055	L201//TBNT/BLMT	6	II	7	III	L	7	6.7
I	055	RU0104055	L201//TBNT/BLMT		II		III	L		
I	056	RU9603178	SABR		II		III	L		
I	056	RU9603178	SABR	8	II	7	III	L	6	7.0
I	056	RU9603178	SABR		II		III	L		
I	057	RU9404036	PRISCILLA		II		III	L		
I	057	RU9404036	PRISCILLA	5	II	6	III	L	7	6.0
I	057	RU9404036	PRISCILLA		II		III	L		
I	058	RU0002174	CHNR		II		III	L		
I	058	RU0002174	CHNR	7	II	8	III	L	6	7.0
I	058	RU0002174	CHNR		II		III	L		
I	059	PI561734	CPRS		II		III	L		
I	059	PI561734	CPRS	7	II	6	III	L	7	6.7
I	059	PI561734	CPRS		II		III	L		
I	060	DREW	DREW		II		III	L		
I	060	DREW	DREW	4	II	7	III	L	4	5.0
I	060	DREW	DREW		II		III	L		
I	061	RU0301061	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU		II		III	L		
I	061	RU0301061	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU	4	II	4	III	L	5	4.3
I	061	RU0301061	LBNT/9902//NWBT/3/KATY/NWBT/4/LGRU		II		III	L		
I	062	RU0402062	0043752/0047277		II		III	L		
I	062	RU0402062	0043752/0047277	8	II	8	III	L	5	7.0

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	062	RU0402062	0043752/0047277		II		III	L		
I	063	RU0203181	BF5-1-1		II		III	L		
I	063	RU0203181	BF5-1-1	7	II	5	III	L	5	5.7
I	063	RU0203181	BF5-1-1		II		III	L		
I	064	RU0401064	BNGL/RICO/3/ORIN//M101/MARS		II		III	M		
I	064	RU0401064	BNGL/RICO/3/ORIN//M101/MARS	8	II	3	III	M	4	5.0
I	064	RU0401064	BNGL/RICO/3/ORIN//M101/MARS		II		III	M		
I	065	RU0402065	9502008-A/DREW		II		III	L		
I	065	RU0402065	9502008-A/DREW	8	II	6	III	L	7	7.0
I	065	RU0402065	9502008-A/DREW		II		III	L		
I	066	RU0203190	(BF3-566)		II		III	L		
I	066	RU0203190	(BF3-566)	6	II	4	III	L	4	4.7
I	066	RU0203190	(BF3-566)		II		III	L		
I	067	RU0401067	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	067	RU0401067	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO	5	II	5	III	M	5	5.0
I	067	RU0401067	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	068	RU0402068	9502008-A/DREW		II		III	L		
I	068	RU0402068	9502008-A/DREW	7	II	8	III	L	7	7.3
I	068	RU0402068	9502008-A/DREW		II		III	L		
I	069	RU0403069	PSCL/JEFF		II		III	L		
I	069	RU0403069	PSCL/JEFF	3	II	0	III	L	4	2.3
I	069	RU0403069	PSCL/JEFF		II		III	L		
I	070	RU0301176	NWBT/3/LBNT/9902//LBLE/4/LGRU		II		III	L		
I	070	RU0301176	NWBT/3/LBNT/9902//LBLE/4/LGRU	7	II	7	III	L	8	7.3
I	070	RU0301176	NWBT/3/LBNT/9902//LBLE/4/LGRU		II		III	L		
I	071	RU0202091	9865216DH2		II		III	L		
I	071	RU0202091	9865216DH2	5	II	6	III	L	6	5.7
I	071	RU0202091	9865216DH2		II		III	L		
I	072	RU0403072	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	072	RU0403072	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	6	II	4	III	L	5	5.0
I	072	RU0403072	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	073	RU0304198	9002065/MILLIE	9	II	8	III	L	2	6.3
I	073	RU0304198	9002065/MILLIE		II		III	L		
I	074	RU0404074	8904186S919/NWBT		II		III	L		
I	074	RU0404074	8904186S919/NWBT	6	II	8	III	L	8	7.3
I	074	RU0404074	8904186S919/NWBT		II		III	L		
I	075	RU0403075	(GFMT*2/TQNG)TX4110/CCDR		II		III	L		
I	075	RU0403075	(GFMT*2/TQNG)TX4110/CCDR	3	II	5	III	L	7	5.0
I	075	RU0403075	(GFMT*2/TQNG)TX4110/CCDR		II		III	L		
I	076	RU0301188	961237		II		III	L		
I	076	RU0301188	961237	7	II	3	III	L	3	4.3
I	076	RU0301188	961237		II		III	L		
I	077	RU0304077	V7817/SKBT		II		III	L		
I	077	RU0304077	V7817/SKBT	8	II	7	III	L	7	7.3
I	077	RU0304077	V7817/SKBT		II		III	L		
I	078	RU0403078	PSCL/JEFF		II		III	L		
I	078	RU0403078	PSCL/JEFF	7	II	6	III	L	5	6.0
I	078	RU0403078	PSCL/JEFF		II		III	L		
I	079	BNKS	BANKS		II		III	L		
I	079	BNKS	BANKS	6	II	7	III	L	7	6.7
I	079	BNKS	BANKS		II		III	L		
I	080	WLLS	WELLS		II		III	L		
I	080	WLLS	WELLS	4	II	7	III	L	7	6.0
I	080	WLLS	WELLS		II		III	L		
I	081	RU0301081	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	081	RU0301081	NWBT/3/LBNT/9902//LBLE/4/DREW	7	II	2	III	L	4	4.3
I	081	RU0301081	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	082	RU0302082	9502008-A/DREW		II		III	L		
I	082	RU0302082	9502008-A/DREW	9	II	5	III	L	7	7.0
I	082	RU0302082	9502008-A/DREW		II		III	L		
I	083	RU0404083	8804032/KATY		II		III	L		
I	083	RU0404083	8804032/KATY	8	II	9	III	L	8	8.3

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	083	RU0404083	8804032/KATY		II		III	L		
I	084	RU0401084	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	084	RU0401084	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO	8	II	6	III	M	5	6.3
I	084	RU0401084	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	085	RU0402085	0043676/AC105DH3		II		III	L		
I	085	RU0402085	0043676/AC105DH3	5	II	8	III	L	6	6.3
I	085	RU0402085	0043676/AC105DH3		II		III	L		
I	086	RU0403086	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	086	RU0403086	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	6	II	4	III	L	6	5.3
I	086	RU0403086	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	087	RU0401087	NWBT/3/LBNT/9902//LBLE/4/LGRU		II		III	L		
I	087	RU0401087	NWBT/3/LBNT/9902//LBLE/4/LGRU	7	II	8	III	L	7	7.3
I	087	RU0401087	NWBT/3/LBNT/9902//LBLE/4/LGRU		II		III	L		
I	088	RU0402088	AC111DH3/AC468DH2		II		III	L		
I	088	RU0402088	AC111DH3/AC468DH2	5	II	4	III	L	5	4.7
I	088	RU0402088	AC111DH3/AC468DH2		II		III	L		
I	089	RU0403089	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	089	RU0403089	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	8	II	3	III	L	6	5.7
I	089	RU0403089	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	090	RU0401090	NWBT/3/LBNT/9902//LBLE/4/CPRS		II		III	L		
I	090	RU0401090	NWBT/3/LBNT/9902//LBLE/4/CPRS	8	II	8	III	L	6	7.3
I	090	RU0401090	NWBT/3/LBNT/9902//LBLE/4/CPRS		II		III	L		
I	091	RU0402091	9863910DH2/AR 1053		II		III	L		
I	091	RU0402091	9863910DH2/AR 1053	7	II	7	III	L	8	7.3
I	091	RU0402091	9863910DH2/AR 1053		II		III	L		
I	092	RU0403092	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	092	RU0403092	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	5	II	7	III	L	6	6.0
I	092	RU0403092	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	093	RU0401093	LMNT//82CAY21/CICA8/3/MARS/TBNT/4/LGRU		II		III	L		
I	093	RU0401093	LMNT//82CAY21/CICA8/3/MARS/TBNT/4/LGRU	7	II	7	III	L	7	7.0
I	093	RU0401093	LMNT//82CAY21/CICA8/3/MARS/TBNT/4/LGRU		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	094	RU0402094	9502008/3/CPRS//82CAY21/TBNT		II		III	L		
I	094	RU0402094	9502008/3/CPRS//82CAY21/TBNT	4	II	8	III	L	7	6.3
I	094	RU0402094	9502008/3/CPRS//82CAY21/TBNT		II		III	L		
I	095	RU0403095	PSCL/JEFF		II		III	L		
I	095	RU0403095	PSCL/JEFF	4	II	7	III	L	6	5.7
I	095	RU0403095	PSCL/JEFF		II		III	L		
I	096	RU0401096	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU		II		III	L		
I	096	RU0401096	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU	8	II	4	III	L	7	6.3
I	096	RU0401096	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU		II		III	L		
I	097	RU0402097	9502008-A//AR 1188/CCDR		II		III	L		
I	097	RU0402097	9502008-A//AR 1188/CCDR	8	II	7	III	L	6	7.0
I	097	RU0402097	9502008-A//AR 1188/CCDR		II		III	L		
I	098	RU0403098	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	098	RU0403098	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	8	II	7	III	L	6	7.0
I	098	RU0403098	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	099	RU0301099	JEFF/ADAR		II		III	L		
I	099	RU0301099	JEFF/ADAR	8	II	7	III	L	6	7.0
I	099	RU0301099	JEFF/ADAR		II		III	L		
I	100	RU0404100	TBNT/LA110//LMNT/3/TBNT		II		III	L		
I	100	RU0404100	TBNT/LA110//LMNT/3/TBNT	7	II	5	III	L	5	5.7
I	100	RU0404100	TBNT/LA110//LMNT/3/TBNT		II		III	L		
I	101	RU0103101	(CPRS/PELDE)96:3944/JEFF		II		III	L		
I	101	RU0103101	(CPRS/PELDE)96:3944/JEFF	3	II	4	III	L	6	4.3
I	101	RU0103101	(CPRS/PELDE)96:3944/JEFF		II		III	L		
I	102	RU0401102	LGRU//LMNT/RA73/3/LGRU/4/WLLS		II		III	L		
I	102	RU0401102	LGRU//LMNT/RA73/3/LGRU/4/WLLS	8	II	4	III	L	8	6.7
I	102	RU0401102	LGRU//LMNT/RA73/3/LGRU/4/WLLS		II		III	L		
I	103	RU0402103	9502008//KATY/902207x2		II		III	L		
I	103	RU0402103	9502008//KATY/902207x2	8	II	7	III	L	6	7.0
I	103	RU0402103	9502008//KATY/902207x2		II		III	L		
I	104	RU0403104	(GFMT*2/TQNG)TX4110/CCDR		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	104	RU0403104	(GFMT*2/TQNG)TX4110/CCDR	8	II	6	III	L	7	7.0
I	104	RU0403104	(GFMT*2/TQNG)TX4110/CCDR		II		III	L		
I	105	RU0401105	KATY/STBN//9101001/5/LGRU//LMNT/RA73/3/LGRU/4/LGRU		II		III	L		
I	105	RU0401105	KATY/STBN//9101001/5/LGRU//LMNT/RA73/3/LGRU/4/LGRU	8	II	6	III	L	6	6.7
I	105	RU0401105	KATY/STBN//9101001/5/LGRU//LMNT/RA73/3/LGRU/4/LGRU		II		III	L		
I	106	RU0402106	CPRS//20001-5/LMNT/3/KBNT//KATY/CPRS		II		III	L		
I	106	RU0402106	CPRS//20001-5/LMNT/3/KBNT//KATY/CPRS	7	II	7	III	L	8	7.3
I	106	RU0402106	CPRS//20001-5/LMNT/3/KBNT//KATY/CPRS		II		III	L		
I	107	RU0403107	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	107	RU0403107	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	6	II	5	III	L	6	5.7
I	107	RU0403107	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	108	RU0401108	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	108	RU0401108	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO	7	II	7	III	M	7	7.0
I	108	RU0401108	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	109	RU0402109	LGRU/WELLS		II		III	L		
I	109	RU0402109	LGRU/WELLS	8	II	6	III	L	4	6.0
I	109	RU0402109	LGRU/WELLS		II		III	L		
I	110	RU0403110	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF		II		III	L		
I	110	RU0403110	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF	4	II	6	III	L	7	5.7
I	110	RU0403110	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A5/3/JEFF		II		III	L		
I	111	RU0401111	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/DREW		II		III	L		
I	111	RU0401111	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/DREW	7	II	7	III	L	5	6.3
I	111	RU0401111	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/DREW		II		III	L		
I	112	RU0402112	9502008/AR 1121		II		III	L		
I	112	RU0402112	9502008/AR 1121	8	II	8	III	L	7	7.7
I	112	RU0402112	9502008/AR 1121		II		III	L		
I	113	RU0403113	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	113	RU0403113	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	5	II	6	III	L	5	5.3
I	113	RU0403113	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	114	RU0404114	8303116/LMNT//NWBT		II		III	L		
I	114	RU0404114	8303116/LMNT//NWBT	4	II	5	III	L	6	5.0

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	114	RU0404114	8303116/LMNT//NWBT		II		III	L		
I	115	RU0402115	KATY/CPRS//NWBT/…/3/CPRS/KBNT		II		III	L		
I	115	RU0402115	KATY/CPRS//NWBT/…/3/CPRS/KBNT	8	II	4	III	L	7	6.3
I	115	RU0402115	KATY/CPRS//NWBT/…/3/CPRS/KBNT		II		III	L		
I	116	RU0103116	(VSTA/LBNT//RSMT)RU9403086/(RXMT/IR48//RSMT)94BP18		II		III	L		
I	116	RU0103116	(VSTA/LBNT//RSMT)RU9403086/(RXMT/IR48//RSMT)94BP18	7	II	4	III	L	3	4.7
I	116	RU0103116	(VSTA/LBNT//RSMT)RU9403086/(RXMT/IR48//RSMT)94BP18		II		III	L		
I	117	PI606331	CCDR		II		III	L		
I	117	PI606331	CCDR	7	II	6	III	L	5	6.0
I	117	PI606331	CCDR		II		III	L		
I	118	RU0003009	HIDALGO		II		III	L		
I	118	RU0003009	HIDALGO	7	II	6	III	L	6	6.3
I	118	RU0003009	HIDALGO		II		III	L		
I	119	PI608664	L205		II		III	L		
I	119	PI608664	L205	8	II	6	III	L	5	6.3
I	119	PI608664	L205		II		III	L		
I	120	PI629291	DELLMATI		II		III	L		
I	120	PI629291	DELLMATI	8	II	5	III	L	6	6.3
I	120	PI629291	DELLMATI		II		III	L		
I	121	RU0401121	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	121	RU0401121	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO	7	II	8	III	M	3	6.0
I	121	RU0401121	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	122	RU0404122	LCSN//NWBT/KATY		II		III	L		
I	122	RU0404122	LCSN//NWBT/KATY	2	II	3	III	L	4	3.0
I	122	RU0404122	LCSN//NWBT/KATY		II		III	L		
I	123	RU0403123	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	123	RU0403123	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	8	II	6	III	L	7	7.0
I	123	RU0403123	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	124	RU0301124	RU9201176/3/KATY//TBNT/NWRX		II		III	L		
I	124	RU0301124	RU9201176/3/KATY//TBNT/NWRX	7	II	7	III	L	7	7.0
I	124	RU0301124	RU9201176/3/KATY//TBNT/NWRX		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	125	RU0402125	96 INT/AR 1188		II		III	L		
I	125	RU0402125	96 INT/AR 1188	6	II	7	III	L	4	5.7
I	125	RU0402125	96 INT/AR 1188		II		III	L		
I	126	RU0403126	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	126	RU0403126	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	7	II	6	III	L	6	6.3
I	126	RU0403126	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	127	RU0401127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	127	RU0401127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO	5	II	6	III	M	6	5.7
I	127	RU0401127	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	128	RU0402128	0043752/0047277		II		III	L		
I	128	RU0402128	0043752/0047277	8	II	7	III	L	7	7.3
I	128	RU0402128	0043752/0047277		II		III	L		
I	129	RU0303129	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	129	RU0303129	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	7	II	5	III	L	5	5.7
I	129	RU0303129	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	130	RU0401130	CPRS//NWBT/KATY		II		III	L		
I	130	RU0401130	CPRS//NWBT/KATY	8	II	7	III	L	7	7.3
I	130	RU0401130	CPRS//NWBT/KATY		II		III	L		
I	131	RU0402131	JSMN/DLLA//CPRS/KDM		II		III	L		
I	131	RU0402131	JSMN/DLLA//CPRS/KDM	7	II	7	III	L	8	7.3
I	131	RU0402131	JSMN/DLLA//CPRS/KDM		II		III	L		
I	132	RU0403132	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	132	RU0403132	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	3	II	5	III	L	4	4.0
I	132	RU0403132	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	133	RU0201133	941009		II		III	L		
I	133	RU0201133	941009	8	II	5	III	L	6	6.3
I	133	RU0201133	941009		II		III	L		
I	134	RU0402134	BNGL/3/STRN/MERC…		II		III	M		
I	134	RU0402134	BNGL/3/STRN/MERC…	3	II	2	III	M	4	3.0
I	134	RU0402134	BNGL/3/STRN/MERC…		II		III	M		
I	135	RU0303135	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	135	RU0303135	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	8	II	4	III	L	6	6.0
I	135	RU0303135	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	136	RU0401136	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	136	RU0401136	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO	6	II	3	III	M	3	4.0
I	136	RU0401136	BRAZ/TBNT/3/164986-4/NV66//NTAI/4/BNGL/5/BNGL/RICO		II		III	M		
I	137	RU0402137	MERC/RICO//BNGL/3/SMARS/MARS/…		II		III	M		
I	137	RU0402137	MERC/RICO//BNGL/3/SMARS/MARS/…	7	II	7	III	M	3	5.7
I	137	RU0402137	MERC/RICO//BNGL/3/SMARS/MARS/…		II		III	M		
I	138	RU0403138	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	138	RU0403138	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	7	II	4	III	L	5	5.3
I	138	RU0403138	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	139	RU0201139	4582		II		III	L		
I	139	RU0201139	4582	5	II	4	III	L	4	4.3
I	139	RU0201139	4582		II		III	L		
I	140	RU0402140	MERC/RICO//BNGL/3/SMARS/…		II		III	M		
I	140	RU0402140	MERC/RICO//BNGL/3/SMARS/…	6	II	4	III	M	4	4.7
I	140	RU0402140	MERC/RICO//BNGL/3/SMARS/…		II		III	M		
I	141	RU0403141	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	141	RU0403141	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	6	II	6	III	L	5	5.7
I	141	RU0403141	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	142	RU0201142	4484		II		III	L		
I	142	RU0201142	4484	4	II	6	III	L	6	5.3
I	142	RU0201142	4484		II		III	L		
I	143	RU0302143	MBLE//TQNG/MBLE (MCR02YT-1534)		II		III	L		
I	143	RU0302143	MBLE//TQNG/MBLE (MCR02YT-1534)	6	II	4	III	L	6	5.3
I	143	RU0302143	MBLE//TQNG/MBLE (MCR02YT-1534)		II		III	L		
I	144	RU0003178	(CPRS/PELDE)96:3944/JEFF		II		III	L		
I	144	RU0003178	(CPRS/PELDE)96:3944/JEFF	7	II	4	III	L	8	6.3
I	144	RU0003178	(CPRS/PELDE)96:3944/JEFF		II		III	L		
I	145	RU0401145	L201//TBNT/BLMT/3/CPRS		II		III	L		
I	145	RU0401145	L201//TBNT/BLMT/3/CPRS	7	II	6	III	L	7	6.7

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	145	RU0401145	L201//TBNT/BLMT/3/CPRS		II		III	L		
I	146	RU0402146	MERC/RICO//MERC/3/MERC/…		II		III	M		
I	146	RU0402146	MERC/RICO//MERC/3/MERC/…	8	II	6	III	M	3	5.7
I	146	RU0402146	MERC/RICO//MERC/3/MERC/…		II		III	M		
I	147	RU0403147	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	147	RU0403147	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	5	II	6	III	L	5	5.3
I	147	RU0403147	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	148	RU0401148	NWBT/3/LBNT/9902//LBLE/4/NWBT/KATY		II		III	L		
I	148	RU0401148	NWBT/3/LBNT/9902//LBLE/4/NWBT/KATY	3	II	3	III	L	2	2.7
I	148	RU0401148	NWBT/3/LBNT/9902//LBLE/4/NWBT/KATY		II		III	L		
I	149	RU0402149	AC101DH2/AC102DH2		II		III	L		
I	149	RU0402149	AC101DH2/AC102DH2	8	II	8	III	L	8	8.0
I	149	RU0402149	AC101DH2/AC102DH2		II		III	L		
I	150	RU0403150	((92:13797(VSTA/LBNT//RSMT)/LBLE)TX7035/PSCL		II		III	L		
I	150	RU0403150	((92:13797(VSTA/LBNT//RSMT)/LBLE)TX7035/PSCL	7	II	6	III	L	6	6.3
I	150	RU0403150	((92:13797(VSTA/LBNT//RSMT)/LBLE)TX7035/PSCL		II		III	L		
I	151	RU0401151	RICO/V4716//ORION-172		II		III	M		
I	151	RU0401151	RICO/V4716//ORION-172	7	II	3	III	M	4	4.7
I	151	RU0401151	RICO/V4716//ORION-172		II		III	M		
I	152	RU0402152	YD-4/RSMT		II		III	L		
I	152	RU0402152	YD-4/RSMT	7	II	5	III	L	4	5.3
I	152	RU0402152	YD-4/RSMT		II		III	L		
I	153	RU0103153	BF5-143-1		II		III	L		
I	153	RU0103153	BF5-143-1	4	II	3	III	L	2	3.0
I	153	RU0103153	BF5-143-1		II		III	L		
I	154	RU0404154	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	154	RU0404154	8603006/3/MARS/NWRX//TBNT	7	II	6	III	L	5	6.0
I	154	RU0404154	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	155	RU0402155	CPRS//CPRS/TONG		II		III	L		
I	155	RU0402155	CPRS//CPRS/TONG	8	II	4	III	L	6	6.0
I	155	RU0402155	CPRS//CPRS/TONG		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	156	RU0404156	8403113/GGHW		II		III	L		
I	156	RU0404156	8403113/GGHW	7	II	6	III	L	6	6.3
I	156	RU0404156	8403113/GGHW		II		III	L		
I	157	RU0404157	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	157	RU0404157	8603006/3/MARS/NWRX//TBNT	7	II	3	III	L	7	5.7
I	157	RU0404157	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	158	PI593241	DELLROSE		II		III	L		
I	158	PI593241	DELLROSE	5	II	5	III	L	7	5.7
I	158	PI593241	DELLROSE		II		III	L		
I	159	PI595900	DXBL		II		III	L		
I	159	PI595900	DXBL	8	II	6	III	L	7	7.0
I	159	PI595900	DXBL		II		III	L		
I	160	FRNS	FRNS		II		III	L		
I	160	FRNS	FRNS	7	II	7	III	L	4	6.0
I	160	FRNS	FRNS		II		III	L		
I	161	RU0301161	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	161	RU0301161	NWBT/3/LBNT/9902//LBLE/4/DREW	4	II	7	III	L	4	5.0
I	161	RU0301161	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	162	RU0402162	BNGL//TDCN/LMNT		II		III	M		
I	162	RU0402162	BNGL//TDCN/LMNT	7	II	7	III	M	7	7.0
I	162	RU0402162	BNGL//TDCN/LMNT		II		III	M		
I	163	RU0303163	(RU8303116/LMNT)RU9103049/KBNT		II		III	L		
I	163	RU0303163	(RU8303116/LMNT)RU9103049/KBNT	8	II	6	III	L	5	6.3
I	163	RU0303163	(RU8303116/LMNT)RU9103049/KBNT		II		III	L		
I	164	RU0401164	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS		II		III	L		
I	164	RU0401164	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS	4	II	7	III	L	6	5.7
I	164	RU0401164	LBNT/9902/3/DAWN/9695//STBN/4/LGRU/5/WLLS		II		III	L		
I	165	RU0402165	CCDR//AR 1142/LA 2031		II		III	L		
I	165	RU0402165	CCDR//AR 1142/LA 2031	8	II	6	III	L	7	7.0
I	165	RU0402165	CCDR//AR 1142/LA 2031		II		III	L		
I	166	RU0403166	BF7-40		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	166	RU0403166	BF7-40	7	II	7	III	L	7	7.0
I	166	RU0403166	BF7-40		II		III	L		
I	167	RU0401167	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	167	RU0401167	NWBT/3/LBNT/9902//LBLE/4/DREW	7	II	5	III	L	5	5.7
I	167	RU0401167	NWBT/3/LBNT/9902//LBLE/4/DREW		II		III	L		
I	168	RU0402168	CH1/3/CPRS//82CAY21/TBNT		II		III	L		
I	168	RU0402168	CH1/3/CPRS//82CAY21/TBNT	6	II	6	III	L	6	6.0
I	168	RU0402168	CH1/3/CPRS//82CAY21/TBNT		II		III	L		
I	169	RU0403169	PSCL/MDSN		II		III	L		
I	169	RU0403169	PSCL/MDSN	5	II	6	III	L	7	6.0
I	169	RU0403169	PSCL/MDSN		II		III	L		
I	170	RU0401170	INKY RICE CROSS 961217		II		III	L		
I	170	RU0401170	INKY RICE CROSS 961217	4	II	7	III	L	7	6.0
I	170	RU0401170	INKY RICE CROSS 961217		II		III	L		
I	171	RU0402171	CPRS/KBNT		II		III	L		
I	171	RU0402171	CPRS/KBNT	7	II	7	III	L	8	7.3
I	171	RU0402171	CPRS/KBNT		II		III	L		
I	172	RU0203172	94:56117(MARS/CM101)/94:54109(LBNT_WX/RU8703190)		II		III	M		
I	172	RU0203172	94:56117(MARS/CM101)/94:54109(LBNT_WX/RU8703190)	7	II	7	III	M	4	6.0
I	172	RU0203172	94:56117(MARS/CM101)/94:54109(LBNT_WX/RU8703190)		II		III	M		
I	173	RU0401173	V6DW/STTD//L201/3/VSTA/NTAI//LMNT/4/NWBT/KATY		II		III	L		
I	173	RU0401173	V6DW/STTD//L201/3/VSTA/NTAI//LMNT/4/NWBT/KATY	8	II	7	III	L	5	6.7
I	173	RU0401173	V6DW/STTD//L201/3/VSTA/NTAI//LMNT/4/NWBT/KATY		II		III	L		
I	174	RU0402174	CH1/3/CPRS//82CAY21/TBNT		II		III	L		
I	174	RU0402174	CH1/3/CPRS//82CAY21/TBNT	7	II	5	III	L	5	5.7
I	174	RU0402174	CH1/3/CPRS//82CAY21/TBNT		II		III	L		
I	175	RU0403175	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	175	RU0403175	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF	7	II	6	III	L	7	6.7
I	175	RU0403175	((NWBT/RU8303181)87:15034/RSMT)TX7129/JEFF		II		III	L		
I	176	RU0401176	LGRU-2/DREW		II		III	L		
I	176	RU0401176	LGRU-2/DREW	6	II	6	III	L	7	6.3
I	176	RU0401176	LGRU-2/DREW		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	177	RU0402177	CPRS/KBNT		II		III	L		
I	177	RU0402177	CPRS/KBNT	7	II	7	III	L	7	7.0
I	177	RU0402177	CPRS/KBNT		II		III	L		
I	178	RU0403178	PSCL/JEFF		II		III	L		
I	178	RU0403178	PSCL/JEFF	8	II	6	III	L	6	6.7
I	178	RU0403178	PSCL/JEFF		II		III	L		
I	179	RU0401179	KBNT LPA1-1/BBLE		II		III	L		
I	179	RU0401179	KBNT LPA1-1/BBLE	4	II	3	III	L	3	3.3
I	179	RU0401179	KBNT LPA1-1/BBLE		II		III	L		
I	180	RU0402180	CPRS/9502008-A		II		III	L		
I	180	RU0402180	CPRS/9502008-A	6	II	7	III	L	6	6.3
I	180	RU0402180	CPRS/9502008-A		II		III	L		
I	181	RU0403181	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	181	RU0403181	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF	4	II	5	III	L	0	3.0
I	181	RU0403181	(CPRS/PANDA (FAM188)/JEFF)A3//JEFF A2/3/JEFF		II		III	L		
I	182	RU0401182	DREW/5/NWBT/3/DAWN/9695//STBN/4/KATY/STBN		II		III	L		
I	182	RU0401182	DREW/5/NWBT/3/DAWN/9695//STBN/4/KATY/STBN	7	II	2	III	L	4	4.3
I	182	RU0401182	DREW/5/NWBT/3/DAWN/9695//STBN/4/KATY/STBN		II		III	L		
I	183	RU0402183	9502065/3/MERC/RICO//BNGL		II		III	M		
I	183	RU0402183	9502065/3/MERC/RICO//BNGL	7	II	5	III	M	7	6.3
I	183	RU0402183	9502065/3/MERC/RICO//BNGL		II		III	M		
I	184	RU0403184	PSCL/JEFF		II		III	L		
I	184	RU0403184	PSCL/JEFF	8	II	5	III	L	5	6.0
I	184	RU0403184	PSCL/JEFF		II		III	L		
I	185	RU0401185	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU		II		III	L		
I	185	RU0401185	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU	8	II	3	III	L	7	6.0
I	185	RU0401185	LGRU//LMNT/RA73/3/LGRU/4/LGRU/5/LGRU		II		III	L		
I	186	RU0404186	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	186	RU0404186	8603006/3/MARS/NWRX//TBNT	6	II	4	III	L	5	5.0
I	186	RU0404186	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	187	RU0403187	CCDR/(GFMT*2/TQNG)TX4153		II		III	L		

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	187	RU0403187	CCDR/(GFMT*2/TQNG)TX4153	8	II	6	III	L	7	7.0
I	187	RU0403187	CCDR/(GFMT*2/TQNG)TX4153		II		III	L		
I	188	RU0401188	RNS3/5/IR36M4/4/L201/3/TTEP/IR-8//UNKN/6/BNGL		II		III	L		
I	188	RU0401188	RNS3/5/IR36M4/4/L201/3/TTEP/IR-8//UNKN/6/BNGL	7	II	3	III	L	7	5.7
I	188	RU0401188	RNS3/5/IR36M4/4/L201/3/TTEP/IR-8//UNKN/6/BNGL		II		III	L		
I	189	RU0402189	CPRS//82CAY21/TBNT/3/AR 1179		II		III	L		
I	189	RU0402189	CPRS//82CAY21/TBNT/3/AR 1179	7	II	5	III	L	7	6.3
I	189	RU0402189	CPRS//82CAY21/TBNT/3/AR 1179		II		III	L		
I	190	RU0403190	((NWBT/RU8303181)87:15034/RSMT)TX7144/JEFF		II		III	L		
I	190	RU0403190	((NWBT/RU8303181)87:15034/RSMT)TX7144/JEFF	7	II	5	III	L	6	6.0
I	190	RU0403190	((NWBT/RU8303181)87:15034/RSMT)TX7144/JEFF		II		III	L		
I	191	RU0404191	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	191	RU0404191	8603006/3/MARS/NWRX//TBNT	7	II	6	III	L	7	6.7
I	191	RU0404191	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	192	RU0402192	CPRS/KBNT//9502008		II		III	L		
I	192	RU0402192	CPRS/KBNT//9502008	8	II	6	III	L	6	6.7
I	192	RU0402192	CPRS/KBNT//9502008		II		III	L		
I	193	RU0404193	8804032/KATY		II		III	L		
I	193	RU0404193	8804032/KATY	8	II	8	III	L	7	7.7
I	193	RU0404193	8804032/KATY		II		III	L		
I	194	RU0404194	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	194	RU0404194	8603006/3/MARS/NWRX//TBNT	8	II	4	III	L	6	6.0
I	194	RU0404194	8603006/3/MARS/NWRX//TBNT		II		III	L		
I	195	RU0402195	902207x2/LNWBT/KATY/3/CPRS/KBNT		II		III	L		
I	195	RU0402195	902207x2/LNWBT/KATY/3/CPRS/KBNT	4	II	3	III	L	5	4.0
I	195	RU0402195	902207x2/LNWBT/KATY/3/CPRS/KBNT		II		III	L		
I	196	RU0404196	RSMT/KATY		II		III	L		
I	196	RU0404196	RSMT/KATY	8	II	6	III	L	5	6.3
I	196	RU0404196	RSMT/KATY		II		III	L		
I	197	RU0404197	RXMT//MARS/TBNT		II		III	L		
I	197	RU0404197	RXMT//MARS/TBNT	6	II	4	III	L	7	5.7

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	197	RU0404197	RXMT//MARS/TBNT		II		III	L		
I	198	RU0404198	CPRS/4/KCAI/LEAH//LEAH/3/8403113		II		III	L		
I	198	RU0404198	CPRS/4/KCAI/LEAH//LEAH/3/8403113	8	II	7	III	L	7	7.3
I	198	RU0404198	CPRS/4/KCAI/LEAH//LEAH/3/8403113		II		III	L		
I	199	PI561734	CPRS		II		III	L		
I	199	PI561734	CPRS	7	II	7	III	L	5	6.3
I	199	PI561734	CPRS		II		III	L		
I	200	RICE TEC	XL 8		II		III	L		
I	200	RICE TEC	XL 8	6	II	6	III	L	7	6.3
I	200	RICE TEC	XL 8		II		III	L		
Resistant and susceptible controls										
I	201	NPB	NPB*		II		III	L		
I	201	NPB	NPB	4	II	3	III	L	3	3.3
I	201	NPB	NPB		II		III			
I	202	LR2065	LR2065**		II		III	L		
I	202	LR2065	LR2065	5	II	7	III	L	6	6.0
I	202	LR2065	LR2065		II		III			
I	203	LM1	LM1*		II		III	L		
I	203	LM1	LM1	7	II	3	III		4	4.7
I	203	LM1	LM1		II		III			
I	204	AB647	AB647*		II		III	L		
I	204	AB647	AB647	4	II	3	III	L	4	3.7
I	204	AB647	AB647		II		III			
I	205	03URN026	R TO PBL***							
I	205	03URN026	R TO PBL	7						
I	205	03URN026	R TO PBL							
I	206	03URN092	R TO PBL***							
I	206	03URN092	R TO PBL	3						
I	206	03URN092	R TO PBL							
I	207	03URN110	R TO PBL***							
I	207	03URN110	R TO PBL	4						
I	207	03URN110	R TO PBL							

Continued.

Table 1 (Continued.)

Rep	Entry	RU#	Pedigree or Identity	Rating (0-9)	Rep	Rating (0-9)	Rep	Gr	Rating (0-9)	Mean
I	208	03URN125	R TO PBL***							
I	208	03URN125	R TO PBL	4						
I	208	03URN125	R TO PBL							
I	209	03URN164	S TO PBL***							
I	209	03URN164	S TO PBL	6						
I	209	03URN164	S TO PBL							
I	210	03URN224	R TO PBL***							
I	210	03URN224	R TO PBL	3						
I	210	03URN224	R TO PBL							
I	211	03URN278	S TO PBL***							
I	211	03URN278	S TO PBL	5						
I	211	03URN278	S TO PBL							
I	212	03URN347	R TO PBL***							
I	212	03URN347	R TO PBL	4						
I	212	03URN347	R TO PBL							
I	213	03URN458	R TO PBL***							
I	213	03URN458	R TO PBL	7						
I	213	03URN458	R TO PBL							
I	214	03URN492	R TO PBL***							
I	214	03URN492	R TO PBL	3						
I	214	03URN492	R TO PBL							
I	215	03URN545	R TO PBL***							
I	215	03URN545	R TO PBL	4						
I	215	03URN545	R TO PBL							
I	216	03URN578	S TO PBL***							
I	216	03URN578	S TO PBL	7						
I	216	03URN578	S TO PBL							
I	217	03URN593	R TO PBL***							
I	217	03URN593	R TO PBL	4						
I	217	03URN593	R TO PBL							

* Resistant control; ** Moderately resistant control; *** Resistant or susceptible in the 2003 BPB nursery.

Table 2. Bacterial panicle blight nursery for QTL analysis of BPB resistance.*

ENTRY	INOCULATION DATE REP 1	RATING REP 1	INOCULATION DATE REP 2	RATING REP 2	INOCULATION DATE REP 3	RATING REP 3	MEAN RATING
TQNG1	8/12	8	8/12	2	9/3	5	5
TQNG2	8/10	6	8/10	4	9/7	2	4
LMNT	8/12	3	x	x	8/26	7	5
BLVR	7/28	3	8/4	3	8/26	9	5
SABR	8/10	2	8/10	6	8/10	7	5
CPRS	8/17	8	8/4	5	9/7	6	6
LMNT	8/19	6	8/10	5	9/7	3	5
CPRS 9133	x	x	8/4	3	9/3	7	5
LMNT 8752	8/12	6	x	x	8/10	6	6
LMNT 8769	8/10	5	8/17	6	9/7	4	5
LMNT 9125	8/10	5	8/12	6	9/7	5	5
LQ 10-b	8/4	2	8/4	6	8/26	2	3
LQ 21-b	8/12	7	8/26	8	9/7	9	8
LQ 39-a	8/10	2	8/4	5	9/3	7	5
LQ 46	8/10	5	x	x	9/14	7	6
LQ 50	8/10	4	8/10	3	9/3	6	4
LQ 65	8/4	5	8/10	7	9/3	6	6
LQ 137	8/19	4	8/19	6	9/7	5	5
LQ 157	8/10	7	8/10	7	9/7	7	7
LMNT	8/10	4	8/10	1	8/26	7	4
LQ 169	8/26	8	9/3	7	x	x	8
LQ 212-b	7/28	6	8/4	5	8/26	5	5
LQ 264	8/17	8	8/10	7	9/3	6	7
LQ 289	8/10	8	8/10	8	9/3	7	8
LQ 292-c	8/12	8	8/12	6	9/7	6	7
LQ 342	8/4	4	8/4	5	8/26	7	5
LQ 346	9/9	2	9/9	2	9/21	x	2
LQ 347	8/12	9	8/26	7	9/3	5	7
LA 348	8/26	5	8/12	8	9/14	x	7
LQ 368	8/12	2	8/10	2	9/7	1	2
Q 7	8/10	7	8/12	7	9/7	2	5
Q 7.21	8/10	1	8/4	6	8/26	2	3
Q 8	8/4	9	8/4	8	8/26	5	7
Q 9.11	8/10	6	8/10	2	9/3	3	4
Q 9.12	8/4	3	8/10	3	9/3	7	4
Q 9.13	8/10	2	8/12	7	9/3	6	5
Q 10	8/10	3	8/4	4	9/3	6	4
Q 11.11	8/10	8	x	x	9/14	4	6
Q 12	8/4	7	7/28	7	8/26	9	8

Continued.

Table 2 (Continued.)

LMNT	8/10	4	8/10	2	9/7	6	4
Q 14	8/12	4	8/10	8	x	x	6
Q 15	x	x	8/10	6	9/9	3	5
Q 15.12	9/9	1	9/9	5	9/14	2	3
Q 16	7/28	2	8/4	5	8/26	7	5
Q 17	8/10	3	8/12	6	9/7	4	4
Q 18	8/10	5	8/10	6	x	x	6
Q 19.21	8/10	1	8/10	8	x	x	5
Q 20	8/4	3	8/17	8	9/3	4	5
Q 22.12	8/10	7	8/12	7	9/7	6	7
Q 22.21	8/19	6	8/26	3	9/3	4	4
Q 23	8/4	7	8/19	6	9/3	7	7
LMNT	8/10	4	8/17	4	9/3	5	4
Q 24.13	8/4	9	8/10	8	8/26	7	8
Q 24.21	8/4	5	8/26	5	9/7	5	5
Q 25	8/4	3	8/17	5	9/7	2	3
Q 26	8/10	6	x	x	9/7	3	5
Q 27	8/19	6	8/26	5	9/7	6	6
Q 28	8/17	7	x	x	9/3	3	5
Q 29	8/17	8	8/10	2	9/7	6	5
Q 30	8/10	2	8/10	3	8/26	8	4
Q 31	8/10	8	8/19	1	8/26	5	5
Q 32	x	x	8/26	3	9/7	4	4
Q 33	8/26	8	8/26	7	9/7	2	6
Q 34	8/10	8	8/12	6	9/9	2	5
Q 35	8/4	3	8/10	5	9/3	7	5
Q 36.11	8/4	5	8/10	7	9/3	6	6
Q 36.21	8/10	4	8/4	7	8/26	4	5
Q 37	8/4	2	8/4	7	9/3	4	4
Q 38	8/4	3	8/10	1	8/26	7	4
Q 39	8/10	2	8/10	5	9/7	1	3
Q 40	8/17	6	8/10	7	9/7	2	5
LMNT	8/17	7	8/12	3	9/3	2	4
Q 41	8/4	4	8/4	6	8/26	8	6
Q 42	8/10	3	8/26	7	9/3	5	5
Q 43.21	8/10	1	8/19	3	9/3	3	2
Q 44	8/10	2	8/26	6	9/14	5	4
Q 45.11	8/12	2	8/10	6	x	x	4
Q 45.21	8/17	5	8/26	7	x	x	6
Q 46	8/4	1	8/10	4	9/3	6	4
Q 47	8/17	7	8/26	6	9/9	1	5
Q 48	8/26	4	8/19	4	9/14	6	5
Q 49	8/4	3	8/4	6	x	x	5
Q 51	8/17	6	8/26	3	9/7	5	5
Q 52	8/26	6	8/10	8	9/14	7	7
LMNT	8/10	2	8/17	4	9/3	4	3
Q 53	8/12	7	8/10	4	9/3	1	4
Q 54	x	x	8/10	2	9/14	3	3

Table 2 (Continued.)

Q 55	8/10	3	8/26	6	x	x	5
Q 56	8/12	5	8/10	5	9/3	6	5
Q 57	8/10	5	8/10	7	9/14	2	5
Q 58	8/17	3	8/19	3	9/3	4	3
Q 59.11	8/26	3	8/26	3	9/14	x	3
Q 60	8/10	5	8/17	6	9/7	3	5
Q 61	8/26	7	8/26	6	9/9	6	6
Q 62	8/19	4	x	X	9/7	3	4
Q 63.11	7/28	6	8/10	6	9/3	5	6
Q 63.12	8/17	8	8/17	8	9/7	4	7
Q 63.13	8/10	7	8/12	7	9/7	3	6
Q 64	8/10	2	8/10	3	9/21	x	3
Q 65	8/19	5	8/10	4	9/7	6	5
Q 66	8/4	4	8/4	7	9/3	5	5
Q 67	x	x	8/26	8	9/14	4	6
Q67.21	8/4	4	8/10	8	8/26	7	6
Q 68	8/10	6	8/26	8	9/14	4	6
LMNT	8/10	3	8/10	4	9/3	6	4
Q 69	x	x	8/10	7	9/7	5	6
Q 70	8/17	5	8/26	6	9/9	2	4
Q 71.11	8/26	6	8/26	7	9/7	3	5
Q 71.12	7/28	3	8/4	4	x	x	4
Q 72	8/17	7	8/10	5	9/7	2	5
Q 73	8/26	3	8/26	6	9/9	1	3
Q 74	8/10	2	8/12	6	9/3	5	4
Q 75.11	8/19	5	8/19	7	x	x	6
Q 76	x	x	8/26	6	9/7	1	4
Q 77.1	8/26	8	8/26	4	x	x	6
Q 80	8/10	2	8/12	7	9/3	2	4
Q 81.11	8/12	6	8/19	7	9/7	4	6
LMNT	8/10	4	8/10	5	9/7	3	4
Q 81.13	8/10	2	8/12	6	9/3	3	4
Q 82	8/17	5	8/26	3	9/7	2	3
Q 83.1	8/4	3	8/10	4	9/3	3	3
Q 84	8/12	3	8/10	4	x	x	4
Q 86	8/12	5	8/10	7	9/3	6	6
Q 87	8/10	6	8/26	4	9/7	2	4
Q 88	8/10	5	8/4	2	9/7	5	4
Q 89.11	8/10	7	8/10	6	x	x	7
Q 90	8/12	3	8/26	2	9/7	3	3
Q 91	8/10	3	8/10	7	9/7	4	5
Q 92	8/26	8	8/26	1	x	x	5
Q 93.1	8/10	6	8/10	4	9/7	x	5
Q 93.2	8/17	8	8/10	3	9/14	6	6
Q 94	8/10	8	8/26	5	9/7	7	7
Q 95	8/17	4	8/26	5	9/7	3	4
Q 96	8/12	3	8/17	2	9/7	8	4
Q 98.2	8/12	6	8/17	8	9/7	4	6

Continued.

Table 2 (Continued.)

Q 97	8/10	6	8/10	2	x	x	4
Q 98	8/19	5	8/12	5	9/7	7	6
LMNT	8/17	7	8/26	7	9/3	5	6
Q 99	8/12	7	8/26	7	9/3	4	6
Q 100	8/12	8	x	x	x	x	8
Q 101	8/10	6	8/10	2	x	x	4
Q 102.11	8/10	3	8/4	5	9/3	6	5
Q 103.13	8/4	2	8/4	3	9/3	6	4
Q 103.21	8/17	7	8/10	2	x	x	5
Q 104	8/26	8	8/26	8	9/3	7	8
Q 105	8/10	2	8/17	5	9/3	5	4
Q 106	8/10	4	8/10	2	9/3	3	3
Q 107.12	8/26	2	x	x	9/14	7	5
Q 108	8/10	3	8/10	5	8/12	6	5
Q 109	8/17	3	8/26	6	9/7	4	4
LMNT	8/17	8	8/19	3	9/7	2	4
Q 110	8/26	8	8/26	8	x	x	8
Q 110.12	8/10	6	8/10	5	9/7	6	6
Q 111	8/17	7	8/10	7	9/3	7	7
Q 112	x	x.	8/12	7	9/7	7	5
Q 113	8/12	7	8/17	6	9/3	3	7
Q 115	x	x	8/10	7	9/3	6	7
Q 116	8/19	3	8/10	4	9/3	7	5
Q 117	8/10	4	8/10	7	9/3	7	6
Q 118	8/12	2	8/12	6	9/3	4	4
Q 119	8/12	8	8/17	6	9/7	3	6
Q 120	8/10	6	8/17	5	9/7	5	5
Q 121.1	8/12	5	8/26	4	9/7	6	5
Q 122	8/17	7	8/12	7	8/26	7	7
Q 123.21	8/17	5	8/19	6	9/9	6	6
Q 124.11	x	x	8/26	5	9/3	8	7
Q 124.12	8/10	4	x	x	9/7	7	6
Q 124.21	8/12	7	8/19	5	9/7	4	5
Q 126	8/26	6	8/10	5	x	x	6
Q 127	8/26	6	8/17	6	9/14	6	6
LMNT	8/19	5	8/26	7	9/3	4	5
Q 128	8/17	3	8/10	7	9/7	5	5
Q 129	8/10	6	8/10	2	9/7	3	4
Q 130	8/12	7	8/10	3	9/3	5	5
Q 131	8/12	5	8/12	4	9/7	2	4
Q 132.11	8/17	3	8/10	1	8/10	6	3
Q 132.21	8/10	2	8/17	4	9/7	6	4
Q 133	8/26	2	8/26	7	9/7	5	5
Q 134	8/4	9	8/4	7	8/4	8	8
Q 135	8/26	6	8/19	5	9/3	5	5
Q 136.21	8/19	4	8/17	6	x	x	5
Q 138	x	x	8/10	2	9/3	5	4
Q 141	x	x	8/19	2	9/7	4	3

Continued.

Table 2 (Continued.)

LMNT	8/17	7	8/10	3	9/7	4	5
Q 142	8/10	2	8/10	6	x	x	4
Q 143	8/26	7	8/17	3	x	x	5
Q 144	8/17	7	9/9	6	9/9	3	5
Q 145.2	8/17	2	8/10	8	9/14	6	5
Q 146	8/10	1	8/10	2	9/3	4	2
Q 147	8/17	7	8/26	7	9/7	2	5
Q 148	8/4	3	8/10	6	9/3	3	4
Q 149	8/19	4	8/12	4	9/14	3	4
Q 150	8/4	8	8/4	7	x	x	8
Q 150.2	8/12	2	8/17	4	8/26	5	4
Q 151	8/26	7	8/17	6	9/7	2	5
Q 152	8/26	5	8/26	6	x	x	6
Q 153	8/17	8	8/26	7	9/9	x	8
Q 154	8/26	6	8/26	7	9/3	3	5
Q 155	x	x	8/17	5	9/3	3	4
Q 156	8/26	8	8/19	6	9/14	x	7
Q 157	8/17	8	8/19	7	9/3	3	6
Q 158	8/17	7	8/12	6	9/3	5	6
Q 159	8/12	6	8/12	6	8/12	4	5
LMNT	8/10	5	8/19	7	9/3	6	6
Q 160	8/4	6	8/10	3	9/7	2	4
Q 161.21	8/10	6	8/26	4	9/3	4	5
Q 162	8/10	4	8/10	3	9/3	6	4
Q 163	8/12	5	8/26	7	9/7	6	6
Q 164	8/12	6	8/26	2	9/7	7	5
Q 165	8/12	6	8/10	2	9/3	6	5
Q 166	8/10	4	8/12	6	9/3	2	4
Q 167	8/19	8	8/10	5	9/3	7	7
Q 168.12	8/12	3	8/10	6	9/3	5	5
Q 168.13	x	x	8/10	4	9/3	2	3
Q 169	8/10	5	8/10	4	9/7	3	4
Q 170	8/12	6	8/12	3	9/3	6	5
LMNT	8/19	7	8/10	2	9/7	5	5
Q 171	8/26	7	8/10	2	9/7	6	5
Q 172	8/19	7	8/17	4	9/3	4	5
Q 173	8/26	6	8/12	3	8/26	8	6
Q 174	8/12	4	x	x	9/3	6	5
Q 175	8/26	5	8/26	7	x	x	6
Q 176	x	x	x	x	9/7	6	6
Q 177	8/12	5	8/12	2	9/7	1	3
Q 178	x	x	8/10	3	9/3	2	3
Q 179	8/26	6	8/26	5	x	x	6
Q 180	8/12	6	x	x	9/3	6	6
Q 181	8/17	3	8/10	3	9/3	3	3
Q 182	8/17	6	8/12	2	9/7	3	4
Q 183	8/12	7	8/26	6	x	x	7
Q 184	8/10	2	8/26	5	9/3	5	4

Continued.

Table 2 (Continued.)

Q 185	x	x	8/12	7	9/7	4	6
Q 186	8/12	5	8/17	6	9/7	3	5
Q 187	8/12	3	8/10	5	9/7	4	4
Q 188.11	8/12	3	x	x	9/7	6	5
Q 188.12	x	x	8/17	2	9/7	4	3
LMNT	8/26	2	x	x	9/7	3	3
Q 189	8/10	8	8/4	7	9/3	7	7
Q 191	8/17	5	8/17	6	8/17	6	6
Q 192	8/17	6	8/12	3	9/7	6	5
Q 193	8/10	6	8/10	6	8/26	2	5
Q 194	8/26	6	8/26	8	x	x	7
Q 196.11	8/17	7	8/10	5	9/3	6	6
Q 197	x	x	8/4	6	9/3	4	5
Q 197	8/10	2	8/10	6	x	x	4
Q 199.1	8/10	2	8/4	6	8/10	7	5
Q 199.2	8/17	3	8/12	4	9/7	5	4
Q 200	x	x	8/10	5	9/7	2	4
Q 201.1	8/10	5	8/10	4	9/7	4	4
LMNT	8/12	7	8/12	5	9/3	5	6
Q 202.11	8/12	8	8/12	3	x	x	6
Q 203	x	x	8/10	5	9/3	7	6
Q 204	8/17	7	8/26	3	9/9	3	4
Q 206	8/10	5	8/26	7	9/7	5	6
Q 207	8/10	4	8/26	6	9/7	5	5
Q 208	8/17	8	8/26	7	8/26	8	8
Q209	8/10	6	x	x	9/3	4	5
Q 210	8/26	7	8/26	6	9/7	6	6
Q 211	8/10	3	8/17	4	9/7	7	5
Q 212	8/10	5	8/17	5	9/3	4	5
Q 213	8/17	8	8/12	7	9/7	1	5
Q 214	8/4	4	8/4	4	x	x	4
Q 215.11	8/12	8	8/17	7	x	x	8
Q 215.12	8/10	8	8/4	6	8/4	7	7
Q 215.21	8/10	7	8/4	7	9/3	6	7
Q 216	8/10	2	8/19	7	9/3	3	4
Q 217	8/10	6	8/10	6	9/14	6	6
Q 219	8/10	5	8/17	5	9/7	5	5
Q 220	8/17	6	8/17	4	9/7	2	4
LMNT	8/10	5	8/17	2	9/7	6	4
Q 221	8/19	7	8/17	6	9/7	2	5
Q 222	8/17	7	8/17	4	x	x	6
Q 223	8/26	6	x	x	x	x	6
Q 224	8/26	9	9/3	2	9/3	6	6
Q 225	8/12	3	8/17	5	9/7	1	3
Q 226	8/10	3	8/10	4	9/3	5	4
Q 227	x	x	x	x	x	x	x
Q 228	8/19	7	8/17	4	9/9	3	5
Q 229	8/17	8	8/19	4	9/7	4	5

Continued.

Table 2 (Continued.)

Q 230	8/26	5	8/12	2	9/7	6	4
Q 231	8/17	8	8/12	3	9/3	3	5
Q 232	8/4	3	8/4	4	x	x	4
LMNT	8/17	4	8/26	6	9/7	3	4
Q 233	8/26	7	8/17	5	9/7	2	5
Q 234	8/19	8	8/17	4	x	x	6
Q 238	8/12	8	8/12	6	9/7	3	6
Q 238.2	8/26	9	8/10	8	8/17	7	8
Q 240	8/10	3	8/10	3	9/3	5	4
Q 241	8/17	3	8/10	5	9/3	5	4
Q 242	8/10	6	8/17	7	9/3	6	6
Q 243	8/10	4	8/12	5	9/7	3	4
Q 244.1	8/10	2	8/10	3	8/26	3	3
Q 244.2	8/26	8	8/17	2	9/3	6	5
Q 245.12	8/26	7	8/26	4	9/14	6	6
Q 245.3	8/26	8	8/26	7	9/7	5	7
Q 246	8/10	6	8/26	7	9/7	5	6
Q 247	8/10	2	8/10	3	9/7	4	3
Q 248	8/10	6	8/10	8	9/7	5	6
Q 249	8/12	7	8/10	3	9/7	3	4
Q 250	8/19	2	8/17	4	9/3	5	4
Q 251	8/10	7	8/10	3	9/3	5	5
Q 252	8/26	7	8/26	8	9/3	4	6
LMNT	8/12	4	8/26	4	9/3	4	4
Q 254	8/10	5	8/10	6	9/7	4	5
Q 254	8/12	7	8/10	3	9/3	4	5
Q 255	8/12	4	8/26	5	9/3	3	4
Q 256	8/10	4	8/10	4	9/3	6	5
Q 257	x	x	8/10	6	9/7	5	6
Q 258	8/26	6	9/14	6	9/14	5	6
Q 259	8/17	9	8/10	7	9/7	7	8
Q 261.2	8/10	8	8/10	4	8/10	7	6
Q 262	8/26	6	8/26	1	9/14	7	5
Q 263	8/12	7	8/10	1	9/9	5	4
Q 264	8/17	6	8/10	6	9/3	5	6
Q 265	8/10	3	8/10	2	9/3	3	3
LMNT	8/26	3	8/17	4	9/14	4	4
Q 266	8/26	9	9/3	8	9/14	7	8
Q 266.2	8/26	9	8/26	8	9/14	8	8
Q 267	8/10	2	8/10	2	9/7	4	3
Q 268	8/19	6	8/10	4	9/3	2	4

* Nursery conducted with lines from a cross between Lemont and Teqing for QTL analysis in cooperation with Dr. Shannon Pinson of the Texas A&M University Rice Research Station at Beaumont Texas.

To identify our *B. glumae* isolates using fatty acid analysis, a total of 10 isolates showing positive results in PCR, ELISA, and Biolog^{TM} for *B. glumae* were selected and their fatty acid data were used to make a reference library for *B. glumae*. Fatty acid data from all isolates were then rerun against the new *B. glumae* library, and we found that most of our isolates were *B. glumae* with high similarity indexes. This result is also supported by our PCR data. These results indicate that our *B. glumae* library can also be used for general identification purposes with suspected *B. glumae* isolates.

Methods for extraction of the pathogen and identification of infected seed-lots. Infected rice seeds serve as a source of inoculum for the rice BPB disease. To prevent the spread of this disease, seed-lots have to be examined for the presence of bacteria with confirmation by various techniques such as PCR or ELISA. For this, the bacteria must be extracted from seeds and quantified for isolation of either DNA or protein. Methods for extracting pathogenic bacteria from seed have been elaborated, with and without enhancement of bacterial populations, and minimum seed sample size determined. We have extracted the bacteria from seed-lots known to be infected with pathogenic *Burkholderia* strains from a total of 500 infected seeds using both King's B (KB) and S-PG media. After incubating at 30°C. for 24 and 48 hours, the bacteria from seed grew faster (20 fold) in King's B medium than in S-PG. In S-PG medium, as the incubation period increased from 24 to 48 hours, the bacterial population increased by 150%, while the bacterial population was increased 50% in KB medium. We now have an ELISA system that can identify infected seed-lots from small seed samples.

Monoclonal antibody studies. Forty monoclonal antibodies (Mab) with reactivity to *Burkholderia* species have been generated and partially characterized. Antibodies were characterized against isolates identified as *B. glumae* and *B. gladioli*. Identification of useful immunological reagents has been hindered by problems associated with the taxonomic identification of the members of the genus *Burkholderia.* No Mab was identified that reacted only with *B. glumae*. No Mab was identified that reacted only with isolates identified as pathogenic or non-pathogenic; however, although Mab JT-3H10.11 did not show specificity with *B. glumae*, it correctly identified pathogenic isolates 87% of the time and is currently being tested for its usefulness in an immunoassay. Several antibodies were identified that had limited reactivity and may be strain specific.

We are currently testing seed extracts for their reaction to monoclonal antibodies generated against *B. glumae* and *B. gladioli.* We have a Mab that reacts with both *B. glumae* and *B. gladioli*. Because both are pathogens on rice in Louisiana, this Mab works in ELISA tests to identify seed-lots with the potential to serve as primary inoculum to cause epidemic BPB when weather conditions favor disease development.

Effects of temperature on growth of *B. glumae* and *B. gladioli*. Temperature plays a major role in the development of BPB. The most severe epidemics in Louisiana occurred during the 1995 and 1998 growing seasons. Both years had record high temperatures during the summer, and earlier published reports indicated that high temperature favors the development of disease on rice by *B. glumae*. By determining the temperature optimum for the two *Burkholderia* species isolated from rice in Louisiana, we can incubate seed extracts at the optimum temperatures for these pathogens to eliminate other bacterial species that normally grow at 30°C. Experiments were carried out separately to determine the effects of temperature on the growth of *B. glumae* (eight virulent and two avirulent isolates from panicle blight infected rice grains from different fields in Louisiana, Texas, and Arkansas) and *B. gladioli* (isolated from panicle blight infected rice grains from different fields in Louisiana and Arkansas) to determine the temperature optima for their growth. Bacterial growth was quantified at 30, 35, 40, 45, and 50°C after 12, 18, 24, and 48 hours of incubation. No significant differences were observed between growth of virulent and avirulent isolates of *B. glumae* and among the isolates of *B. gladioli* collected from different locations in southern states. The bacterial populations increased as incubation time increased from 12 to 48 hours. After 40°C, the bacterial growth rate starts decreasing, and none of the isolates grew at temperatures of 45 and 50°C. Based on these results, the temperature optimum was calculated for *B. glumae* and *B. gladioli*, and it ranged between 38 and 40°C for *B. glumae* and 35 and 37°C for *B. gladioli.*

Isolation of *Burkholderia* species from soil. *Burkholderia* species pathogenic on rice are reported to be seedborne pathogens. The infected seeds serve as the primary source of inoculum. However, recent research from our laboratory suggests that *Burkholderia* species pathogenic on rice may be soilborne, as well as seedborne. In an attempt to demonstrate this, we tried to isolate pathogenic *Burkholderia* species from rice-field soils using the semi-selective S-PG medium. We observed that most of the colonies isolated looked like *Burkholderia*. We further purified some of the colonies and observed the colony morphology, culture characteristics, and production of toxins on KB medium. Most of the isolates produced yellowish pigment (toxin) on KB medium. The isolates showing toxin production on KB were tested for pathogenecity on 20-day-old seedlings of the two susceptible rice varieties Cypress and Bengal. Eleven isolates showed typical seedling blight symptoms on both varieties. However, the symptoms were not severe when panicles were sprayed at the same bacterial concentration at or before the heading stage. In addition, we have conducted greenhouse experiments by planting the susceptible rice varieties Cypress and Bengal in soil brought from the Rice Research Station to demonstrate that soil can serve as a source of inoculum for *Burkholderia* species. In these experiments, we did not observe any distinct symptoms of either seedling blight or panicle blight indicating that predisposing field environmental conditions may be necessary for the disease, and hence, we are planning to conduct a field trial with these soil *B. gladioli* isolates in the summer of 2005.

Among 11 pathogenic soil isolates, eight were identified as *B. gladioli* and three as *B. pyrrocinia* by Biolog™. DNA isolated from the eight pathogenic Biolog™ identified soil isolates of *B. gladioli* showed positive amplification for *B. gladioli* with *B. gladioli* species specific primers and not with either *B. glumae* or *B. plantarii* primers. We did not isolate *B. glumae* from soil. All the Biolog™ and PCR positive soilborne *B. gladioli* strains were also identified as *B. gladioli* by the MIDI Sherlock® Microbial Identification System for fatty acid analysis. Sequence analysis of PCR product of five soilborne *B. gladioli* isolates showed almost 100% sequence identity with known *B. gladioli*.

DEVELOPMENT OF SHEATH BLIGHT RESISTANCE IN RICE [1]

M.C. Rush, Q.M. Shao, S.L. Zhang, X.Y. Sha, D.E. Groth, and S.D. Linscombe

INTRODUCTION

Sheath blight (SB) is the most serious rice disease in Louisiana because of its endemic, and occasionally epidemic, development each year and also because of the significant yield loss experienced by Louisiana rice growers. The use of SB-resistant cultivars, if they were available, would be the best way to control this disease. The sources for SB resistance used in our program have different resistance genes and were crossed with susceptible commercial cultivars, our elite resistant lines, and lines from progeny row selections in 2003. Germplasm and all progeny rows were evaluated in field nurseries at the Rice Research Station in Crowley, Louisiana, for SB resistance, agronomic characteristics, and yield potential in the 2004 season. Selected lines harvested in 2003, and found to have the grain quality characteristics required by the rice industry, were placed in the Rice Breeding/Rice Pathology yield test at the Rice Research Station for yield testing and for further disease evaluation in 2004. Progeny rows harvested and subjected to grain quality testing in 2003 were advanced to the 2004 SB yield test. The intent of the current program is to identify resistance sources to SB; to determine the mode-of-inheritance of high-level partial resistance to SB in newly obtained resistance sources, selected cultivars, and elite lines; and to transfer genes conferring partial resistance to lines typical of American long- and medium-grain varieties. The lines will be further tested in the Rice Breeding Program for use as resistance sources. Another purpose of this research is to co-transfer the β-glucanase/chitinase/thionin genes through a gene delivery system (gene gun) and to explore the potential for rice SB/bacterial panicle blight control using alien resistance genes.

MATERIALS AND METHODS

Development of Resistant Lines

Resistance sources and crosses. Our SB resistance sources include LSBR-5, LSBR-33, H4/CODF, Taducan, Rice/Grass, Teqing, Jasmine 85, Leah, Katy, Yangdao-4, Yangdao-6, Earl, Bengal, and selected lines with combined SB resistance sources from our breeding program. Crosses were made in 2003-2004 based on the modified recurrent selection scheme that we have been using for many years. F_1 plants were planted in the greenhouse during the winter of 2004. F_2 populations from these crosses were evaluated in the field during the 2004 season.

Inoculation and evaluation for SB resistance. An autoclaved grain:rice hull (1:2) mixture was inoculated with *Rhizonctonia solani* Kühn (isolate #LR 172) and cultured at room temperature for 48 hours. This grain-rice hull mixture was used as inoculum in all progeny rows. Each row was inoculated evenly at the late tillering/green ring stages of growth with 50 ml inoculum per row by hand. Rows were evaluated for SB resistance at maturity based on the standard SB rating scale (0-9).

The cultivar M201, highly susceptible to the rice blast disease, was planted around each set of progeny rows and the yield test. Naturally occurring blast infected the M201, which served as a source of inoculum to the progeny rows. All progeny rows were evaluated for blast resistance at maturity, and all rows showing rice blast infection were discarded.

Selection of SB resistant progeny rows. Lines/plants with both SB and blast resistances, as well as good agronomic characteristics, were selected for advancement in our program or for further testing in the Rice Breeding Program.

Field management. The first set of 6,000 progeny rows were planted in 100-row tiers of 6-foot rows, with a 10-inch spacing between rows, using a Hege 90 Series Drill Planter and 12-cell magazines on March 23, 2004. These rows were fertilized with preplant N-P-K (N-P_2O_5-K_2O) at 21-63-63 on March 22, preflood at 120-0-0 on April 29, and were topdressed at 46-0-0 (urea) on June 2. Herbicides applied were 4 qt/A Arrosolo + 0.66 oz/A permit on April 15, 16 oz/A Clincher on April 29, and 1 oz/A Londax on May 4. Insecticide was applied preplant as 1 oz/A Icon on March 24 and 20 oz/A Karate Z on June 26. The second set of 6,000 progeny rows were planted in tiers of 100 3-foot rows, with a 10-inch spacing between rows, using a Hege 90 Series drill planter and 12-cell magazines on April 21, 2004. This set of progeny rows received 21-66-66 (N-P_2O_5-K_2O) preplant on March 22, 120-0-0 preflood on May 28, and were topdressed 46-0-0 on June 2. The rows were treated with 1 oz/A Londax on May 4, 16 oz/A Clincher on May 20, and 4 qt Arrosolo + 1 oz/A Aim on May 27. Insecticide was applied preplant as 1 oz/A Icon on April 20 and 20 oz/A Karate Z on June 26. The third planting of 4,000 rows in tiers of 3-foot rows with a 10-inch spacing between rows was planted March 7, 2004 using a Hege 90 Series drill planter and 12-cell magazines. Planted areas received a preplant application of 21-63-63 (N-P_2O_5-K_2O) fertilizer/A on May 7 and a topdressing of 120-0-0 on June 8. All plot areas were treated with 4 qt/A Arrosolo + 1 oz/A Aim + 1 qt/A Basagran herbicide on May 31 and 0.4 oz/A Regiment on June 9. Icon insecticide was applied preplant at 1 oz/A on May 7 and 2 oz/A Karate Z was applied on July 7. Standard agronomic practices were used in all plantings.

Yield Test

The annual SB Yield Test was carried out in cooperation with Drs. D.E. Groth, S.D. Linscombe, and X. Sha in 2004. Fifty-one experimental lines, along with the eight control cultivars Cocodrie, Earl, Francis, Wells, LM-1, Jefferson, Cheniere, and Pirogue, were tested using a split-plot design with two replications for yield potential, losses due to SB, and to confirm quality characteristics. The test was planted March 23, 2004. The lines and control cultivars were planted in 4.7 x 12 ft subplots with 14-inch alleys between plots and 5-ft alleys between tiers of plots. The main treatment was the variety or line, and the sub-treatment was inoculated or not inoculated with *R. solani*. All plots received a preplant application of 24-52-52 (N-P_2O_5-K_2O) fertilizer, an additional 138-0-0 preflood application, and a topdressing of 46-0-0 (urea). Herbicide was applied as 4 qt/A Arrosolo + 0.66 oz/A Permit on April 28 and 2 oz/A Karate Z on June 26. Insecticide was applied preplant as 1 oz/A Icon on March 24 and 20 oz/A Karate Z on June 26. The split plots to be inoculated were inoculated evenly at the first joint elongation stage (June 9), with 200 ml SB inoculum per plot. Sheath blight severity in each plot was measured at maturity using the 0 to 9 rating scale. Plant height was measured from the crown (soil line) to the tip of the highest panicle. Lodging percentage was visually estimated. The plots were harvested on August 3, 2004. Standard agronomic practices were followed throughout this test. Sheath blight development was severe in the 2004 test.

RESULTS AND DISCUSSION

Development of Resistant Lines

A total of 16,000 rows were planted and inoculated with *Rhizoctonia solani* in 2004 for various disease resistance evaluations. Field evaluations of germplasm for SB and blast resistance included 5135 progeny rows from F_6 and higher generations, 2117 F_5 progeny rows, 6961 F_4 progeny rows, 748 rows of F_2 populations, and 244 rows for germplasm increase. In 2004, a total of 354 advanced SB-resistant lines were selected to obtain grain quality and yield data in the joint breeding/pathology yield test in 2005.

Yield Test

The yield test conducted in 2004 was in cooperation with Drs. Xueyan Sha and Don Groth to test 51 breeding lines selected in 2003 for their resistance to SB, yield potential, and agronomic characteristics (height, days to maturity, lodging). The six check varieties (Bengal, Cheniere, Cocodrie, Francis, Pirogue, and Wells) were planted with the lines for comparison purposes. The experimental lines were grown in yield plots using standard rice production practices and a split plot design with two replicates. In each replicate, one plot (split) was inoculated with *R. solani* grown on a rice grain:rice hull mixture and one plot was not inoculated (healthy rice) for determination of the effect of SB infection on yield. The lines and varieties were rated for SB development at maturity. In general, the lines were more SB resistant than the varieties, except for Pirogue, which has good SB resistance.

Healthy (non-inoculated) Pirogue yielded 8511 lb/A while Pirogue with SB yielded 7738 lb/A, for a 9.1% loss to SB. Non-inoculated Cocodrie yielded 8616 lb/A while diseased Cocodrie yielded 5689 lb/A. This was a 33.9% loss to SB. Loss to SB in the check varieties Bengal (8318 lb/A/7408 lb/A), Cheniere (8133 lb/A/7144 lb/A), Francis (8515 lb/A/7031 lb/A), and Wells (8444 lb/A/6825 lb/A) ranged from 11 to 19% in this test. The two-SB resistant lines MCR3-0007 (8994 lb/A/7983 lb/A) and MCR3-3086 (8038 lb/A/7496 lb/A) had yield losses of 6.7 and 11.2%, respectively. Line MCR02-1534 (8965 lb/A/7156 lb/A), that had a SB rating of 5.5 (moderately susceptible), lost 20% of its yield to SB. The resistance of this line to SB was very similar to the SB resistance of the variety Katy. Many lines were lower yielding than the commercial variety checks but were highly resistant to SB, with ratings of 2 to 4 on the 0-9 rating scale. An example was resistant line MCR03-2318 (6999 lb/A/6743 lb/A) that had a 3.7% loss to SB when inoculated with *R. solani*. The performance of several lines is compared with the variety controls in Table 1. Yield data for all entries when inoculated or non-inoculated are shown in Table 2. We are recommending lines MCR 03-0007 and MCR03-2771 for inclusion by the breeding program in the 2005 Uniform Yield Nursery. Line 3086 will be planted by the breeding program in a yield test. Line 2004 URRN2143 (MCR 02-1534) and line 2004 URN 2152 (MCR02-6115) were retained in the 2005 URRN tests. MCR 02-1534 performed well in several of the breeding program's in-state yield tests in 2004 and will be increased by the breeding program in 2005.

Three hundred fifty-four panicle rows were cut for consideration for yield testing in 2005.

Table 1. Response of selected entries in the 2004 sheath blight yield test (yield as lb/ A at 12% moisture).*

ID #	Mean yield (inoculated)	Mean yield (non-inoculated)	Change in yield from NI (lb/A)	Change in yield from NI (%)	Grain type & quality	Height (cm)	Milling (head/total)
MCR03-0007	7983	8994	- 1011	- 11.2	L	116	53.3 / 71.0
MCR02-1534 (URRN 2143)	7156	8965	- 1484	- 17.4	L	106	
MCR03-3086	7496	8037	- 541	- 6.7	L	106	57.0 / 70.5
MCR03-2771	6867	7680	- 813	- 10.6	L	105	59.7 / 72.6
MCR03-2114**	7057	6963	+ 94	+ 1.35	L	93	57.8 / 72.5
BNGL	7408	8318	- 910	- 10.9	MG	100	64.6 / 70.8
CCDR	5698	8617	- 2919	- 33.9	L	101	62.7 / 71.9
CHNR	7144	8133	- 989	- 12.2	L	97	68.0 / 73.0
PIRO	7738	8511	- 773	- 9.1	SG	104	-
FRNS	7031	8515	- 1484	- 17.4	L	108	-
WELLS	6825	8444	- 1619	- 19.2	L	110	-

* Means of two replicate plots inoculated with *Rhizoctonia solani* and two replicate plots not inoculated.
**Very highly sheath blight resistant.

Table 2. Yield of rice breeding lines grown in plots inoculated or not inoculated with *Rhizoctonia solani* (yield as lb/A at 12% moisture).

INOCULATED YIELD PLOTS (Sheath blight)*						NON-INOCULATED YIELD PLOTS (Healthy)**				
ENTRY #	REP	YIELD LB/A	REP	YIELD LB/A	MEAN YIELD LB/A	ENTRY #	REP	YIELD LB/A	REP	MEAN YIELD LB/A
MCR03-007	1	7612	2	8353	7983	MCR03-007	1	9188	2	8799
MCR03-071	1	5421	2	5133	5277	MCR03-071	1	5566	2	5535
MCR03-089	1	6863	2	6855	6859	MCR03-089	1	6540	2	7222
MCR03-091	1	5706	2	5254	5480	MCR03-091	1	5994	2	5974
MCR03-1013	1	6544	2	5696	6120	MCR03-1013	1	6389	2	6221
MCR03-1085	1	6707	2	6440	6574	MCR03-1085	1	6970	2	7333
MCR03-2045	1	6280	2	5451	5866	MCR03-2045	1	8010	2	7084
MCR03-2114	1	7041	2	7073	7057	MCR03-2114	1	7166	2	6759
MCR03-223	1	5133	2	5257	5195	MCR03-223	1	5701	2	5372
MCR03-2318	1	7205	2	6280	6743	MCR03-2318	1	7260	2	6737

Continued.

Table 2. Continued.

INOCULATED YIELD PLOTS (Sheath blight)*						NON-INOCULATED YIELD PLOTS (Healthy)**				
ENTRY #	REP	YIELD LB/A	REP	YIELD LB/A	MEAN YIELD LB/A	ENTRY #	REP	YIELD LB/A	REP	MEAN YIELD LB/A
MCR03-271	1	6535	2	5541	6038	MCR03-271	1	6801	2	7173
MCR03-2771	1	6785	2	6948	6867	MCR03-2771	1	7730	2	7629
MCR03-2774	1	6105	2	6165	6135	MCR03-2774	1	6151	2	7187
MCR03-3023	1	7063	2	5858	6461	MCR03-3023	1	5897	2	6699
MCR03-3086	1	7547	2	7445	7496	MCR03-3086	1	8205	2	7869
MCR03-3254	1	6243	2	6013	6128	MCR03-3254	1	6225	2	6688
MCR03-3304	1	6512	2	6338	6425	MCR03-3304	1	6523	2	6248
MCR03-336	1	5618	2	4764	5191	MCR03-336	1	5668	2	5242
MCR03-3376	1	5737	2	5694	5716	MCR03-3376	1	7998	2	6780
MCR03-3752	1	6597	2	6129	6363	MCR03-3752	1	6798	2	6769
MCR03-4489	1	4871	2	5126	4999	MCR03-4489	1	5276	2	5929
MCR03-530	1	4632	2	5708	5170	MCR03-530	1	6158	2	6277
MCR03-623	1	6366	2	6369	6368	MCR03-623	1	6845	2	7119
MCR03-630	1	6236	2	6029	6133	MCR03-630	1	6549	2	6040
MCR03-728	1	5534	2	5585	5560	MCR03-728	1	6034	2	6553
MCR03-8028	1	6542	2	6961	6752	MCR03-8028	1	6649	2	6738
MCR03-8196	1	6094	2	7020	6557	MCR03-8196	1	7169	2	7819
MCR03-8217	1	4923	2	4507	4715	MCR03-8217	1	6403	2	6784
MCR03-8230	1	5887	2	6575	6231	MCR03-8230	1	6830	2	8123
MCR03-8378	1	6103	2	6142	6123	MCR03-8378	1	6589	2	7259
MCR03-8390	1	6372	2	6255	6314	MCR03-8390	1	6573	2	6837
MCR03-8396	1	6646	2	6262	6454	MCR03-8396	1	6548	2	6905
MCR03-855	1	5598	2	5768	5683	MCR03-855	1	6083	2	5442
MCR03-8627	1	5305	2	5221	5263	MCR03-8627	1	5797	2	5773
MCR03-8793	1	6058	2	6538	6298	MCR03-8793	1	7058	2	6287
MCR-905	1	6206	2	5834	6020	MCR-905	1	7530	2	6849
MCR02-0336	1	6394	2	5577	5986	MCR02-0336	1	6217	2	5927
MCR02-0318	1	6142	2	4514	5328	MCR02-0318	1	6718	2	6018
MCR01-1196	1	4979	2	4816	4898	MCR01-1196	1	5137	2	5749
MCR01-1306	1	6240	2	5149	5695	MCR01-1306	1	6732	2	5804
MCR01-2101	1	5395	2	6633	6014	MCR01-2101	1	6469	2	6586
MCR01-2455	1	4683	2	6778	5731	MCR01-2455	1	7553	2	7277
MCR02-226	1	5777	2	5739	5758	MCR02-226	1	5925	2	6177
MCR02-230	1	5394	2	5876	5635	MCR02-230	1	5282	2	5531
CCDR	1	5609	2	5787	5698	CCDR	1	8825	2	8408
FRNS	1	6767	2	7295	7031	FRNS	1	9115	2	7914
CHNR	1	7406	2	6882	7144	CHNR	1	7626	2	8639
WELLS	1	6536	2	7114	6825	WELLS	1	7732	2	9155
PIRO	1	7993	2	7483	7738	PIRO	1	8843	2	8178
BNGL	1	7251	2	7565	7408	BNGL	1	8341	2	8294
MCR02-1534	1	7800	2	6512	7156	MCR02-1534	1	8558	2	9372

* Plots were inoculated with *Rhizoctonia solani.*

** Plots were not inoculated with *R. solani.*

RICE PRODUCTION ECONOMICS RESEARCH

M.E. Salassi

Enterprise budget projections for 2005 were developed in the fall of 2004 for alternative rice production systems. A summary of the enterprise budgeting analysis for rice production systems in southwest Louisiana is presented in Table 1. Values presented represent direct and total estimated rice production costs per hundredweight of rice produced for selected yield levels. Direct production costs include expenses for seed, fertilizer, chemicals, fuel, labor, repairs, custom charges, and interest on operating capital. Total specified expenses include direct expenses plus fixed costs on machinery and equipment. These values can also be interpreted as the breakeven price or income per output unit required to cover total production costs. Owner-operator and tenant-operator situations were budgeted for each enterprise, and output from all enterprises were valued solely at a projected market price.

Rice production costs were estimated for the following types of rice production systems: water-planted, drill-planted, conventional variety, Clearfield variety, conventional tillage, stale seedbed, in rotation, and fallow land. Base yield levels were 57.0 cwt. per acre for water-planted rice and 60.0 cwt. per acre for drill-planted rice. The total rice production cost for a tenant operator using a water-planted, conventional variety, conventional tillage system in rotation with another crop was estimated to be $9.46 per cwt. at a 57.0 cwt. yield level. This production system on fallow land rotation added $0.42 per cwt. to production costs, resulting from additional disk operations in the year prior to planting. Stale seedbed production systems in water-planted rice had similar production cost levels compared with conventional tillage. Total production costs for stale seedbed, water-planted rice in rotation was estimated at $9.22 per cwt., $0.24 per cwt. less than conventional tillage. Production costs associated with production of Clearfield rice were estimated to be slightly higher than conventional varieties, mainly because of higher seed prices. Clearfield production costs were estimated at $9.85 per cwt. for conventional tillage in rotation and $10.28 per cwt. for conventional tillage of rice production on fallow land. Detailed enterprise budgets and supporting data were published in A.E.A. Information Series Number 228, January 2005 (Dept. of Agricultural Economics and Agribusiness, Louisiana Agricultural Experiment Station, LSU Agricultural Center).

A study to evaluate the use of cost of production crop insurance as a risk management tool by rice producers was completed in 2004. Crop insurance has received a great deal of attention over the past several years. The main interest and focus of analysis on crop insurance has been to evaluate its use and performance as a risk management tool for agricultural producers. Several different types of crop insurance policies are currently available, ranging from minimal yield coverage to revenue coverage. Cost of production crop insurance has been proposed recently as a low-cost, safety net insurance policy for agricultural producers. This study evaluated the performance of cost of production crop insurance for cotton and rice producers in Louisiana.

Crop income and production expenses were simulated on a per acre basis for representative rice production situations in Louisiana. Rice yields and production costs for Acadia and Vermilion parishes in southwest Louisiana were used to model per acre income and expenses under various insurance coverage levels. Gross income, production expenses, and net income were simulated over a 5-year period. Crop yields and market prices were stochastically simulated for 1,000 replications. Results were evaluated by comparing mean net present value of net returns, the percent of time net returns were negative, and the percent of time cost of production crop insurance generates an indemnity payment. Results for Acadia Parish are shown in Tables 2 and 3. Results for Vermilion Parish are shown in Tables 4 and 5. General conclusions of the study were that cost of production crop insurance is a low-cost, safety net insurance which can help support farm income during times of extremely low prices or yields. Farms with below average yields tended to benefit more from the program because of lower average net returns. One of the practical challenges for this type of insurance program would involve the collection of yield and production cost data necessary to operate it at the individual farm level.

Table 1. Projected break-even selling prices for rice at selected yield levels, southwest Louisiana, 2005.

Rice Production System	Total Costs	Base Yield	Yield Level (%) -20%	-10%	Base	+10%	+20%
	Dollars per Acre	Cwt. per Acre	----------------------Dollars per Cwt.---------------------				
Prices Required to Recover Total Specified Expenses:							
Southwest Louisiana:							
(1) Water Planted:							
(a) Conventional Variety:							
(i) Conventional Tillage:							
- In Rotation, Owner a/	524.80	57.0	11.19	10.09	9.21	8.48	7.88
- In Rotation, Tenant b/	377.35	39.9	11.51	10.37	9.46	8.71	8.09
- Fallow Land, Owner a/	541.85	57.0	11.57	10.42	9.51	8.76	8.13
- Fallow Land, Tenant b/	394.40	39.9	12.04	10.84	9.88	9.10	8.45
(ii) Stale Seedbed:							
- In Rotation, Owner a/	513.55	57.0	10.95	9.87	9.01	8.30	7.72
- In Rotation, Tenant b/	367.91	39.9	11.21	10.11	9.22	8.50	7.89
- Fallow Land, Owner a/	532.67	57.0	11.37	10.24	9.35	8.61	8.00
- Fallow Land, Tenant b/	385.22	39.9	11.75	10.59	9.65	8.89	8.26
(b) Clearfield Variety:							
(i) Conventional Tillage:							
- In Rotation, Owner a/	540.48	57.0	11.54	10.40	9.48	8.73	8.11
- In Rotation, Tenant b/	393.03	39.9	12.00	10.81	9.85	9.07	8.42
- Fallow Land, Owner a/	557.53	57.0	11.91	10.73	9.78	9.01	8.36
- Fallow Land, Tenant b/	410.08	39.9	12.53	11.28	10.28	9.46	8.77
(ii) Stale Seedbed:							
- In Rotation, Owner a/	529.23	57.0	11.29	10.18	9.28	8.55	7.95
- In Rotation, Tenant b/	383.59	39.9	11.70	10.54	9.61	8.85	8.22
- Fallow Land, Owner a/	548.35	57.0	11.71	10.55	9.62	8.86	8.23
- Fallow Land, Tenant b/	400.90	39.9	12.25	11.02	10.05	9.25	8.58
(2) Drill Planted:							
(a) Conventional Variety:							
(i) Conventional Tillage:							
- In Rotation, Owner a/	484.39	60.0	9.78	8.83	8.07	7.45	6.94
- In Rotation, Tenant b/	329.39	42.0	9.49	8.57	7.84	7.24	6.75
(ii) Stale Seedbed:							
- In Rotation, Owner a/	495.16	60.0	10.00	9.03	8.25	7.62	7.09
- In Rotation, Tenant b/	341.82	42.0	9.86	8.90	8.14	7.51	6.99
(b) Clearfield Variety:							
(i) Conventional Tillage:							
- In Rotation, Owner a/	519.00	60.0	10.50	9.47	8.65	7.98	7.42
- In Rotation, Tenant b/	355.86	42.0	10.28	9.27	8.47	7.82	7.27
(ii) Stale Seedbed:							
- In Rotation, Owner a/	530.97	60.0	10.75	9.69	8.85	8.16	7.58
- In Rotation, Tenant b/	376.03	42.0	10.88	9.81	8.95	8.25	7.67
(3) Ratoon Crop							
- Owner a/	112.93	16.0	8.51	7.70	7.06	6.53	6.09
- Tenant b/	74.07	11.2	7.95	7.21	6.61	6.13	5.72

a/ Land costs not included for owner operators. b/ Tenant share of yield.

Table 2. Net present value of net returns over a 5-year period, rice, Acadia Parish, projected trend mean rice yields with equivalent risk.

Type of insurance	NPV[1] of net returns above variable costs		NPV[1] of net returns above total costs	
	Mean	Std. Dev.	Mean	Std. Dev.
No insurance	476.05	118.26	286.44	118.26
70% COP	451.94	118.26	262.32	118.26
75% COP	450.21	118.26	260.60	118.26
80% COP	448.49	118.26	258.87	118.26
85% COP	446.77	118.26	257.15	118.26
90% COP	445.15	118.10	255.53	118.10

[1]NPV = net present value

Table 3. Percent of time cost of production crop insurance indemnity payment is made over a 5-year period, rice, Acadia Parish, projected trend mean rice yields with equivalent risk.

Type of insurance	Number of years indemnity payment is made over a 5-year period					
	0	1	2	3	4	5
70% COP	100.0%	-	-	-	-	-
75% COP	100.0%	-	-	-	-	-
80% COP	100.0%	-	-	-	-	-
85% COP	100.0%	-	-	-	-	-
90% COP	97.7%	2.3%	-	-	-	-

Table 4. Net present value of net returns over a 5-year period, rice, Vermilion Parish, projected trend mean rice yields with equivalent risk.

Type of insurance	NPV[1] of net returns above variable costs		NPV[1] of net returns above total costs	
	Mean	Std. Dev.	Mean	Std. Dev.
No insurance	382.71	117.97	150.91	117.97
70% COP	357.47	117.97	125.67	117.97
75% COP	355.67	117.97	123.87	117.97
80% COP	353.87	117.97	122.07	117.97
85% COP	352.55	117.37	120.75	117.37
90% COP	355.33	112.99	123.53	112.99

[1]NPV = net present value

Table 5. Percent of time cost of production crop insurance indemnity payment is made over a 5-year period, rice, Vermilion Parish, projected trend mean rice yields with equivalent risk.

Type of insurance	Number of years indemnity payment is made over a 5-year period					
	0	1	2	3	4	5
70% COP	100.0%	-	-	-	-	-
75% COP	100.0%	-	-	-	-	-
80% COP	100.0%	-	-	-	-	-
85% COP	91.9%	7.7%	0.4%	-	-	-
90% COP	66.6%	24.6%	7.8%	0.9%	0.1%	-

LOUISIANA RICE RESEARCH VERIFICATION PROGRAM 2004

J.K. Saichuk and S.J. Theunissen

Introduction

Until being surpassed by California in 2004, Louisiana had been the second largest rice-growing state in the United States in terms of acreage devoted to rice production. Historically, however, Louisiana has often, if not always, been at the bottom of the states in yield per acre. If Louisiana's rice industry is to survive under the present economic conditions of low world prices, large domestic stocks, and growing opposition to government support programs, it is imperative that growers become more efficient. One of the key components of the verification program is to capture as much of the costs of production as possible. This could reveal areas of inefficiency in production. It is not the intent of the program to investigate marketing or rental arrangements.

The Louisiana Rice Research Verification Program (LRRVP) has been funded for the past seven years following a pilot program in 1997. Rice fields were monitored weekly, and most recommendations were made by LSU AgCenter Extension personnel. Parishes participating in 2004 were: Allen, Beauregard, Avoyelles, Concordia, East Carroll, Evangeline, Jefferson Davis, Natchitoches, St. Landry, and Vermilion, 10 of Louisiana's rice-producing parishes. Even though the program is not a yield contest, program yields do reflect the recommendations of the LSU AgCenter at work in "real life" applications. Economic data are collected on each field.

Objectives

The objectives of the LRRVP are to:

1. Demonstrate the most cost-efficient production of rice.

2. Increase confidence of rice growers in extension and research recommendations.

3. Increase confidence of county agents and specialists in our recommendations.

4. Educate county agents and growers in all aspects of rice production.

5. Develop an economic data base for rice production.

Results

In 2004, there were 10 grower fields, for a total of 455.7 acres in the verification program (Table 1). In five of the fields, a second (or ratoon crop) was produced; four growers could not because of location and one chose not to. Average yield of the first crop alone was 6184 lb/A, but when second crop was added to this, the yield was 6983 lb/A. While both yields are better than the state average of 5840 lb/A, they were disappointing. Most of the reduction in yield could be attributed to poor growing conditions associated with much higher than normal rainfall and the accompanying lack of sunlight. The highlight of the program in 2004 was the St. Landry Parish field, which set a verification record of 10,543 lb/A when first and second crop yields were combined.

Three of the fields were planted to CL161, two to Cocodrie, and five to Cheniere (Table 2). Throughout the history of the program, growers have elected to plant newer varieties in their verification fields to take advantage of the expertise of the LSU AgCenter personnel in case there are unanticipated problems with these varieties. Head rice yields ranged from a high of 67.5% to a low of 59.4%, while total milled rice ranged from 74.1 to 69.9%. The combination of high yield and low variable costs in St. Landry Parish produced a return over variable costs of $615.11 per acre. The opposite was true in Allen Parish where production costs were high and yield was disappointing, resulting in a return over variable costs of $133.04 per acre.

Capturing water costs continues to be one of the more difficult aspects of the program. In most cases growers know fuel and maintenance costs of a given power unit/well combination but have not accounted for the cost of the power unit or the well. In our studies, we have computed water costs by dividing the cost of the well by 20 to obtain an annual cost for the well based on the assumption the life expectancy of the well is 20 years. Likewise, we have computed the cost of the power unit by dividing the purchase price by 10, using the same assumptions as with the well but anticipating only a 10-year life expectancy for the power unit. These annual costs are summed then divided by the acres irrigated with that unit. This year costs ranged from a high of $78.10/A to a low of $18.98/A.

While it is not the intent of the program to identify all problems facing the rice industry, it has become obvious some of the key problems confronting Louisiana rice farmers, especially in south Louisiana, are land rent and water costs. Much of the rice grown in south Louisiana is on rented land, which often means water is purchased in one form or the other from the land owner as well. Production costs vary from grower to grower but are much less variable than land rent and water costs. Until these issues are addressed, the industry will remain at risk.

Table 1. 2004 Louisiana Rice Research Verification Program Yield Summary.

Parish	Acres in Verification Program	Verification Yield per Acre @ 12% Moisture		Verification Program			Average Parish Yield[1]	Parish Acreage	Total Parish Production
		1st Crop Alone	Second Crop	Total Yield/A	1st Crop Production	Total Production			
Allen	53.2	5567	1053	6620	296,164.4	352,184.0	5508	19,913	109,680,804.0
Avoyelles	33.3	5307	0	5307	176,723.1	176,723.1	6156	12,740	78,427,440.0
Beauregard	21.8	5338	1568	6906	116,368.4	150,550.8	6500	2,500	16,250,000.0
Concordia	82.3	5843	0	5843	480,878.9	480,878.9	5400	10,819	58,422,600.0
East Carroll	54.8	7470	0	7470	409,356.0	409,356.0	7245	14,915	108,059,175.0
Evangeline	30.7	5638	0	5638	173,086.6	173,086.6	5500	52,911	291,010,500.0
Jeff Davis	42.3	4682	1555	6237	198,048.6	263,825.1	5600	86,000	481,600,000.0
Natchitoches	47.2	7144	0	7144	337,196.8	337,196.8	7500	3,677	27,577,500.0
St. Landry	60.1	7760	2783	10543	466,376.0	633,634.3	5500	24,899	136,944,500.0
Vermilion	30.0	5459	1365	6824	163,770.0	204,720.0	5184	83,232	431,474,688.0
	455.7				**2,817,968.8**	**3,182,155.6**		**311,606**	**1,739,447,207.0**
Average yield (lb/A)					**6184**	**6983**			**5582**

[1] Estimated, includes 2nd crop and adjusted to 12% moisture.

Table 2. 2004 Louisiana Rice Research Verification Program Yield, Milling, and Economic Summary.

Parish	Variety	Yield @ 12% Moisture (cwt/A)[1]	Milling (% Whole / % Total)	Variable Costs ($/A)[2]	Cost of Production ($/cwt)[2]	Return on Variable Costs ($/A)[2,3]
Allen	Cheniere	66.20	60.9 / 71.2	396.56	5.99	133.04
Avoyelles	Cheniere	53.07	59.9 / 71.0	0.00	0.00	0.00
Beauregard	CL161	69.06	62.1 / 70.8	349.53	5.06	202.95
Concordia	Cocodrie	58.43	64.6 / 71.8	264.24	4.52	203.20
East Carroll	Cheniere	74.70	66.7 / 74.1	285.43	3.82	312.17
Evangeline	CL161	56.38	62.8 / 69.9	282.51	5.01	168.53
Jeff Davis	CL161	62.37	59.1 / 73.9	308.65	4.95	190.31
Natchitoches	Cocodrie	71.44	67.5 / 73.4	223.67	3.13	347.85
St. Landry[4]	Cheniere	105.43	63.7 / 71.4	228.33	2.17	615.11
Vermilion	Cheniere	68.24	59.4 / 71.7	242.87	3.56	303.05

[1] Figure includes ratoon crop yield of cwt/A
[2] Costs captured are from land preparation to getting the crop to the truck. They do not include land rent, transporting, drying, storing, or fixed costs.
storing or fixed costs.
[3] This value was obtained using a selling price of $8.00/cwt.
[4] No water costs provided.

RICE WEED CONTROL[1]

INTRODUCTION

E.P. Webster, C.T. Leon, W. Zhang, and R.M. Griffin

Introduction and Justification

Weed control studies were conducted at the Rice Research Station and producer fields in south Louisiana in 2004. A total of 48 studies were established with a total of 3028 research plots and a portion of these studes are presented in this publication. These studies indicate that weed control in rice will continue to be more effective as the new technologies and new herbicides become available to the producers. Many of these studies have been conducted over 2 to 3 years and have been completed. However, several of these studies have 1 year of data and need to be repeated in order to verify our results over time. This project continues to work on different application methods for products in drill- and water-seeded rice, and it continues to supply data for new herbicide labels and supplements to currently labeled products.

Herbicide Combinations for Broadleaf Weed Control in Clearfield Rice

This project has conducted over 90 field, greenhouse, and laboratory trials on the Clearfield rice production system. This project has focused on application timing and rate of Newpath to best control red rice and other weeds present in rice fields, and this project continues to work with this technology. Over the last few years, we have evaluated several herbicide mixtures to improve broadleaf weed control in a Clearfield rice production system. Two of the most troublesome broadleaf weeds in our research area are Indian jointvetch and hemp sesbania. Newpath or Beyond applied alone control these weeds 0 to 50%, depending on the size at application. Several herbicides applied in combination with Newpath or Beyond increase the control of these weeds to 85 to 95% control. The additions of Aim, Permit, Regiment, or Stam are all viable options for mixing with Newpath or Beyond with a crop oil concentrate. Aim is a herbicide that can give comparable control at reduced rates. These herbicides must be applied when Indian jointvetch and hemp sesbania are less than 6 inches in height.

Texasweed Control

A study was conducted in Jefferson Davis Parish near Jennings on a fallow field with a Texasweed population of more than 200 plants per square yard. The herbicides evaluated were Aim, Basagran, Beyond, Blazer, Command, Facet, Grandstand, Grasp, Newpath, Permit, Regiment, Stam, and two experimentals. The first application was applied to 1- to 4-inch Texasweed in the cotyledon to 3-leaf stage and the second application timing was 2 weeks later on 5- to 8-inch Texasweed in the 5- to 7-leaf stage. The best time to control this weed is an application early in the season when the plant has less than four leaves and is less than 4 inches tall. At 12 days after the early postemergence (DAEPOST) application, Aim, Blazer, Permit, Stam, and one experimental controlled Texasweed 82 to 98%. Control by Blazer and Stam was 95 to 98%. At 42 DAEPOST, an early postemergence application of Blazer or Beyond controlled Texasweed 82 and 81%, respectively. At 30 days after the late postemergence application, Beyond and Stam controlled Texasweed 60 and 66%, respectively. Suppression can be achieved with a late application; however, to obtain adequate control, an early application must be made to allow the rice to produce a canopy over late-season germination of Texasweed.

Clincher and Ricestar HT Tank-mix Combinations for Grass and Broadleaf Weed Control

Antagonism was evaluated for the mixtures for control of grasses. Herbicides that antagonize Ricestar HT activity on barnyardgrass and Amazon sprangletop were Grasp, Regiment, Blazer, and Grandstand. Newpath antagonized Ricestar HT within 30 days after treatment; however, later in the season Ricestar antagonism was not observed. In a separate study at the Rice Research Station, Clincher was mixed with Grandstand plus Stam, Grandstand, Regiment, Londax, or Blazer. All of the herbicide combinations evaluated antagonized Clincher and resulted in reduced barnyardgrass control compared with Clincher applied alone. Research conducted the previous 3 years indicated that Londax has potential for use in a tank-mix with Clincher; however, in 2004, the addition of Londax was antagonistic to Clincher. Caution should be taken before these two herbicides are mixed.

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[1] This research is supported in part by funding provided by rice producers through the Louisiana Rice Research Board.

Rice Seeding Rates Versus a Constant Red Rice Density in Water-Seeded Rice
This study was repeated in 2004 to evaluate the competitive nature of CL121, Cocodrie, Drew, and Jasmine. Each rice line was planted at three seeding rates with and without the presence of red rice (at 20 plants/yard^2). Each line has a different maturity level and/or growth habit. Results indicate that increasing the seeding rate generally improved rice yield when grown in the presence of red rice. At the highest seeding rate, Jasmine yield was least affected by red rice interference, whereas Cocodrie experienced the largest yield reduction. However, as the rice height increased, red rice compensated by an increased height. In 2004, cloudy conditions during the early growing season may have decreased the yield potential of the early season cultivars. By entering the reproductive stages of growth later in the season, Jasmine may have been better able to compete with the red rice.

Perennial Grass Management in Rice
Several studies were established to evaluate the management of brook paspalum, knotgrass, water paspalum, and perennial barnyardgrass. In general, the addition of Command preemergence increased control 5 to 20% of all species evaluated compared with total postemergence programs for all species. Ricestar HT, Grasp, and Regiment are ineffective against the paspalum species when applied alone. This research will continue in 2005.

Perennial Barnyardgrass: When treated with Clincher, Newpath, or Grasp, applied postemergence controlled this weed 30% without Command and control increases to approximately 50% with the addition of Command PRE.

Water Paspalum: Newpath or Clincher applied postemergence with or without Command applied preemergence controlled this grass 80 to 85%. All other herbicides evaluated had limited activity on water paspalum.

Knotgrass: Newpath or Clincher applied postemergence provide 85 to 90% control at 56 days after application. Command applied preemergence is needed when applying Ricestar HT, Grasp, and Regiment. Grasp or Regiment applied alone has little activity on knotgrass.

Brook paspalum: Is tolerant to all the herbicides evaluated. Control was 30 to 60% for all programs evaluated.

Overview of Other Weed Control Studies
Several other projects were conducted in 2004 to evaluate rice weed control. Several studies were established to evaluate the effectiveness of Grasp (penoxulam), a new Dow AgroSciences herbicide. Preliminary results indicate the herbicide is inconsistent for broadleaf and grass weed control. However, Grasp does have fairly good activity on ducksalad.

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath

Experiment number :	**C04-01**		
Location :	RRS - Crowley, LA		
Experimental design :	RCB		
Number of reps :	4		
Plot size :	5’ x 17’		
Row width/# per plot :	7.5”/9		
Soil type :	Crowley silt loam (3% sand, 69% silt, 28% clay)		
% OM :	1.4		
pH :	6.4		
CEC :	19.1		
Planting date :	05/11/04		
Harvest date :	09/20/04		
Crop/Variety :	Rice/CL 161		
Emergence date :	05/22/04		
Uniform std. treatment :	N/A		

Application type :	DPRE	EPOT	POFL
Date applied [mm/dd/yy] :	05/19/04	06/03/04	06/21/04
Time [hh:mm-hh:mm] :	8:56-9:24a	10:07-10:33a	10:17-10:30a
Incorporation equip./Depth: :	N/A	N/A	N/A
Air/Soil temperature [F] :	80/72	85/80	88/86
Relative humidity [%] :	79	73	62
Wind [mph, direction] :	3-6,S	3-6,S	1-2,S
Weather [sunny, etc] :	sunny	pc	sunny
Soil/Leaf surface moist :	wet/dry	wet/dry	flood/dry
Crop stage/Height :	spike/0.1-1”	2-3LF/4-6”	2-3tiller/12-15”
Sprayer type/MPH :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size :	FF/110015 TD	FF/110015 AM	FF/110015 TD
Boom ht/# Noz/Spacing :	13”/5/15”	18”/5/15”	20”/5/15”
GPA/PSI :	15/28	15/26	15/28
Applied by :	Fruge	Zhang	Fruge

Weed Species (population) :	-----------------------(height/#leaves)-------------------------		
ECHCG (80-95 m^{-2}) :	0.5-2”/1-3lf	1-6”/2lf-5tiller	4-10”/2tiller-heading
LEFPA (40-60 m^{-2}) :	0.1-0.5”/1lf	1-3”/2-4lf	5-8”/4lf-2tiller
CYPIR (190-210 m^{-2}) :	0.1-0.2”/1lf	1-3”/2-4lf	5-9”/4-10lf
SEBEX (1-5 m^{-2}) :		2-4”/2-4lf	4-7”/4-9lf

Flush Dates :	05/25/04; 06/01/04
Permanent Flood :	06/16/04

Note: The blanket delayed PRE controlled ECHCG, LEFPA, and CYPIR approximately 98%.

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath

Trial ID: C04-01
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 07/20/04 29daPOFL	LEFPA CONTROL % 07/20/04 29daPOFL	CYPIR CONTROL % 07/20/04 29daPOFL	RICE INJURY % 07/20/04 29daPOFL
1	Nontreated						0	0	0	0
2	Newpath	2	SL	4	fl oz/a	DPRE	94	80	98	0
2	Agridex		L	19.2	fl oz/a	DPRE				
2	Newpath	2	SL	4	fl oz/a	EPOT				
2	Agridex		L	19.2	fl oz/a	EPOT				
3	Newpath	2	SL	4	fl oz/a	DPRE	97	84	98	0
3	Agridex		L	19.2	fl oz/a	DPRE				
3	Newpath	2	SL	4	fl oz/a	EPOT				
3	Clincher	2.38	EC	13.5	fl oz/a	EPOT				
3	Agridex		L	19.2	fl oz/a	EPOT				
4	Newpath	2	SL	4	fl oz/a	DPRE	98	65	99	0
4	Agridex		L	19.2	fl oz/a	DPRE				
4	Newpath	2	SL	4	fl oz/a	EPOT				
4	Clincher	2.38	EC	15	fl oz/a	EPOT				
4	Agridex		L	19.2	fl oz/a	EPOT				
5	Newpath	2	SL	4	fl oz/a	DPRE	99	94	99	0
5	Agridex		L	19.2	fl oz/a	DPRE				
5	Newpath	2	SL	4	fl oz/a	EPOT				
5	Regiment	80	WP	0.4	oz/a	EPOT				
5	Kinetic		L	3.2	fl oz/a	EPOT				
6	Newpath	2	SL	4	fl oz/a	DPRE	93	84	99	0
6	Agridex		L	19.2	fl oz/a	DPRE				
6	Newpath	2	SL	4	fl oz/a	EPOT				
6	Ricestar HT	0.58	EC	13	fl oz/a	EPOT				
6	Agridex		L	19.2	fl oz/a	EPOT				
7	Newpath	2	SL	4	fl oz/a	DPRE	94	95	99	0
7	Agridex		L	19.2	fl oz/a	DPRE				
7	Newpath	2	SL	4	fl oz/a	EPOT				
7	Ricestar HT	0.58	EC	17	fl oz/a	EPOT				
7	Agridex		L	19.2	fl oz/a	EPOT				
8	Newpath	2	SL	4	fl oz/a	DPRE	99	96	99	0
8	Agridex		L	19.2	fl oz/a	DPRE				
8	Newpath	2	SL	4	fl oz/a	EPOT				
8	Agridex		L	19.2	fl oz/a	EPOT				
8	Beyond	1	SL	5	fl oz/a	POFL				
8	Clincher	2.38	EC	15	fl oz/a	POFL				
8	Agridex		L	19.2	fl oz/a	POFL				
9	Newpath	2	SL	4	fl oz/a	DPRE	99	93	99	0
9	Agridex		L	19.2	fl oz/a	DPRE				
9	Newpath	2	SL	4	fl oz/a	EPOT				
9	Agridex		L	19.2	fl oz/a	EPOT				
9	Regiment	80	WP	0.5	oz/a	POFL				
9	Beyond	1	SL	5	fl oz/a	POFL				
9	Kinetic		L	3.2	fl oz/a	POFL				

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath

Trial ID: C04-01
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	CYPIR	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%
Rating Date						07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval						29daPOFL	29daPOFL	29daPOFL	29daPOFL
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
10 Newpath	2	SL	4	fl oz/a	DPRE	99	98	99	0
10 Agridex		L	19.2	fl oz/a	DPRE				
10 Newpath	2	SL	4	fl oz/a	EPOT				
10 Agridex		L	19.2	fl oz/a	EPOT				
10 Beyond	1	SL	5	fl oz/a	POFL				
10 Ricestar HT	0.58	EC	17	fl oz/a	POFL				
10 Agridex		L	19.2	fl oz/a	POFL				
11 Newpath	2	SL	4	fl oz/a	DPRE	97	88	99	0
11 Agridex		L	19.2	fl oz/a	DPRE				
11 Newpath	2	SL	4	fl oz/a	EPOT				
11 Agridex		L	19.2	fl oz/a	EPOT				
11 Beyond	1	SL	5	fl oz/a	POFL				
11 Agridex		L	19.2	fl oz/a	POFL				
12 Newpath	2	SL	4	fl oz/a	DPRE	98	85	99	0
12 Agridex		L	19.2	fl oz/a	DPRE				
12 Newpath	2	SL	4	fl oz/a	EPOT				
12 Agridex		L	19.2	fl oz/a	EPOT				
12 Beyond	1	SL	5	fl oz/a	POFL				
12 Grasp	2	SC	1.98	fl oz/a	POFL				
12 Agridex		L	19.2	fl oz/a	POFL				
13 Newpath	2	SL	4	fl oz/a	DPRE	99	95	99	0
13 Agridex		L	19.2	fl oz/a	DPRE				
13 Newpath	2	SL	4	fl oz/a	EPOT				
13 Stam	4	EC	1	gal/a	EPOT				
LSD (P=.05)						4.1	8.1	1.0	0.0
Standard Deviation						2.9	5.7	0.7	0.0
CV						3.19	7.02	0.75	0.0
Grand Mean						89.54	81.1	91.0	0.0
Bartlett's X2						42.486	16.712	12.7	0.0
P(Bartlett's X2)						0.001*	0.117	0.08	.

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath

Trial ID: C04-01
Location: RRS-Crowley, LA

Weed Code							ECHCG	LEFPA	AESIN	SEBEX	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%
Rating Date							08/05/04	08/05/04	08/05/04	08/05/04	08/05/04
Trt-Eval Interval							45daPOFL	45daPOFL	45daPOFL	45daPOFL	45daPOFL
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1	Nontreated						0	0	0	0	0
2	Newpath	2	SL	4	fl oz/a	DPRE	96	83	23	23	0
2	Agridex		L	19.2	fl oz/a	DPRE					
2	Newpath	2	SL	4	fl oz/a	EPOT					
2	Agridex		L	19.2	fl oz/a	EPOT					
3	Newpath	2	SL	4	fl oz/a	DPRE	97	75	25	26	0
3	Agridex		L	19.2	fl oz/a	DPRE					
3	Newpath	2	SL	4	fl oz/a	EPOT					
3	Clincher	2.38	EC	13.5	fl oz/a	EPOT					
3	Agridex		L	19.2	fl oz/a	EPOT					
4	Newpath	2	SL	4	fl oz/a	DPRE	97	66	31	31	0
4	Agridex		L	19.2	fl oz/a	DPRE					
4	Newpath	2	SL	4	fl oz/a	EPOT					
4	Clincher	2.38	EC	15	fl oz/a	EPOT					
4	Agridex		L	19.2	fl oz/a	EPOT					
5	Newpath	2	SL	4	fl oz/a	DPRE	98	84	92	98	0
5	Agridex		L	19.2	fl oz/a	DPRE					
5	Newpath	2	SL	4	fl oz/a	EPOT					
5	Regiment	80	WP	0.4	oz/a	EPOT					
5	Kinetic		L	3.2	fl oz/a	EPOT					
6	Newpath	2	SL	4	fl oz/a	DPRE	95	80	29	30	0
6	Agridex		L	19.2	fl oz/a	DPRE					
6	Newpath	2	SL	4	fl oz/a	EPOT					
6	Ricestar HT	0.58	EC	13	fl oz/a	EPOT					
6	Agridex		L	19.2	fl oz/a	EPOT					
7	Newpath	2	SL	4	fl oz/a	DPRE	98	98	28	25	0
7	Agridex		L	19.2	fl oz/a	DPRE					
7	Newpath	2	SL	4	fl oz/a	EPOT					
7	Ricestar HT	0.58	EC	17	fl oz/a	EPOT					
7	Agridex		L	19.2	fl oz/a	EPOT					
8	Newpath	2	SL	4	fl oz/a	DPRE	98	95	41	40	0
8	Agridex		L	19.2	fl oz/a	DPRE					
8	Newpath	2	SL	4	fl oz/a	EPOT					
8	Agridex		L	19.2	fl oz/a	EPOT					
8	Beyond	1	SL	5	fl oz/a	POFL					
8	Clincher	2.38	EC	15	fl oz/a	POFL					
8	Agridex		L	19.2	fl oz/a	POFL					
9	Newpath	2	SL	4	fl oz/a	DPRE	97	91	98	98	0
9	Agridex		L	19.2	fl oz/a	DPRE					
9	Newpath	2	SL	4	fl oz/a	EPOT					
9	Agridex		L	19.2	fl oz/a	EPOT					
9	Regiment	80	WP	0.5	oz/a	POFL					
9	Beyond	1	SL	5	fl oz/a	POFL					
9	Kinetic		L	3.2	fl oz/a	POFL					

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath

Trial ID: C04-01
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	AESIN	SEBEX	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%	%
Rating Date						08/05/04	08/05/04	08/05/04	08/05/04	08/05/04
Trt-Eval Interval						45daPOFL	45daPOFL	45daPOFL	45daPOFL	45daPOFL
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
10	Newpath	2	SL	4	fl oz/a	DPRE	98	97	40	40	0
10	Agridex		L	19.2	fl oz/a	DPRE					
10	Newpath	2	SL	4	fl oz/a	EPOT					
10	Agridex		L	19.2	fl oz/a	EPOT					
10	Beyond	1	SL	5	fl oz/a	POFL					
10	Ricestar HT	0.58	EC	17	fl oz/a	POFL					
10	Agridex		L	19.2	fl oz/a	POFL					
11	Newpath	2	SL	4	fl oz/a	DPRE	95	88	31	31	0
11	Agridex		L	19.2	fl oz/a	DPRE					
11	Newpath	2	SL	4	fl oz/a	EPOT					
11	Agridex		L	19.2	fl oz/a	EPOT					
11	Beyond	1	SL	5	fl oz/a	POFL					
11	Agridex		L	19.2	fl oz/a	POFL					
12	Newpath	2	SL	4	fl oz/a	DPRE	96	84	98	97	0
12	Agridex		L	19.2	fl oz/a	DPRE					
12	Newpath	2	SL	4	fl oz/a	EPOT					
12	Agridex		L	19.2	fl oz/a	EPOT					
12	Beyond	1	SL	5	fl oz/a	POFL					
12	Grasp	2	SC	1.98	fl oz/a	POFL					
12	Agridex		L	19.2	fl oz/a	POFL					
13	Newpath	2	SL	4	fl oz/a	DPRE	98	95	90	95	0
13	Agridex		L	19.2	fl oz/a	DPRE					
13	Newpath	2	SL	4	fl oz/a	EPOT					
13	Stam	4	EC	1	gal/a	EPOT					
LSD (P=.05)							2.9	6.5	8.5	7.4	0.0
Standard Deviation							2.0	4.6	6.0	5.1	0.0
CV							2.24	5.75	12.39	10.56	0.0
Grand Mean							89.42	79.62	48.04	48.77	0.0
Bartlett's X2							7.206	17.264	7.252	10.012	0.0
P(Bartlett's X2)							0.302	0.069	0.611	0.264	.

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath

Trial ID: C04-01
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							09/03/04	09/20/04
Trt-Eval Interval							74daPOFL	91daPOFL
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Nontreated						82	0
2	Newpath	2	SL	4	fl oz/a	DPRE	97	4224
2	Agridex		L	19.2	fl oz/a	DPRE		
2	Newpath	2	SL	4	fl oz/a	EPOT		
2	Agridex		L	19.2	fl oz/a	EPOT		
3	Newpath	2	SL	4	fl oz/a	DPRE	101	4478
3	Agridex		L	19.2	fl oz/a	DPRE		
3	Newpath	2	SL	4	fl oz/a	EPOT		
3	Clincher	2.38	EC	13.5	fl oz/a	EPOT		
3	Agridex		L	19.2	fl oz/a	EPOT		
4	Newpath	2	SL	4	fl oz/a	DPRE	98	4373
4	Agridex		L	19.2	fl oz/a	DPRE		
4	Newpath	2	SL	4	fl oz/a	EPOT		
4	Clincher	2.38	EC	15	fl oz/a	EPOT		
4	Agridex		L	19.2	fl oz/a	EPOT		
5	Newpath	2	SL	4	fl oz/a	DPRE	100	5506
5	Agridex		L	19.2	fl oz/a	DPRE		
5	Newpath	2	SL	4	fl oz/a	EPOT		
5	Regiment	80	WP	0.4	oz/a	EPOT		
5	Kinetic		L	3.2	fl oz/a	EPOT		
6	Newpath	2	SL	4	fl oz/a	DPRE	96	4329
6	Agridex		L	19.2	fl oz/a	DPRE		
6	Newpath	2	SL	4	fl oz/a	EPOT		
6	Ricestar HT	0.58	EC	13	fl oz/a	EPOT		
6	Agridex		L	19.2	fl oz/a	EPOT		
7	Newpath	2	SL	4	fl oz/a	DPRE	98	4015
7	Agridex		L	19.2	fl oz/a	DPRE		
7	Newpath	2	SL	4	fl oz/a	EPOT		
7	Ricestar HT	0.58	EC	17	fl oz/a	EPOT		
7	Agridex		L	19.2	fl oz/a	EPOT		
8	Newpath	2	SL	4	fl oz/a	DPRE	98	5407
8	Agridex		L	19.2	fl oz/a	DPRE		
8	Newpath	2	SL	4	fl oz/a	EPOT		
8	Agridex		L	19.2	fl oz/a	EPOT		
8	Beyond	1	SL	5	fl oz/a	POFL		
8	Clincher	2.38	EC	15	fl oz/a	POFL		
8	Agridex		L	19.2	fl oz/a	POFL		
9	Newpath	2	SL	4	fl oz/a	DPRE	97	4477
9	Agridex		L	19.2	fl oz/a	DPRE		
9	Newpath	2	SL	4	fl oz/a	EPOT		
9	Agridex		L	19.2	fl oz/a	EPOT		
9	Regiment	80	WP	0.5	oz/a	POFL		
9	Beyond	1	SL	5	fl oz/a	POFL		
9	Kinetic		L	3.2	fl oz/a	POFL		

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath

Trial ID: C04-01
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE	RICE
	Weed Code						RICE	RICE
	Rating Data Type						AVG HT	YIELD
	Rating Unit						CM	LB/A
	Rating Date						09/03/04	09/20/04
	Trt-Eval Interval						74daPOFL	91daPOFL
10	Newpath	2	SL	4	fl oz/a	DPRE	99	5526
10	Agridex		L	19.2	fl oz/a	DPRE		
10	Newpath	2	SL	4	fl oz/a	EPOT		
10	Agridex		L	19.2	fl oz/a	EPOT		
10	Beyond	1	SL	5	fl oz/a	POFL		
10	Ricestar HT	0.58	EC	17	fl oz/a	POFL		
10	Agridex		L	19.2	fl oz/a	POFL		
11	Newpath	2	SL	4	fl oz/a	DPRE	98	4394
11	Agridex		L	19.2	fl oz/a	DPRE		
11	Newpath	2	SL	4	fl oz/a	EPOT		
11	Agridex		L	19.2	fl oz/a	EPOT		
11	Beyond	1	SL	5	fl oz/a	POFL		
11	Agridex		L	19.2	fl oz/a	POFL		
12	Newpath	2	SL	4	fl oz/a	DPRE	95	5696
12	Agridex		L	19.2	fl oz/a	DPRE		
12	Newpath	2	SL	4	fl oz/a	EPOT		
12	Agridex		L	19.2	fl oz/a	EPOT		
12	Beyond	1	SL	5	fl oz/a	POFL		
12	Grasp	2	SC	1.98	fl oz/a	POFL		
12	Agridex		L	19.2	fl oz/a	POFL		
13	Newpath	2	SL	4	fl oz/a	DPRE	95	5039
13	Agridex		L	19.2	fl oz/a	DPRE		
13	Newpath	2	SL	4	fl oz/a	EPOT		
13	Stam	4	EC	1	gal/a	EPOT		

LSD (P=.05)	5.6	996.0
Standard Deviation	3.9	697.0
CV	4.05	15.77
Grand Mean	96.44	4420.2
Bartlett's X2	20.478	20.86
P(Bartlett's X2)	0.039*	0.035*

LSU AgCenter Rice Research Station
Effect of Liberty Applications on Rice and Red Rice

Experiment number	**C04-02**
Location	RRS - Crowley, LA
Experimental design	RCB
Number of reps	4
Plot size	5' x 17'
Row width/# per plot	7.5"/9
Soil type	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM	1.4
pH	6.4
CEC	19.1
Planting date	05/11/04
Harvest date	N/A
Crop/Variety	Rice/LL001
Emergence date	05/24/04
Uniform std. treatment	20 fl oz. Clincher + 1 oz. Permit + 1% Herbimax – 06/11/04; 17 fl oz. Ricestar HT – 06/22/04

Application type	14 DAE	21 DAE	28 DAE	35 DAE
Date applied [mm/dd/yy]	06/07/04	06/14/04	06/21/04	06/28/04
Time [hh:mm-hh:mm]	10:35-10:40a	10:05-10:10a	11:10-11:14a	9:25-9:28a
Incorporation equip./Depth	N/A	N/A	N/A	N/A
Air/Soil temperature [F]	84/80	84/78	92/86	84/80
Relative humidity [%]	66	74	62	83
Wind [mph, direction]	7-9,SSW	3-5,N	1-2,S	4-6,S
Weather [sunny, etc]	pc	pc	sunny	pc
Soil/Leaf surface moist	moist/dry	wet/dry	flood/dry	flood/dry
Crop stage/Height	3-4lf/5-7"	4-5lf/6-7"	4lf-1tiller/8-10"	2-3tiller/20-25"
Sprayer type/MPH	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size	FF/110015 TD	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing	14"/5/15"	15"/5/15"	20"/5/15"	30"/5/15"
GPA/PSI	15/26	15/26	15/27	15/27
Applied by	Leon	Leon	Zhang	Leon

Weed Species (population)	(height/#leaves)			
ORYSA (15-20 m^{-2})	5-7"/3lf-1tiller	7-10"/5lf-1tiller	10-14"/4lf-1tiller	25-30"/1-3tiller

Flush Dates	05/25/04; 06/01/04
Permanent Flood	06/16/04

LSU AgCenter Rice Research Station
Effect of Liberty Applications on Rice and Red Rice

Experiment number .... :	**C04-02**
Location.. :	RRS - Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	05/11/04
Harvest date .... :	N/A
Crop/Variety .... :	Rice/LL001
Emergence date .... :	05/24/04
Uniform std. treatment.................. :	20 fl oz. Clincher + 1 oz. Permit + 1% Herbimax – 06/11/04; 17 fl oz. Ricestar – 06/22/04

Application type .... :	42 DAE	49 DAE	56 DAE	63 DAE
Date applied [mm/dd/yy].............. :	07/06/04	07/11/04	07/20/04	07/28/04
Time [hh:mm-hh:mm] .... :	11:17-11:20a	9:20-9:25a	9:15-9:20a	10:00-10:04a
Incorporation equip./Depth........... :	N/A	N/A	N/A	N/A
Air/Soil temperature [F] .... :	83/80	84/80	81/78	80/85
Relative humidity [%] .... :	84	68	71	74
Wind [mph, direction] .... :	1-2,SE	2-3,W	3,SE	3-5,SW
Weather [sunny, etc]..................... :	cloudy	sunny	sunny	sunny
Soil/Leaf surface moist................. :	flood/dry	flood/dry	flood/wet	flood/dry
Crop stage/Height......................... :	2-4tiller/14-17”	2-3tiller/24-30”	GR/30-34”	Pan6mm/32-35”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 AM	FF/110015 AM	FF/110015 TD
Boom ht/# Noz/Spacing................ :	34”/5/15”	42”/5/15”	42”/5/15”	44”/5/15”
GPA/PSI .... :	15/27	15/28	15/27	15/27
Applied by .... :	Leon	Webster	Leon	Zhang

Weed Species (population)........... :	-------------------------------(height/#leaves)--------------------------------			
ORYSA (10-15 m^{-2}) .... :	15-18”/2-4tiller	30-35”/10-12tilr	30-40”/PI	30-40”/6mmpan-head

Flush Dates .... :	05/25/04; 06/01/04
Permanent Flood........................... :	06/16/04

LSU AgCenter Rice Research Station
Effect of Liberty Applications on Rice and Red Rice

Experiment number .... :	**C04-02**	
Location.. :	RRS - Crowley, LA	
Experimental design .... :	RCB	
Number of reps .... :	4	
Plot size .... :	5’ x 17’	
Row width/# per plot .... :	7.5”/8	
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM .... :	1.4	
pH .... :	6.4	
CEC .... :	19.1	
Planting date .... :	05/11/04	
Harvest date .... :	N/A	
Crop/Variety .... :	Rice/LL001	
Emergence date .... :	05/24/04	
Uniform std. treatment.................. :	20 fl oz. Clincher + 1 oz. Permit + 1% Herbimax – 06/11/04; 17 fl oz. Ricestar – 06/22/04	

Application type .... :	70 DAE	77 DAE
Date applied [mm/dd/yy].............. :	08/05/02	08/12/04
Time [hh:mm-hh:mm] .... :	9:25-9:27a	10:25-10:29a
Incorporation equip./Depth........... :	N/A	N/A
Air/Soil temperature [F] .... :	87/85	76/84
Relative humidity [%] .... :	75	78
Wind [mph, direction] .... :	4-5,W	5-8,NE
Weather [sunny, etc]..................... :	sunny	cloudy
Soil/Leaf surface moist................. :	flood/dry	flood/dry
Crop stage/Height......................... :	Pn7mm/30-34”	Boot/30-35”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size........................... :	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	45”/5/15”	47”/5/15”
GPA/PSI .... :	15/27	15/27
Applied by .... :	Zhang	Leon

Weed Species (population)........... :	--------(height/#leaves)-------------	
ORYSA (m^{-2})................................ :	40-45”/head	40-45”/heading

Flush Dates .... :	05/25/04; 06/01/04
Permanent Flood........................... :	06/16/04

LSU AgCenter Rice Research Station
Effect of Liberty Application on Rice and Red Rice During the Production Season

Trial ID: C04-02
Location: RRS - Crowley, LA

Weed Code						RED RICE	RED RICE	RICE	RICE
Rating Data Type						-AWN PAN	AWN PAN	HEADING	HEADING
Rating Unit						#/PLOT	#/PLOT	%	%
Rating Date						08/16/04	08/16/04	08/20/04	08/23/04
Trt-Eval Interval						93DAP	93DAP	97DAP	100DAP
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg			
1	No Red Rice							24	46
1	No Liberty								
2	No Red Rice							28	56
2	Liberty @ 14 DAE	1.67	SL	34	fl oz/a	EPOT			
2	Liberty @ 21 DAE	1.67	SL	28	fl oz/a	MPOT			
3	No Red Rice						0	28	48
3	Liberty @ 28 DAE	1.67	SL	34	fl oz/a	MPOT			
3	Liberty @ 35 DAE	1.67	SL	28	fl oz/a	LPOT			
4	No Red Rice							8	38
4	Liberty @ 42 DAE	1.67	SL	34	fl oz/a	POFL			
4	Liberty @ 49 DAE	1.67	SL	28	fl oz/a	POFL			
5	No Red Rice							23	51
5	Liberty @ 56 DAE	1.67	SL	34	fl oz/a	POFL			
5	Liberty @ 63 DAE	1.67	SL	28	fl oz/a	POFL			
6	No Red Rice							24	51
6	Liberty @ 70 DAE	1.67	SL	34	fl oz/a	POFL			
6	Liberty @ 77 DAE	1.67	SL	28	fl oz/a	POFL			
7	Red Rice (20/sq m)						85	0	20	52
7	No Liberty								
8	Red Rice (20/sq m)						0	0	40	56
8	Liberty @ 14 DAE	1.67	SL	34	fl oz/a	EPOT			
8	Liberty @ 21 DAE	1.67	SL	28	fl oz/a	MPOT			
9	Red Rice (20/sq m)						0	0	20	36
9	Liberty @ 28 DAE	1.67	SL	34	fl oz/a	MPOT			
9	Liberty @ 35 DAE	1.67	SL	28	fl oz/a	LPOT			
10	Red Rice (20/sq m)						0	0	10	38
10	Liberty @ 42 DAE	1.67	SL	34	fl oz/a	POFL			
10	Liberty @ 49 DAE	1.67	SL	28	fl oz/a	POFL			
11	Red Rice (20/sq m)						0	0	26	56
11	Liberty @ 56 DAE	1.67	SL	34	fl oz/a	POFL			
11	Liberty @ 63 DAE	1.67	SL	28	fl oz/a	POFL			
12	Red Rice (20/sq m)						0	0	24	51
12	Liberty @ 70 DAE	1.67	SL	34	fl oz/a	POFL			
12	Liberty @ 77 DAE	1.67	SL	28	fl oz/a	POFL			
LSD (P=.05)							38.3	0.3	19.6	13.2
Standard Deviation							25.4	0.2	13.6	9.1
CV							178.84	579.66	59.59	18.88
Grand Mean							14.21	0.04	22.83	48.32
Bartlett's X2							0.0	0.0	13.465	10.582
P(Bartlett's X2)							.	.	0.264	0.479

LSU AgCenter Rice Research Station
Effect of Liberty Application on Rice and Red Rice During the Production Season

Trial ID: C04-02
Location: RRS - Crowley, LA

Weed Code						RED RICE	RED RICE	RED RICE
Rating Data Type						-AWN PAN	AWN PAN	CONTROL
Rating Unit						#/plot	#/plot	%
Rating Date						08/26/04	08/26/04	08/26/04
Trt-Eval Interval						103DAP	103DAP	103DAP
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	No Red Rice							
1	No Liberty							
2	No Red Rice							
2	Liberty @ 14 DAE	1.67	SL	34	fl oz/a	EPOT		
2	Liberty @ 21 DAE	1.67	SL	28	fl oz/a	MPOT		
3	No Red Rice							
3	Liberty @ 28 DAE	1.67	SL	34	fl oz/a	MPOT		
3	Liberty @ 35 DAE	1.67	SL	28	fl oz/a	LPOT		
4	No Red Rice							
4	Liberty @ 42 DAE	1.67	SL	34	fl oz/a	POFL		
4	Liberty @ 49 DAE	1.67	SL	28	fl oz/a	POFL		
5	No Red Rice							
5	Liberty @ 56 DAE	1.67	SL	34	fl oz/a	POFL		
5	Liberty @ 63 DAE	1.67	SL	28	fl oz/a	POFL		
6	No Red Rice							
6	Liberty @ 70 DAE	1.67	SL	34	fl oz/a	POFL		
6	Liberty @ 77 DAE	1.67	SL	28	fl oz/a	POFL		
7	Red Rice (20/sq m)						56	13	0
7	No Liberty								
8	Red Rice (20/sq m)						0	0	99
8	Liberty @ 14 DAE	1.67	SL	34	fl oz/a	EPOT			
8	Liberty @ 21 DAE	1.67	SL	28	fl oz/a	MPOT			
9	Red Rice (20/sq m)						0	0	99
9	Liberty @ 28 DAE	1.67	SL	34	fl oz/a	MPOT			
9	Liberty @ 35 DAE	1.67	SL	28	fl oz/a	LPOT			
10	Red Rice (20/sq m)						0	0	99
10	Liberty @ 42 DAE	1.67	SL	34	fl oz/a	POFL			
10	Liberty @ 49 DAE	1.67	SL	28	fl oz/a	POFL			
11	Red Rice (20/sq m)						2	0	97
11	Liberty @ 56 DAE	1.67	SL	34	fl oz/a	POFL			
11	Liberty @ 63 DAE	1.67	SL	28	fl oz/a	POFL			
12	Red Rice (20/sq m)						1	0	99
12	Liberty @ 70 DAE	1.67	SL	34	fl oz/a	POFL			
12	Liberty @ 77 DAE	1.67	SL	28	fl oz/a	POFL			
LSD (P=.05)							30.6	9.1	2.8
Standard Deviation							20.3	6.0	1.9
CV							207.7	267.65	2.27
Grand Mean							9.79	2.25	82.08
Bartlett's X2							27.195	15.906	8.973
P(Bartlett's X2)							0.001*	0.001*	0.003*

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control

Experiment number .... :	**C04-03**	
Location....................................... :	RRS - Crowley, LA	
Experimental design .... :	RCB	
Number of reps .... :	4	
Plot size .... :	5’ x 17’	
Row width/# per plot .... :	7.5”/9	
Soil type....................................... :	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM .... :	1.4	
pH .... :	6.4	
CEC .... :	19.1	
Planting date .... :	05/11/04	
Harvest date .... :	N/A	
Crop/Variety .... :	Rice/CL 161	
Emergence date .... :	05/22/04	
Uniform std. treatment.................. :	N/A	
Application type .... :	DPRE	EPOT
Date applied [mm/dd/yy].............. :	05/18/04	06/03/04
Time [hh:mm-hh:mm] .... :	1:06-1:47p	10:12-10:57a
Incorporation equip./Depth........... :	N/A	N/A
Air/Soil temperature [F] .... :	83/76	85/80
Relative humidity [%] .... :	72	73
Wind [mph, direction] .... :	2-6,SSW	3-6,SSW
Weather [sunny, etc]..................... :	mc	pc
Soil/Leaf surface moist................. :	wet/dry	wet/dry
Crop stage/Height .... :	spike/0.1”	2-3lf/5-6”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 AM
Boom ht/# Noz/Spacing................ :	27”/5/15”	17”/5/15”
GPA/PSI .... :	15/27	15/27
Applied by .... :	Zhang	Webster
Weed Species (population)........... :	---------(height/#leaves)---------	
ECHCG (125-150 m^{-2}) .... :	0.1”/1lf	2-6”/3lf-4tiller
LEFPA (55-70 m^{-2})....................... :	0.1”/1lf	2-4”/3-4lf
BRAPP (40-60 m^{-2}) .... :	0.1”/1lf	0.5-1”/2-3lf
CYPIR (170-190 m^{-2}) .... :	0.1”/1lf	1-2”/3-4lf
SEBEX (1-4 m^{-2}) .... :		1-2”/1-2lf
ECLAL (2-7 m^{-2}) .... :		0.5-1”/3-5lf
Flush Dates .... :	05/25/04; 06/03/04	
Permanent Flood........................... :	06/16/04	

Note: The delayed PRE broadcast treatment controlled ECHCG – 70%, LEFPA – 60%, CYPIR – 90%, and BRAPP – 90%.

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control

Trial ID: C04-03
Location: RRS-Crowley, LA

Weed Code							ECHCG	LEFPA	CYPIR	AESIN	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	AVG HT
Rating Unit							%	%	%	%	CM
Rating Date							07/08/04	07/08/04	07/08/04	07/08/04	09/03/04
Trt-Eval Interval							36daEPOT	36daEPOT	36daEPOT	36daEPOT	92daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1	Nontreated						0	0	0	0	78
2	Newpath	2	AS	4	fl oz/a	DPRE	71	92	97	0	91
2	Agridex		L	19.2	fl oz/a	DPRE					
2	Newpath	2	AS	4	fl oz/a	EPOT					
2	Agridex		L	19.2	fl oz/a	EPOT					
3	Newpath	2	AS	4	fl oz/a	DPRE	90	84	98	81	91
3	Agridex		L	19.2	fl oz/a	DPRE					
3	Newpath	2	AS	4	fl oz/a	EPOT					
3	Aim	2	EC	1.6	fl oz/a	EPOT					
3	Ag-98		L	4.8	fl oz/a	EPOT					
4	Newpath	2	AS	4	fl oz/a	DPRE	94	95	99	53	85
4	Agridex		L	19.2	fl oz/a	DPRE					
4	Newpath	2	AS	4	fl oz/a	EPOT					
4	Aim	2	EC	1.6	fl oz/a	EPOT					
4	Agridex		L	19.2	fl oz/a	EPOT					
5	Newpath	2	AS	4	fl oz/a	DPRE	73	80	97	86	90
5	Agridex		L	19.2	fl oz/a	DPRE					
5	Newpath	2	AS	4	fl oz/a	EPOT					
5	Permit	75	WG	0.67	oz/a	EPOT					
5	Agridex		L	19.2	fl oz/a	EPOT					
6	Newpath	2	AS	4	fl oz/a	DPRE	78	84	97	86	90
6	Agridex		L	19.2	fl oz/a	DPRE					
6	Newpath	2	AS	4	fl oz/a	EPOT					
6	Permit	75	WG	1	oz/a	EPOT					
6	Agridex		L	19.2	fl oz/a	EPOT					
7	Newpath	2	AS	4	fl oz/a	DPRE	69	73	96	73	92
7	Agridex		L	19.2	fl oz/a	DPRE					
7	Newpath	2	AS	4	fl oz/a	EPOT					
7	Londax	60	WG	1	oz/a	EPOT					
7	Agridex		L	19.2	fl oz/a	EPOT					
8	Newpath	2	AS	4	fl oz/a	DPRE	81	84	97	83	87
8	Agridex		L	19.2	fl oz/a	DPRE					
8	Newpath	2	AS	4	fl oz/a	EPOT					
8	Grandstand	3	SL	16	fl oz/a	EPOT					
8	Agridex		L	19.2	fl oz/a	EPOT					
9	Newpath	2	AS	4	fl oz/a	DPRE	86	96	98	92	92
9	Agridex		L	19.2	fl oz/a	DPRE					
9	Newpath	2	AS	4	fl oz/a	EPOT					
9	Stam	4	EC	1	gal/a	EPOT					
10	Newpath	2	AS	4	fl oz/a	DPRE	91	68	97	93	88
10	Agridex		L	19.2	fl oz/a	DPRE					
10	Newpath	2	AS	4	fl oz/a	EPOT					
10	Regiment	80	WP	0.4	oz/a	EPOT					
10	Kinetic		L	2.4	fl oz/a	EPOT					

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control

Trial ID: C04-03
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 07/08/04 36daEPOT	LEFPA CONTROL % 07/08/04 36daEPOT	CYPIR CONTROL % 07/08/04 36daEPOT	AESIN CONTROL % 07/08/04 36daEPOT	RICE AVG HT CM 09/03/04 92daEPOT
11	Newpath	2	AS	4	fl oz/a	DPRE	83	60	96	71	87
11	Agridex		L	19.2	fl oz/a	DPRE					
11	Newpath	2	AS	4	fl oz/a	EPOT					
11	Grasp	2	AS	1.98	fl oz/a	EPOT					
11	Agridex		L	19.2	fl oz/a	EPOT					
12	Newpath	2	AS	4	fl oz/a	DPRE	26	20	74	26	85
12	Agridex		L	19.2	fl oz/a	DPRE					
12	No Newpath										
13	Newpath	2	AS	4	fl oz/a	DPRE	49	83	95	38	91
13	Agridex		L	19.2	fl oz/a	DPRE					
13	Aim	2	EC	1.6	fl oz/a	EPOT					
13	Ag-98		L	4.8	fl oz/a	EPOT					
14	Newpath	2	AS	4	fl oz/a	DPRE	35	53	93	50	83
14	Agridex		L	19.2	fl oz/a	DPRE					
14	Aim	2	EC	1.6	fl oz/a	EPOT					
14	Agridex		L	19.2	fl oz/a	EPOT					
15	Newpath	2	AS	4	fl oz/a	DPRE	75	71	96	89	86
15	Agridex		L	19.2	fl oz/a	DPRE					
15	Permit	75	WG	0.67	oz/a	EPOT					
15	Agridex		L	19.2	fl oz/a	EPOT					
16	Newpath	2	AS	4	fl oz/a	DPRE	53	64	96	64	89
16	Agridex		L	19.2	fl oz/a	DPRE					
16	Permit	75	WG	1	oz/a	EPOT					
16	Agridex		L	19.2	fl oz/a	EPOT					
17	Newpath	2	AS	4	fl oz/a	DPRE	43	48	94	35	87
17	Agridex		L	19.2	fl oz/a	DPRE					
17	Londax	60	WG	1	oz/a	EPOT					
17	Agridex		L	19.2	fl oz/a	EPOT					
18	Newpath	2	AS	4	fl oz/a	DPRE	46	81	94	86	80
18	Agridex		L	19.2	fl oz/a	DPRE					
18	Grandstand	3	SL	16	fl oz/a	EPOT					
18	Agridex		L	19.2	fl oz/a	EPOT					
19	Newpath	2	AS	4	fl oz/a	DPRE	80	92	95	90	87
19	Agridex		L	19.2	fl oz/a	DPRE					
19	Stam	4	EC	1	gal/a	EPOT					
20	Newpath	2	AS	4	fl oz/a	DPRE	96	75	98	91	88
20	Agridex		L	19.2	fl oz/a	DPRE					
20	Regiment	80	WP	0.4	oz/a	EPOT					
20	Kinetic		L	2.4	fl oz/a	EPOT					
21	Newpath	2	AS	4	fl oz/a	DPRE	75	48	96	58	91
21	Agridex		L	19.2	fl oz/a	DPRE					
21	Grasp	2	AS	1.98	fl oz/a	EPOT					
21	Agridex		L	19.2	fl oz/a	EPOT					

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control

Trial ID: C04-03
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	CYPIR	AESIN	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	AVG HT
Rating Unit						%	%	%	%	CM
Rating Date						07/08/04	07/08/04	07/08/04	07/08/04	09/03/04
Trt-Eval Interval						36daEPOT	36daEPOT	36daEPOT	36daEPOT	92daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
LSD (P=.05)						14.1	13.0	2.9	10.9	6.7
Standard Deviation						10.0	9.2	2.0	7.7	4.7
CV						15.02	13.38	2.23	12.07	5.41
Grand Mean						66.26	68.93	90.45	63.94	87.51
Bartlett's X2						24.292	20.205	21.415	16.525	6.107
P(Bartlett's X2)						0.185	0.382	0.163	0.556	0.998

LSU AgCenter Rice Research Station
BAS 772 H – Facet/Newpath Premix

Experiment number :	**C04-05**		
Location :	RRS - Crowley, LA		
Experimental design :	RCB		
Number of reps :	4		
Plot size :	5' x 17'		
Row width/# per plot :	7.5"/9		
Soil type :	Crowley silt loam (3% sand, 69% silt, 28% clay)		
% OM :	1.4		
pH :	6.4		
CEC :	19.1		
Planting date :	05/11/04		
Harvest date :	09/14/04		
Crop/Variety :	Rice/CL 161		
Emergence date :	05/22/04		
Uniform std. treatment :	N/A		
Application type :	PRE	1 LF	LPOT
Date applied [mm/dd/yy] :	05/18/04	05/28/04	06/08/04
Time [hh:mm-hh:mm] :	11:05-11:26a	10:03-10:14a	9:07-9:20a
Incorporation equip./Depth :	N/A	N/A	N/A
Air/Soil temperature [F] :	84/75	86/81	83/80
Relative humidity [%] :	80	65	66
Wind [mph, direction] :	3-5,SE	4-7,S	6-9,S
Weather [sunny, etc] :	pc	pc	pc
Soil/Leaf surface moist :	wet/dry	wet/dry	wet/dry
Crop stage/Height :	spike/0.1"	1-3lf/2-4"	4lf-1tiller/6-8"
Sprayer type/MPH :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size :	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing :	14"/5/15"	16"/5/15"	19"/5/15"
GPA/PSI :	15/28	15/26	15/27
Applied by :	Leon	Webster	Griffin
Weed Species (population) :	------------------(height/#leaves)------------------------		
ECHCG (125-150 m^{-2}) :	0.1"/1lf	0.5-4"/2lf-2tiller	4-8"/3lf-7tiller
LEFPA (30-40 m^{-2}) :	0.1"/1lf	0.5-1"/1-2lf	3-5"/3lf-1tiller
BRAPP (30-50 m^{-2}) :	0.1"/1lf	0.5-1"/1-2lf	1-4"/2-4lf
CYPIR (170-190 m^{-2}) :	0.1"/1lf	0.1-1"/1-3lf	1-3"/3-5lf
ECLAL (5-10 m^{-2}) :		0.1-0.4"/2-3lf	2-4"/4-6lf
COMDI (1-5 m^{-2}) :		0.5"/1-2lf	2-3"/2-3lf
HETLI (150-165 m^{-2}) :		0.1"/2-3/lf	
Flush Dates :	05/25/04; 06/03/04		
Permanent Flood :	06/16/04		

LSU AgCenter Rice Research Station
BAS 772 H - Facet/Newpath Premix

Trial ID: C04-05
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	CYPIR	AESIN	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%	%
Rating Date						07/08/04	07/08/04	07/08/04	07/08/04	07/08/04
Trt-Eval Interval						30daLPOT	30daLPOT	30daLPOT	30daLPOT	30daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Nontreated						0	0	0	0	0
2	BAS 772 H	75	WG	7.74	oz/a	PRE	70	93	97	0	0
3	BAS 772 H	75	WG	7.74	oz/a	1 LF	76	6	96	0	0
3	Agridex		L	19.2	fl oz/a	1 LF					
4	BAS 772 H	75	WG	7.74	oz/a	1 LF	53	9	93	0	0
4	Prowl H20	3.8	AS	42	fl oz/a	1 LF					
4	Agridex		L	19.2	fl oz/a	1 LF					
5	Newpath	2	SL	4	fl oz/a	PRE	89	96	97	0	0
5	BAS 772 H	75	WG	7.74	oz/a	LPOT					
5	Agridex		L	19.2	fl oz/a	LPOT					
6	Newpath	2	SL	4	fl oz/a	1 LF	88	8	95	94	0
6	Agridex		L	19.2	fl oz/a	1 LF					
6	BAS 772 H	75	WG	7.74	oz/a	LPOT					
6	Agridex		L	19.2	fl oz/a	LPOT					
7	Newpath	2	SL	4	fl oz/a	1 LF	95	55	96	94	0
7	Prowl H20	3.8	AS	42	fl oz/a	1 LF					
7	Agridex		L	19.2	fl oz/a	1 LF					
7	BAS 772 H	75	WG	7.74	oz/a	LPOT					
7	Agridex		L	19.2	fl oz/a	LPOT					
8	BAS 772 H	75	WG	7.74	oz/a	PRE	96	97	98	0	0
8	Newpath	2	SL	4	fl oz/a	LPOT					
8	Agridex		L	19.2	fl oz/a	LPOT					
9	BAS 772 H	75	WG	7.74	oz/a	1 LF	89	6	96	93	0
9	Agridex		L	19.2	fl oz/a	1 LF					
9	Newpath	2	SL	4	fl oz/a	LPOT					
9	Agridex		L	19.2	fl oz/a	LPOT					
10	BAS 772 H	75	WG	7.74	oz/a	1 LF	93	5	95	0	0
10	Prowl H20	3.8	AS	42	fl oz/a	1 LF					
10	Agridex		L	19.2	fl oz/a	1 LF					
10	Newpath	2	SL	4	fl oz/a	LPOT					
10	Agridex		L	19.2	fl oz/a	LPOT					
11	Newpath	2	SL	4	fl oz/a	PRE	96	96	97	0	0
11	Newpath	2	SL	4	fl oz/a	LPOT					
11	Agridex		L	19.2	fl oz/a	LPOT					
12	Newpath	2	SL	4	fl oz/a	1 LF	80	9	95	0	0
12	Agridex		L	19.2	fl oz/a	1 LF					
12	Newpath	2	SL	4	fl oz/a	LPOT					
12	Agridex		L	19.2	fl oz/a	LPOT					

LSU AgCenter Rice Research Station
BAS 772 H - Facet/Newpath Premix

Trial ID: C04-05
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG	LEFPA	CYPIR	AESIN	RICE
	Weed Code						ECHCG	LEFPA	CYPIR	AESIN	RICE
	Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	INJURY
	Rating Unit						%	%	%	%	%
	Rating Date						07/08/04	07/08/04	07/08/04	07/08/04	07/08/04
	Trt-Eval Interval						30daLPOT	30daLPOT	30daLPOT	30daLPOT	30daLPOT
13	Facet	75	DF	8	oz/a	PRE	85	89	97	0	0
13	Newpath	2	SL	4	fl oz/a	PRE					
13	Newpath	2	SL	4	fl oz/a	LPOT					
13	Agridex		L	19.2	fl oz/a	LPOT					
14	Facet	75	DF	8	oz/a	1 LF	93	8	96	91	0
14	Newpath	2	SL	4	fl oz/a	1 LF					
14	Agridex		L	19.2	fl oz/a	1 LF					
14	Newpath	2	SL	4	fl oz/a	LPOT					
14	Agridex		L	19.2	fl oz/a	LPOT					
15	Command	3	ME	12.8	fl oz/a	PRE	92	95	97	0	0
15	Newpath	2	SL	4	fl oz/a	PRE					
15	Newpath	2	SL	4	fl oz/a	LPOT					
15	Agridex		L	19.2	fl oz/a	LPOT					
16	Prowl H20	3.8	AS	42	fl oz/a	1 LF	71	61	96	0	0
16	Newpath	2	SL	4	fl oz/a	1 LF					
16	Agridex		L	19.2	fl oz/a	1 LF					
16	Newpath	2	SL	4	fl oz/a	LPOT					
16	Agridex		L	19.2	fl oz/a	LPOT					

	ECHCG	LEFPA	CYPIR	AESIN	RICE
LSD (P=.05)	12.9	8.1	1.7	3.5	0.0
Standard Deviation	9.1	5.6	1.2	2.4	0.0
CV	11.48	12.32	1.3	10.51	0.0
Grand Mean	78.84	45.73	89.97	23.27	0.0
Bartlett's X2	35.193	37.118	20.965	4.878	0.0
P(Bartlett's X2)	0.001*	0.001*	0.074	0.181	.

LSU AgCenter Rice Research Station
BAS 772 H - Facet/Newpath Premix

Trial ID: C04-05
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	AESIN	RICE	RICE	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	INJURY	AVG HT	YIELD
Rating Unit						%	%	%	%	CM	LB/A
Rating Date						08/05/04	08/05/04	08/05/04	08/05/04	09/03/04	09/14/04
Trt-Eval Interval						58daLPOT	58daLPOT	58daLPOT	58daLPOT	87daLPOT	98daLPOT
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
1 Nontreated						0	0	0	0	77	0
2 BAS 772 H	75	WG	7.74	oz/a	PRE	36	63	45	0	96	2370
3 BAS 772 H	75	WG	7.74	oz/a	1 LF	78	18	75	0	85	1496
3 Agridex		L	19.2	fl oz/a	1 LF						
4 BAS 772 H	75	WG	7.74	oz/a	1 LF	63	30	59	0	84	368
4 Prowl H20	3.8	AS	42	fl oz/a	1 LF						
4 Agridex		L	19.2	fl oz/a	1 LF						
5 Newpath	2	SL	4	fl oz/a	PRE	88	53	55	0	88	3814
5 BAS 772 H	75	WG	7.74	oz/a	LPOT						
5 Agridex		L	19.2	fl oz/a	LPOT						
6 Newpath	2	SL	4	fl oz/a	1 LF	88	25	89	0	82	1504
6 Agridex		L	19.2	fl oz/a	1 LF						
6 BAS 772 H	75	WG	7.74	oz/a	LPOT						
6 Agridex		L	19.2	fl oz/a	LPOT						
7 Newpath	2	SL	4	fl oz/a	1 LF	81	25	83	0	93	2514
7 Prowl H20	3.8	AS	42	fl oz/a	1 LF						
7 Agridex		L	19.2	fl oz/a	1 LF						
7 BAS 772 H	75	WG	7.74	oz/a	LPOT						
7 Agridex		L	19.2	fl oz/a	LPOT						
8 BAS 772 H	75	WG	7.74	oz/a	PRE	90	80	40	0	96	4995
8 Newpath	2	SL	4	fl oz/a	LPOT						
8 Agridex		L	19.2	fl oz/a	LPOT						
9 BAS 772 H	75	WG	7.74	oz/a	1 LF	75	20	60	0	85	1368
9 Agridex		L	19.2	fl oz/a	1 LF						
9 Newpath	2	SL	4	fl oz/a	LPOT						
9 Agridex		L	19.2	fl oz/a	LPOT						
10 BAS 772 H	75	WG	7.74	oz/a	1 LF	83	21	30	0	78	1934
10 Prowl H20	3.8	AS	42	fl oz/a	1 LF						
10 Agridex		L	19.2	fl oz/a	1 LF						
10 Newpath	2	SL	4	fl oz/a	LPOT						
10 Agridex		L	19.2	fl oz/a	LPOT						
11 Newpath	2	SL	4	fl oz/a	PRE	88	79	19	0	95	4692
11 Newpath	2	SL	4	fl oz/a	LPOT						
11 Agridex		L	19.2	fl oz/a	LPOT						
12 Newpath	2	SL	4	fl oz/a	1 LF	76	30	40	0	89	1388
12 Agridex		L	19.2	fl oz/a	1 LF						
12 Newpath	2	SL	4	fl oz/a	LPOT						
12 Agridex		L	19.2	fl oz/a	LPOT						

LSU AgCenter Rice Research Station
BAS 772 H - Facet/Newpath Premix

Trial ID: C04-05
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	AESIN	RICE	RICE	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	INJURY	AVG HT	YIELD
Rating Unit						%	%	%	%	CM	LB/A
Rating Date						08/05/04	08/05/04	08/05/04	08/05/04	09/03/04	09/14/04
Trt-Eval Interval						58daLPOT	58daLPOT	58daLPOT	58daLPOT	87daLPOT	98daLPOT
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
13 Facet	75	DF	8	oz/a	PRE	89	53	43	0	93	3343
13 Newpath	2	SL	4	fl oz/a	PRE						
13 Newpath	2	SL	4	fl oz/a	LPOT						
13 Agridex		L	19.2	fl oz/a	LPOT						
14 Facet	75	DF	8	oz/a	1 LF	79	33	64	0	83	1137
14 Newpath	2	SL	4	fl oz/a	1 LF						
14 Agridex		L	19.2	fl oz/a	1 LF						
14 Newpath	2	SL	4	fl oz/a	LPOT						
14 Agridex		L	19.2	fl oz/a	LPOT						
15 Command	3	ME	12.8	fl oz/a	PRE	86	81	23	0	96	5384
15 Newpath	2	SL	4	fl oz/a	PRE						
15 Newpath	2	SL	4	fl oz/a	LPOT						
15 Agridex		L	19.2	fl oz/a	LPOT						
16 Prowl H20	3.8	AS	42	fl oz/a	1 LF	64	41	23	0	86	2648
16 Newpath	2	SL	4	fl oz/a	1 LF						
16 Agridex		L	19.2	fl oz/a	1 LF						
16 Newpath	2	SL	4	fl oz/a	LPOT						
16 Agridex		L	19.2	fl oz/a	LPOT						
LSD (P=.05)						11.4	14.8	23.1	0.0	9.1	1315.5
Standard Deviation						8.0	10.3	16.2	0.0	6.3	920.5
CV						11.0	25.43	34.72	0.0	7.22	37.81
Grand Mean						72.58	40.63	46.56	0.0	87.85	2434.65
Bartlett's X2						29.188	31.746	26.212	0.0	13.27	24.1
P(Bartlett's X2)						0.006*	0.003*	0.024*	.	0.581	0.045*

LSU AgCenter Rice Research Station
Ricestar HT for Grass Control

Experiment number .... :	**C04-08**		
Location.. :	RRS - Crowley, LA		
Experimental design .... :	RCB		
Number of reps .... :	4		
Plot size .... :	5’ x 17’		
Row width/# per plot .... :	7.5”/8		
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)		
% OM .... :	1.4		
pH .... :	6.4		
CEC .... :	19.1		
Planting date .... :	04/01/04		
Harvest date .... :	08/10/04		
Crop/Variety .... :	Rice/Cheniere		
Emergence date .... :	04/23/04		
Uniform std. treatment.................. :	1 oz Permit + 0.67 oz Londax + 1% COC – 05/24/04		
Application type .... :	EPOT	MPOT	LPOT
Date applied [mm/dd/yy].............. :	05/04/04	05/11/04	05/20/04
Time [hh:mm-hh:mm] .... :	10:45-11:00a	9:52-10:20a	10:45-11:16a
Incorporation equip./Depth........... :	N/A	N/A	N/A
Air/Soil temperature [F] .... :	71/69	78/79	86/79
Relative humidity [%] .... :	46	75	60
Wind [mph, direction] .... :	2-3,N	5-7,SE	3-5,S
Weather [sunny, etc]..................... :	sunny	cloudy	pc
Soil/Leaf surface moist................. :	wet/dry	dry/dry	wet/dry
Crop stage/Height......................... :	2-4lf/3-6”	3-4lf/5-7”	2-3till/8-10”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size........................... :	FF/110015 AM	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	18”/5/15”	19”/5/15”	23”/5/15”
GPA/PSI .... :	15/29	15/28	15/27
Applied by .... :	Zhang	Leon	Leon
Weed Species (population)........... :	--------------------(height/#leaves)-------------------		
ECHCG (50-75 m^{-2}) .... :	1-4”/1-3lf	1-5”/3lf-1tiller	8-12”/4lf-2till
BRAPP (30-50 m^{-2}) .... :	1-2”/2-3lf	2-5”/2-4lf	3-4”/4lf-1till
LEFPA (30-45 m^{-2})....................... :			6-10”/3lf-2till
Flush Dates .... :	04/05/04; 04/20/04		
Permanent Flood........................... :	05/25/04		

LSU AgCenter Rice Research Station
Ricestar HT for Grass Control

Trial ID: C04-08
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 06/14/04 25daLPOT	LEFPA CONTROL % 06/14/04 25daLPOT	RICE INJURY % 06/14/04 25daLPOT	ECHCG CONTROL % 07/12/04 53daLPOT	LEFPA CONTROL % 07/12/04 53daLPOT	RICE INJURY % 07/12/04 53daLPOT
1	Nontreated						0	0	0	0	0	0
2	Ricestar HT	0.58	EC	17	fl oz/a	EPOT	59	59	0	44	40	0
3	Whip 360	0.57	EC	12.8	fl oz/a	EPOT	51	50	0	10	16	0
4	Clincher	2.38	EC	13	fl oz/a	EPOT	58	58	0	58	38	0
4	Agridex		L	19.2	fl oz/a	EPOT						
5	Clincher	2.38	EC	15	fl oz/a	EPOT	55	54	0	66	54	0
5	Agridex		L	19.2	fl oz/a	EPOT						
6	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	73	73	0	91	64	0
7	Ricestar HT	0.58	EC	22	fl oz/a	MPOT	72	69	0	90	70	0
8	Ricestar HT	0.58	EC	25	fl oz/a	MPOT	74	74	0	94	73	0
9	Ricestar HT	0.58	EC	8	fl oz/a	MPOT	71	71	0	90	68	0
9	Whip 360	0.57	EC	9	fl oz/a	MPOT						
10	Ricestar HT	0.58	EC	10	fl oz/a	MPOT	69	68	0	91	61	0
10	Whip 360	0.57	EC	7	fl oz/a	MPOT						
11	Ricestar HT	0.58	EC	12	fl oz/a	MPOT	74	73	0	90	68	0
11	Whip 360	0.57	EC	5	fl oz/a	MPOT						
12	Ricestar HT	0.58	EC	14	fl oz/a	MPOT	68	68	0	86	63	0
12	Whip 360	0.57	EC	3	fl oz/a	MPOT						
13	Whip 360	0.57	EC	12.8	fl oz/a	MPOT	67	66	0	86	56	0
14	Clincher	2.38	EC	15	fl oz/a	MPOT	62	62	0	78	46	0
14	Agridex		L	19.2	fl oz/a	MPOT						
15	Ricestar HT	0.58	EC	17	fl oz/a	LPOT	79	79	0	61	66	0
16	Ricestar HT	0.58	EC	22	fl oz/a	LPOT	88	85	0	75	74	0
17	Ricestar HT	0.58	EC	25	fl oz/a	LPOT	85	85	0	86	81	0
18	Ricestar HT	0.58	EC	8	fl oz/a	LPOT	89	89	0	89	81	0
18	Whip 360	0.57	EC	9	fl oz/a	LPOT						
19	Ricestar HT	0.58	EC	10	fl oz/a	LPOT	82	80	0	88	69	0
19	Whip 360	0.57	EC	7	fl oz/a	LPOT						
20	Ricestar HT	0.58	EC	12	fl oz/a	LPOT	84	84	0	86	81	0
20	Whip 360	0.57	EC	5	fl oz/a	LPOT						
21	Ricestar HT	0.58	EC	14	fl oz/a	LPOT	75	74	0	66	53	0
21	Whip 360	0.57	EC	3	fl oz/a	LPOT						

LSU AgCenter Rice Research Station
Ricestar HT for Grass Control

Trial ID: C04-08
Location: RRS-Crowley, LA

Weed Code							ECHCG	LEFPA	RICE	ECHCG	LEFPA	RICE
Rating Data Type							CONTROL	CONTROL	INJURY	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%	%
Rating Date							06/14/04	06/14/04	06/14/04	07/12/04	07/12/04	07/12/04
Trt-Eval Interval							25daLPOT	25daLPOT	25daLPOT	53daLPOT	53daLPOT	53daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
22	Whip 360	0.57	EC	12.8	fl oz/a	LPOT	78	78	0	88	58	0
23	Clincher	2.38	EC	15	fl oz/a	LPOT	45	45	0	34	23	0
23	Agridex		L	19.2	fl oz/a	LPOT						
LSD (P=.05)							10.7	10.9	0.0	13.6	18.4	0.0
Standard Deviation							7.6	7.7	0.0	9.6	13.0	0.0
CV							11.24	11.54	0.0	13.44	22.98	0.0
Grand Mean							67.62	67.01	0.0	71.55	56.55	0.0
Bartlett's X2							16.83	17.087	0.0	31.597	27.495	0.0
P(Bartlett's X2)							0.721	0.706	.	0.048*	0.155	.

LSU AgCenter Rice Research Station
Ricestar HT for Grass Control

Trial ID: C04-08
Location: RRS-Crowley, LA

Weed Code						RICE	RICE	RICE
Rating Data Type						HEADING	AVG HT	YIELD
Rating Unit						%	CM	LB/A
Rating Date						07/12/04	08/09/04	08/10/04
Trt-Eval Interval						53daLPOT	81daLPOT	82daLPOT
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg			
1 Nontreated						50	74	1253
2 Ricestar HT	0.58	EC	17	fl oz/a	EPOT	16	93	5153
3 Whip 360	0.57	EC	12.8	fl oz/a	EPOT	1	90	2987
4 Clincher	2.38	EC	13	fl oz/a	EPOT	19	92	5251
4 Agridex		L	19.2	fl oz/a	EPOT			
5 Clincher	2.38	EC	15	fl oz/a	EPOT	20	95	4435
5 Agridex		L	19.2	fl oz/a	EPOT			
6 Ricestar HT	0.58	EC	17	fl oz/a	MPOT	20	96	6652
7 Ricestar HT	0.58	EC	22	fl oz/a	MPOT	11	96	7210
8 Ricestar HT	0.58	EC	25	fl oz/a	MPOT	26	92	7007
9 Ricestar HT	0.58	EC	8	fl oz/a	MPOT	10	95	6530
9 Whip 360	0.57	EC	9	fl oz/a	MPOT			
10 Ricestar HT	0.58	EC	10	fl oz/a	MPOT	8	93	5621
10 Whip 360	0.57	EC	7	fl oz/a	MPOT			
11 Ricestar HT	0.58	EC	12	fl oz/a	MPOT	19	92	5888
11 Whip 360	0.57	EC	5	fl oz/a	MPOT			
12 Ricestar HT	0.58	EC	14	fl oz/a	MPOT	0	95	6212
12 Whip 360	0.57	EC	3	fl oz/a	MPOT			
13 Whip 360	0.57	EC	12.8	fl oz/a	MPOT	24	96	5734
14 Clincher	2.38	EC	15	fl oz/a	MPOT	15	93	4663
14 Agridex		L	19.2	fl oz/a	MPOT			
15 Ricestar HT	0.58	EC	17	fl oz/a	LPOT	5	91	5276
16 Ricestar HT	0.58	EC	22	fl oz/a	LPOT	15	92	6460
17 Ricestar HT	0.58	EC	25	fl oz/a	LPOT	21	94	6925
18 Ricestar HT	0.58	EC	8	fl oz/a	LPOT	15	94	6801
18 Whip 360	0.57	EC	9	fl oz/a	LPOT			
19 Ricestar HT	0.58	EC	10	fl oz/a	LPOT	11	92	5019
19 Whip 360	0.57	EC	7	fl oz/a	LPOT			
20 Ricestar HT	0.58	EC	12	fl oz/a	LPOT	26	91	6285
20 Whip 360	0.57	EC	5	fl oz/a	LPOT			
21 Ricestar HT	0.58	EC	14	fl oz/a	LPOT	8	92	5080
21 Whip 360	0.57	EC	3	fl oz/a	LPOT			

LSU AgCenter Rice Research Station
Ricestar HT for Grass Control

Trial ID: C04-08
Location: RRS-Crowley, LA

Weed Code							RICE	RICE	RICE
Rating Data Type							HEADING	AVG HT	YIELD
Rating Unit							%	CM	LB/A
Rating Date							07/12/04	08/09/04	08/10/04
Trt-Eval Interval							53daLPOT	81daLPOT	82daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg			
22	Whip 360	0.57	EC	12.8	fl oz/a	LPOT	3	92	5597
23	Clincher	2.38	EC	15	fl oz/a	LPOT	26	88	3991
23	Agridex		L	19.2	fl oz/a	LPOT			

LSD (P=.05)	19.2	4.5	1567.4
Standard Deviation	13.6	3.2	1108.3
CV	84.59	3.45	20.23
Grand Mean	16.02	92.04	5479.58
Bartlett's X2	24.874	24.473	37.405
P(Bartlett's X2)	0.206	0.323	0.021*

LSU AgCenter Rice Research Station
Ricestar HT Tank Mixes

Experiment number .... :	**C04-09**
Location.. :	RRS - Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5' x 17'
Row width/# per plot .... :	7.5"/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/01/04
Harvest date .... :	N/A
Crop/Variety .... :	Rice/Cheniere;CL121
Emergence date .... :	04/23/04
Uniform std. treatment.................. :	N/A
Application type .... :	MPOT
Date applied [mm/dd/yy].............. :	05/10/04
Time [hh:mm-hh:mm] .... :	3:34-4:05p
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	82/88
Relative humidity [%] .... :	52
Wind [mph, direction] .... :	6-8,NE
Weather [sunny, etc]..................... :	pc
Soil/Leaf surface moist .... :	dry/dry
Crop stage/Height .... :	3-4lf/6-8"
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD
Boom ht/# Noz/Spacing................ :	21"/5/15"
GPA/PSI .... :	15/28
Applied by .... :	Griffin
Weed Species (population)........... :	-(height/#leaves)-
ECHCG (100-160 m^{-2}) .... :	2-6"/3lf-6till
BRAPP (20-40 m^{-2}) .... :	1-3"/2-4lf
LEFPA (20-30 m^{-2})....................... :	0.5-2"/2-4lf
HETLI (90-125 m^{-2}) .... :	0.1-0.2"/2-3lf
ECLAL (5-15 m^{-2})........................ :	0.5-1"/3-6lf
Flush Dates .... :	04/05/04; 04/20/04
Permanent Flood........................... :	05/25/04

LSU AgCenter Rice Research Station
Ricestar HT Tank Mixtures

Trial ID: C04-09
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 06/02/04 25daMPOT	LEFPA CONTROL % 06/02/04 25daMPOT	ECLAL CONTROL % 06/02/04 25daMPOT	CYPIR CONTROL % 06/02/04 25daMPOT	HETLI CONTROL % 06/02/04 25daMPOT	RICE INJURY % 06/02/04 25daMPOT
1	Nontreated						0	0	0	0	0	0
2	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	89	89	0	0	0	0
3	Newpath	2	AS	4	fl oz/a	MPOT	38	35	33	88	84	6
3	Ag-98		L	4.8	fl oz/a	MPOT						
4	Facet	75	DF	8	oz/a	MPOT	23	23	73	80	6	5
4	Agridex		L	19.2	fl oz/a	MPOT						
5	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	50	43	75	88	90	5
5	Newpath	2	AS	4	fl oz/a	MPOT						
5	Ag-98		L	4.8	fl oz/a	MPOT						
6	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	83	85	78	81	30	4
6	Facet	75	DF	8	oz/a	MPOT						
6	Agridex		L	19.2	fl oz/a	MPOT						
7	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	83	83	58	53	20	4
7	Aim	2	EC	1.6	fl oz/a	MPOT						
8	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	90	88	53	0	68	5
8	Command	3	ME	17	fl oz/a	MPOT						
9	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	75	73	89	89	91	3
9	Grasp	2	SC	1.98	fl oz/a	MPOT						
9	Agridex		L	19.2	fl oz/a	MPOT						
10	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	81	74	64	88	30	6
10	Permit	75	DF	1	oz/a	MPOT						
10	Ag-98		L	4.8	fl oz/a	MPOT						
11	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	91	90	80	88	85	5
11	Londax	60	DF	1	oz/a	MPOT						
11	Agridex		L	19.2	fl oz/a	MPOT						
12	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	35	35	80	85	79	4
12	Regiment	80	WP	0.4	oz/a	MPOT						
12	Kinetic		L	2.4	fl oz/a	MPOT						
13	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	84	78	64	16	0	4
13	Grandstand	3	SL	10.7	fl oz/a	MPOT						
13	Agridex		L	19.2	fl oz/a	MPOT						
14	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	49	53	75	81	25	4
14	Blazer	2	SL	16	fl oz/a	MPOT						
15	Clincher	2.38	EC	15	fl oz/a	MPOT	80	79	0	0	0	4
15	Agridex		L	19.2	fl oz/a	MPOT						
16	Clincher	2.38	EC	15	fl oz/a	MPOT	51	55	60	90	88	3
16	Londax	60	DF	1	oz/a	MPOT						
16	Agridex		L	19.2	fl oz/a	MPOT						

LSU AgCenter Rice Research Station
Ricestar HT Tank Mixtures

Trial ID: C04-09
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	ECLAL	CYPIR	HETLI	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%	%	%
Rating Date						06/02/04	06/02/04	06/02/04	06/02/04	06/02/04	06/02/04
Trt-Eval Interval						25daMPOT	25daMPOT	25daMPOT	25daMPOT	25daMPOT	25daMPOT
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
17 Facet	75	DF	10.7	oz/a	MPOT	44	45	76	80	39	3
17 Stam	4	EC	0.75	gal/a	MPOT						
LSD (P=.05)						13.5	14.3	13.1	12.2	8.8	3.3
Standard Deviation						9.4	10.0	9.2	8.6	6.1	2.3
CV						15.39	16.64	16.34	14.47	14.22	61.79
Grand Mean						61.4	60.22	56.18	59.12	43.16	3.71
Bartlett's X2						16.457	16.372	14.542	28.395	11.995	14.542
P(Bartlett's X2)						0.352	0.358	0.337	0.003*	0.214	0.41

LSU AgCenter Rice Research Station
Ricestar HT Tank Mixtures

Trial ID: C04-09
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 06/29/04 52daMPOT	LEFPA CONTROL % 06/29/04 52daMPOT	ECLAL CONTROL % 06/29/04 52daMPOT	CYPIR CONTROL % 06/29/04 52daMPOT	HETLI CONTROL % 06/29/04 52daMPOT	RICE INJURY % 06/29/04 52daMPOT
1	Nontreated						0	0	0	0	0	0
2	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	89	75	0	0	0	0
3	Newpath	2	AS	4	fl oz/a	MPOT	64	15	38	86	78	0
3	Ag-98		L	4.8	fl oz/a	MPOT						
4	Facet	75	DF	8	oz/a	MPOT	91	0	90	89	58	0
4	Agridex		L	19.2	fl oz/a	MPOT						
5	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	86	9	0	89	75	0
5	Newpath	2	AS	4	fl oz/a	MPOT						
5	Ag-98		L	4.8	fl oz/a	MPOT						
6	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	91	68	91	63	1	0
6	Facet	75	DF	8	oz/a	MPOT						
6	Agridex		L	19.2	fl oz/a	MPOT						
7	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	84	66	63	0	0	0
7	Aim	2	EC	1.6	fl oz/a	MPOT						
8	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	94	90	4	10	0	0
8	Command	3	ME	17	fl oz/a	MPOT						
9	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	5	89	79	88	83	0
9	Grasp	2	SC	1.98	fl oz/a	MPOT						
9	Agridex		L	19.2	fl oz/a	MPOT						
10	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	51	54	38	90	16	0
10	Permit	75	DF	1	oz/a	MPOT						
10	Ag-98		L	4.8	fl oz/a	MPOT						
11	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	83	75	18	91	0	0
11	Londax	60	DF	1	oz/a	MPOT						
11	Agridex		L	19.2	fl oz/a	MPOT						
12	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	24	30	90	90	45	0
12	Regiment	80	WP	0.4	oz/a	MPOT						
12	Kinetic		L	2.4	fl oz/a	MPOT						
13	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	86	45	88	0	0	0
13	Grandstand	3	SL	10.7	fl oz/a	MPOT						
13	Agridex		L	19.2	fl oz/a	MPOT						
14	Ricestar HT	0.58	EC	17	fl oz/a	MPOT	54	45	81	90	65	0
14	Blazer	2	SL	16	fl oz/a	MPOT						
15	Clincher	2.38	EC	15	fl oz/a	MPOT	90	65	0	0	0	0
15	Agridex		L	19.2	fl oz/a	MPOT						
16	Clincher	2.38	EC	15	fl oz/a	MPOT	24	64	88	88	59	0
16	Londax	60	DF	1	oz/a	MPOT						
16	Agridex		L	19.2	fl oz/a	MPOT						

LSU AgCenter Rice Research Station
Ricestar HT Tank Mixtures

Trial ID: C04-09
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	ECLAL	CYPIR	HETLI	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%	%	%
Rating Date						06/29/04	06/29/04	06/29/04	06/29/04	06/29/04	06/29/04
Trt-Eval Interval						52daMPOT	52daMPOT	52daMPOT	52daMPOT	52daMPOT	52daMPOT
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
17 Facet	75	DF	10.7	oz/a	MPOT	91	30	90	91	78	0
17 Stam	4	EC	0.75	gal/a	MPOT						
LSD (P=.05)						13.9	15.0	13.4	7.7	14.4	0.0
Standard Deviation						9.8	10.5	9.4	5.4	10.1	0.0
CV						15.0	21.82	18.62	9.51	30.74	0.0
Grand Mean						65.07	48.16	50.29	56.69	32.72	0.0
Bartlett's X2						36.002	13.104	19.415	24.961	18.034	0.0
P(Bartlett's X2)						0.002*	0.518	0.022*	0.003*	0.035*	.

LSU AgCenter Rice Research Station
Command Use in Clearfield Rice

Experiment number	**C04-10**			
Location	RRS - Crowley, LA			
Experimental design	RCB			
Number of reps	4			
Plot size	5’ x 17’			
Row width/# per plot	7.5”/9			
Soil type	Crowley silt loam (3% sand, 69% silt, 28% clay)			
% OM	1.4			
pH	6.4			
CEC	19.1			
Planting date	05/11/04			
Harvest date	09/21/04			
Crop/Variety	Rice/CLXL 8			
Emergence date	05/22/04			
Uniform std. treatment	N/A			
Application type	PRE	1 LF	MPOT	LPOT
Date applied [mm/dd/yy]	05/18/04	05/28/04	06/08/04	06/11/04
Time [hh:mm-hh:mm]	12:20-12:26p	9:37-9:46a	8:28-8:35a	9:09-9:11a
Incorporation equip./Depth	N/A	N/A	N/A	N/A
Air/Soil temperature [F]	83/80	85/79	81/80	84/80
Relative humidity [%]	68	67	79	79
Wind [mph, direction]	2-4,S	4-7,S	6-8,E	6-8,SSW
Weather [sunny, etc]	pc	mc	mc	pc
Soil/Leaf surface moist	wet/dry	wet/dry	moist/dry	dry/dry
Crop stage/Height	spike/0.1”	1-2lf/1-2”	5lf-2tiller/6-10”	2-3tiller/8-10”
Sprayer type/MPH	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size	FF/110015 AM	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing	14”/5/15”	15”/5/15”	21”/5/15”	23”/5/15”
GPA/PSI	15/30	15/28	15/28	15/26
Applied by	Griffin	Zhang	Webster	Zhang
Weed Species (population)	--------------(height/#leaves)--------------			
ORYSA (0-5 m^{-2})	0.1-0.5”/1lf	1-2”/1-3lf	5-7”/4lf-2tiller	8-11”/2-3tiller
ECHCG (125-150 m^{-2})	0.1”/1lf	1-5”/4lf-2tiller	3-12”/3lf-5tiller	3-6”/4lf-2tiller
LEFPA (100-110 m^{-2})	0.1”/1lf	1-3”/3-4lf	3-6”/3lf-1tiller	2-4”/3lf-2tiller
CYPIR (170-190 m^{-2})	0.1”/1lf	0.1-0.5”/1-3lf	3-5”/4-6lf	0.5-2”/3-5lf
HETLI (100-115 m^{-2})		0.1”/1-2lf		
Flush Dates	05/25/04; 06/01/04			
Permanent Flood	06/16/04			

LSU AgCenter Rice Research Station
Command Use in Clearfield Rice

Trial ID: C04-10
Location: RRS-Crowley, LA

Weed Code							ECHCG	LEFPA	CYPIR	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							07/08/04	07/08/04	07/08/04	07/08/04
Trt-Eval Interval							27daLPOT	27daLPOT	27daLPOT	27daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Command	3	ME	12.8	fl oz/a	PRE	11	36	0	0
2	Newpath	2	AS	4	fl oz/a	PRE	90	94	97	0
2	Newpath	2	AS	4	fl oz/a	MPOT				
2	Agridex		L	19.2	fl oz/a	MPOT				
3	Newpath	2	AS	4	fl oz/a	1 LF	85	23	96	0
3	Agridex		L	19.2	fl oz/a	1 LF				
3	Newpath	2	AS	4	fl oz/a	MPOT				
3	Agridex		L	19.2	fl oz/a	MPOT				
4	Command	3	ME	12.8	fl oz/a	PRE	92	95	97	0
4	Newpath	2	AS	4	fl oz/a	PRE				
4	Newpath	2	AS	4	fl oz/a	MPOT				
4	Agridex		L	19.2	fl oz/a	MPOT				
5	Command	3	ME	12.8	fl oz/a	PRE	94	94	97	0
5	Newpath	2	AS	4	fl oz/a	1 LF				
5	Agridex		L	19.2	fl oz/a	1 LF				
5	Newpath	2	AS	4	fl oz/a	MPOT				
5	Agridex		L	19.2	fl oz/a	MPOT				
6	Command	3	ME	12.8	fl oz/a	PRE	93	93	97	0
6	Newpath	2	AS	4	fl oz/a	1 LF				
6	Agridex		L	19.2	fl oz/a	1 LF				
6	Newpath	2	AS	4	fl oz/a	LPOT				
6	Agridex		L	19.2	fl oz/a	LPOT				
7	BAS 772 H	75	WG	7.74	oz/a	1 LF	6	5	5	0
7	Agridex		L	19.2	fl oz/a	1 LF				
7	Newpath	2	AS	4	fl oz/a	MPOT				
7	Agridex		L	19.2	fl oz/a	MPOT				
8	Command	3	ME	12.8	fl oz/a	PRE	96	82	97	0
8	Grasp	2	SL	1.98	fl oz/a	PRE				
8	Newpath	2	AS	8	fl oz/a	MPOT				
8	Agridex		L	19.2	fl oz/a	MPOT				
9	Command	3	ME	12.8	fl oz/a	1 LF	89	55	96	0
9	Grasp	2	SL	1.98	fl oz/a	1 LF				
9	Newpath	2	AS	8	fl oz/a	MPOT				
9	Agridex		L	19.2	fl oz/a	MPOT				
10	Nontreated						0	0	0	0
LSD (P=.05)							8.1	9.9	1.0	0.0
Standard Deviation							5.6	6.8	0.7	0.0
CV							8.5	11.83	1.05	0.0
Grand Mean							65.6	57.6	68.23	0.0
Bartlett's X2							18.489	22.637	3.187	0.0
P(Bartlett's X2)							0.018*	0.002*	0.785	.

LSU AgCenter Rice Research Station
Command Use in Clearfield Rice

Trial ID: C04-10
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 08/05/04 55daLPOT	LEFPA CONTROL % 08/05/04 55daLPOT	AESIN CONTROL % 08/05/04 55daLPOT	RICE HEADING % 08/05/04 55daLPOT
1	Command	3	ME	12.8	fl oz/a	PRE	10	10	0	55
2	Newpath	2	AS	4	fl oz/a	PRE	99	92	6	29
2	Newpath	2	AS	4	fl oz/a	MPOT				
2	Agridex		L	19.2	fl oz/a	MPOT				
3	Newpath	2	AS	4	fl oz/a	1 LF	96	53	6	44
3	Agridex		L	19.2	fl oz/a	1 LF				
3	Newpath	2	AS	4	fl oz/a	MPOT				
3	Agridex		L	19.2	fl oz/a	MPOT				
4	Command	3	ME	12.8	fl oz/a	PRE	97	91	19	28
4	Newpath	2	AS	4	fl oz/a	PRE				
4	Newpath	2	AS	4	fl oz/a	MPOT				
4	Agridex		L	19.2	fl oz/a	MPOT				
5	Command	3	ME	12.8	fl oz/a	PRE	98	91	65	20
5	Newpath	2	AS	4	fl oz/a	1 LF				
5	Agridex		L	19.2	fl oz/a	1 LF				
5	Newpath	2	AS	4	fl oz/a	MPOT				
5	Agridex		L	19.2	fl oz/a	MPOT				
6	Command	3	ME	12.8	fl oz/a	PRE	98	81	85	24
6	Newpath	2	AS	4	fl oz/a	1 LF				
6	Agridex		L	19.2	fl oz/a	1 LF				
6	Newpath	2	AS	4	fl oz/a	LPOT				
6	Agridex		L	19.2	fl oz/a	LPOT				
7	BAS 772 H	75	WG	7.74	oz/a	1 LF	95	43	95	11
7	Agridex		L	19.2	fl oz/a	1 LF				
7	Newpath	2	AS	4	fl oz/a	MPOT				
7	Agridex		L	19.2	fl oz/a	MPOT				
8	Command	3	ME	12.8	fl oz/a	PRE	97	71	97	26
8	Grasp	2	SL	1.98	fl oz/a	PRE				
8	Newpath	2	AS	8	fl oz/a	MPOT				
8	Agridex		L	19.2	fl oz/a	MPOT				
9	Command	3	ME	12.8	fl oz/a	1 LF	97	44	94	41
9	Grasp	2	SL	1.98	fl oz/a	1 LF				
9	Newpath	2	AS	8	fl oz/a	MPOT				
9	Agridex		L	19.2	fl oz/a	MPOT				
10	Nontreated						0	0	0	0
LSD (P=.05)							2.7	14.4	10.1	12.2
Standard Deviation							1.9	9.9	6.9	8.4
CV							2.37	17.26	14.83	30.39
Grand Mean							78.58	57.58	46.75	27.75
Bartlett's X2							11.739	9.428	14.428	6.412
P(Bartlett's X2)							0.039*	0.307	0.025*	0.601

LSU AgCenter Rice Research Station
Command Use in Clearfield Rice

Trial ID: C04-10
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							09/03/04	09/20/04
Trt-Eval Interval							84daLPOT	101daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Command	3	ME	12.8	fl oz/a	PRE	92	1665
2	Newpath	2	AS	4	fl oz/a	PRE	98	5390
2	Newpath	2	AS	4	fl oz/a	MPOT		
2	Agridex		L	19.2	fl oz/a	MPOT		
3	Newpath	2	AS	4	fl oz/a	1 LF	97	2580
3	Agridex		L	19.2	fl oz/a	1 LF		
3	Newpath	2	AS	4	fl oz/a	MPOT		
3	Agridex		L	19.2	fl oz/a	MPOT		
4	Command	3	ME	12.8	fl oz/a	PRE	100	6444
4	Newpath	2	AS	4	fl oz/a	PRE		
4	Newpath	2	AS	4	fl oz/a	MPOT		
4	Agridex		L	19.2	fl oz/a	MPOT		
5	Command	3	ME	12.8	fl oz/a	PRE	103	4856
5	Newpath	2	AS	4	fl oz/a	1 LF		
5	Agridex		L	19.2	fl oz/a	1 LF		
5	Newpath	2	AS	4	fl oz/a	MPOT		
5	Agridex		L	19.2	fl oz/a	MPOT		
6	Command	3	ME	12.8	fl oz/a	PRE	102	4738
6	Newpath	2	AS	4	fl oz/a	1 LF		
6	Agridex		L	19.2	fl oz/a	1 LF		
6	Newpath	2	AS	4	fl oz/a	LPOT		
6	Agridex		L	19.2	fl oz/a	LPOT		
7	BAS 772 H	75	WG	7.74	oz/a	1 LF	91	3679
7	Agridex		L	19.2	fl oz/a	1 LF		
7	Newpath	2	AS	4	fl oz/a	MPOT		
7	Agridex		L	19.2	fl oz/a	MPOT		
8	Command	3	ME	12.8	fl oz/a	PRE	100	3634
8	Grasp	2	SL	1.98	fl oz/a	PRE		
8	Newpath	2	AS	8	fl oz/a	MPOT		
8	Agridex		L	19.2	fl oz/a	MPOT		
9	Command	3	ME	12.8	fl oz/a	1 LF	93	2891
9	Grasp	2	SL	1.98	fl oz/a	1 LF		
9	Newpath	2	AS	8	fl oz/a	MPOT		
9	Agridex		L	19.2	fl oz/a	MPOT		
10	Nontreated						72	1206
LSD (P=.05)							6.6	1167.6
Standard Deviation							4.5	800.0
CV							4.79	21.57
Grand Mean							94.92	3708.32
Bartlett's X2							9.709	3.962
P(Bartlett's X2)							0.375	0.861

LSU AgCenter Rice Research Station
Aim Tank Mixes Following Command

Experiment number	**C04-11**	
Location	RRS - Crowley, LA	
Experimental design	RCB	
Number of reps	4	
Plot size	5’ x 17’	
Row width/# per plot	7.5”/8	
Soil type	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM	1.4	
pH	6.4	
CEC	19.1	
Planting date	04/01/04	
Harvest date	08/10/04	
Crop/Variety	Rice/Cheniere	
Emergence date	04/23/04	
Uniform std. treatment	N/A	
Application type	PRE	EPOT
Date applied [mm/dd/yy]	04/02/04	04/29/04
Time [hh:mm-hh:mm]	3:30-3:43p	11:55a-12:25p
Incorporation equip./Depth	N/A	N/A
Air/Soil temperature [F]	77/80	78/74
Relative humidity [%]	37	67
Wind [mph, direction]	3-4/S	6-9,SSE
Weather [sunny, etc]	sunny	mc
Soil/Leaf surface moist	dry/N/A	wet/dry
Crop stage/Height	N/A	2-3lf/2-4”
Sprayer type/MPH	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing	15”/5/15”	18”/5/15”
GPA/PSI	15/28	15/29
Applied by	Zhang	Webster
Weed Species (population)	---------(height/#leaves)---------	
LEFPA (50-75 m^{-2})		0.25-1”/1-2lf
CYPIR (75-125 m^{-2})		0.5-1”/1-3lf
CYPES (15-20 m^{-2})		5-8”/2-6lf
ALRPH (5-15 m^{-2})		0.2-0.5”/1-4lf
SEBEX (1-5 m^{-2})		0.5-1”/1-2lf
Flush Dates	04/05/04; 04/20/04; 05/11/04	
Permanent Flood	05/25/04	

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

							ECHCG	BRAPP	COMDI	SEBEX	CYPIR
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%	%
Rating Date							06/02/04	06/02/04	06/02/04	06/02/04	06/02/04
Trt-Eval Interval							34daEPOT	34daEPOT	34daEPOT	34daEPOT	34daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1	Command	3	ME	12.8	fl oz/a	PRE	90	96	0	0	0
2	Command	3	ME	12.8	fl oz/a	PRE	66	92	96	98	0
2	Aim	2	EC	1.6	fl oz/a	EPOT					
2	Ag-98		L	4.8	fl oz/a	EPOT					
3	Command	3	ME	12.8	fl oz/a	PRE	79	95	95	96	0
3	Aim	2	EC	2.4	fl oz/a	EPOT					
3	Ag-98		L	4.8	fl oz/a	EPOT					
4	Command	3	ME	12.8	fl oz/a	PRE	18	89	95	96	63
4	Aim	2	EC	1.6	fl oz/a	EPOT					
4	Basagran	4	EC	24	fl oz/a	EPOT					
4	Ag-98		L	4.8	fl oz/a	EPOT					
5	Command	3	ME	12.8	fl oz/a	PRE	55	93	96	97	43
5	Aim	2	EC	1.6	fl oz/a	EPOT					
5	Storm	4	EC	8	fl oz/a	EPOT					
5	Ag-98		L	4.8	fl oz/a	EPOT					
6	Command	3	ME	12.8	fl oz/a	PRE	59	92	97	98	24
6	Aim	2	EC	1.6	fl oz/a	EPOT					
6	Grandstand	3	SL	10.7	fl oz/a	EPOT					
6	Ag-98		L	4.8	fl oz/a	EPOT					
7	Command	3	ME	12.8	fl oz/a	PRE	89	94	96	98	20
7	Aim	2	EC	1.6	fl oz/a	EPOT					
7	Stam	4	EC	1	gal/a	EPOT					
8	Command	3	ME	12.8	fl oz/a	PRE	93	97	97	98	98
8	Aim	2	EC	1.6	fl oz/a	EPOT					
8	Permit	75	WG	1	oz/a	EPOT					
8	Ag-98		L	4.8	fl oz/a	EPOT					
9	Command	3	ME	12.8	fl oz/a	PRE	86	94	96	98	93
9	Aim	2	EC	1.6	fl oz/a	EPOT					
9	Londax	60	DG	1	oz/a	EPOT					
9	Agridex		L	19.2	fl oz/a	EPOT					
10	Command	3	ME	12.8	fl oz/a	PRE	93	95	98	97	97
10	Aim	2	EC	1.6	fl oz/a	EPOT					
10	Grasp	2	AS	1.98	fl oz/a	EPOT					
10	Agridex		L	19.2	fl oz/a	EPOT					
11	Command	3	ME	12.8	fl oz/a	PRE	96	97	98	98	65
11	Aim	2	EC	1.6	fl oz/a	EPOT					
11	Facet	75	DF	8	oz/a	EPOT					
11	Agridex		L	19.2	fl oz/a	EPOT					
12	Command	3	ME	12.8	fl oz/a	PRE	91	94	96	98	63
12	Aim	2	EC	1.6	fl oz/a	EPOT					
12	Regiment	80	WP	0.4	oz/a	EPOT					
12	Kinetic		L	2.4	fl oz/a	EPOT					

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

Weed Code						ECHCG	BRAPP	COMDI	SEBEX	CYPIR
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit						%	%	%	%	%
Rating Date						06/02/04	06/02/04	06/02/04	06/02/04	06/02/04
Trt-Eval Interval						34daEPOT	34daEPOT	34daEPOT	34daEPOT	34daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit Grow Stg					
13	Nontreated					0	0	0	0	0
LSD (P=.05)						16.3	4.0	1.1	1.6	16.4
Standard Deviation						11.4	2.8	0.8	1.1	11.5
CV						16.25	3.22	0.94	1.34	26.53
Grand Mean						70.31	86.69	81.42	82.37	43.38
Bartlett's X2						30.437	10.439	3.138	18.244	39.452
P(Bartlett's X2)						0.001*	0.403	0.872	0.011*	0.001*

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

							CYPES	ALRPH	ECLAL	RICE
Weed Code							CYPES	ALRPH	ECLAL	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							06/02/04	06/02/04	06/02/04	06/02/04
Trt-Eval Interval							34daEPOT	34daEPOT	34daEPOT	34daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Command	3	ME	12.8	fl oz/a	PRE	0	5	93	0
2	Command	3	ME	12.8	fl oz/a	PRE	1	8	95	0
2	Aim	2	EC	1.6	fl oz/a	EPOT				
2	Ag-98		L	4.8	fl oz/a	EPOT				
3	Command	3	ME	12.8	fl oz/a	PRE	0	13	96	0
3	Aim	2	EC	2.4	fl oz/a	EPOT				
3	Ag-98		L	4.8	fl oz/a	EPOT				
4	Command	3	ME	12.8	fl oz/a	PRE	54	14	96	0
4	Aim	2	EC	1.6	fl oz/a	EPOT				
4	Basagran	4	EC	24	fl oz/a	EPOT				
4	Ag-98		L	4.8	fl oz/a	EPOT				
5	Command	3	ME	12.8	fl oz/a	PRE	24	9	97	0
5	Aim	2	EC	1.6	fl oz/a	EPOT				
5	Storm	4	EC	8	fl oz/a	EPOT				
5	Ag-98		L	4.8	fl oz/a	EPOT				
6	Command	3	ME	12.8	fl oz/a	PRE	18	63	96	0
6	Aim	2	EC	1.6	fl oz/a	EPOT				
6	Grandstand	3	SL	10.7	fl oz/a	EPOT				
6	Ag-98		L	4.8	fl oz/a	EPOT				
7	Command	3	ME	12.8	fl oz/a	PRE	9	4	96	0
7	Aim	2	EC	1.6	fl oz/a	EPOT				
7	Stam	4	EC	1	gal/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	PRE	98	71	97	0
8	Aim	2	EC	1.6	fl oz/a	EPOT				
8	Permit	75	WG	1	oz/a	EPOT				
8	Ag-98		L	4.8	fl oz/a	EPOT				
9	Command	3	ME	12.8	fl oz/a	PRE	92	69	97	0
9	Aim	2	EC	1.6	fl oz/a	EPOT				
9	Londax	60	DG	1	oz/a	EPOT				
9	Agridex		L	19.2	fl oz/a	EPOT				
10	Command	3	ME	12.8	fl oz/a	PRE	97	66	98	0
10	Aim	2	EC	1.6	fl oz/a	EPOT				
10	Grasp	2	AS	1.98	fl oz/a	EPOT				
10	Agridex		L	19.2	fl oz/a	EPOT				
11	Command	3	ME	12.8	fl oz/a	PRE	59	58	98	0
11	Aim	2	EC	1.6	fl oz/a	EPOT				
11	Facet	75	DF	8	oz/a	EPOT				
11	Agridex		L	19.2	fl oz/a	EPOT				
12	Command	3	ME	12.8	fl oz/a	PRE	36	13	97	0
12	Aim	2	EC	1.6	fl oz/a	EPOT				
12	Regiment	80	WP	0.4	oz/a	EPOT				
12	Kinetic		L	2.4	fl oz/a	EPOT				

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

Weed Code							CYPES	ALRPH	ECLAL	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							06/02/04	06/02/04	06/02/04	06/02/04
Trt-Eval Interval							34daEPOT	34daEPOT	34daEPOT	34daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
13	Nontreated						0	0	0	0
LSD (P=.05)							17.3	20.4	1.9	0.0
Standard Deviation							12.1	14.3	1.4	0.0
CV							32.4	47.51	1.52	0.0
Grand Mean							37.44	30.0	88.83	0.0
Bartlett's X2							47.917	17.875	23.858	0.0
P(Bartlett's X2)							0.001*	0.057	0.013*	.

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 06/15/04 47daEPOT	SEBEX CONTROL % 06/15/04 47daEPOT	CYPIR CONTROL % 06/15/04 47daEPOT	CYPES CONTROL % 06/15/04 47daEPOT	ALRPH CONTROL % 06/15/04 47daEPOT	RICE INJURY % 06/15/04 47daEPOT
1	Command	3	ME	12.8	fl oz/a	PRE	61	43	0	0	13	0
2	Command	3	ME	12.8	fl oz/a	PRE	58	93	10	5	43	0
2	Aim	2	EC	1.6	fl oz/a	EPOT						
2	Ag-98		L	4.8	fl oz/a	EPOT						
3	Command	3	ME	12.8	fl oz/a	PRE	75	96	48	0	13	0
3	Aim	2	EC	2.4	fl oz/a	EPOT						
3	Ag-98		L	4.8	fl oz/a	EPOT						
4	Command	3	ME	12.8	fl oz/a	PRE	28	94	50	3	9	0
4	Aim	2	EC	1.6	fl oz/a	EPOT						
4	Basagran	4	EC	24	fl oz/a	EPOT						
4	Ag-98		L	4.8	fl oz/a	EPOT						
5	Command	3	ME	12.8	fl oz/a	PRE	40	93	38	5	23	0
5	Aim	2	EC	1.6	fl oz/a	EPOT						
5	Storm	4	EC	8	fl oz/a	EPOT						
5	Ag-98		L	4.8	fl oz/a	EPOT						
6	Command	3	ME	12.8	fl oz/a	PRE	70	95	50	5	25	0
6	Aim	2	EC	1.6	fl oz/a	EPOT						
6	Grandstand	3	SL	10.7	fl oz/a	EPOT						
6	Ag-98		L	4.8	fl oz/a	EPOT						
7	Command	3	ME	12.8	fl oz/a	PRE	66	95	48	8	13	0
7	Aim	2	EC	1.6	fl oz/a	EPOT						
7	Stam	4	EC	1	gal/a	EPOT						
8	Command	3	ME	12.8	fl oz/a	PRE	76	96	95	95	59	0
8	Aim	2	EC	1.6	fl oz/a	EPOT						
8	Permit	75	WG	1	oz/a	EPOT						
8	Ag-98		L	4.8	fl oz/a	EPOT						
9	Command	3	ME	12.8	fl oz/a	PRE	69	96	75	56	43	0
9	Aim	2	EC	1.6	fl oz/a	EPOT						
9	Londax	60	DG	1	oz/a	EPOT						
9	Agridex		L	19.2	fl oz/a	EPOT						
10	Command	3	ME	12.8	fl oz/a	PRE	93	94	97	94	58	0
10	Aim	2	EC	1.6	fl oz/a	EPOT						
10	Grasp	2	AS	1.98	fl oz/a	EPOT						
10	Agridex		L	19.2	fl oz/a	EPOT						
11	Command	3	ME	12.8	fl oz/a	PRE	95	97	59	5	24	0
11	Aim	2	EC	1.6	fl oz/a	EPOT						
11	Facet	75	DF	8	oz/a	EPOT						
11	Agridex		L	19.2	fl oz/a	EPOT						
12	Command	3	ME	12.8	fl oz/a	PRE	60	89	38	13	24	0
12	Aim	2	EC	1.6	fl oz/a	EPOT						
12	Regiment	80	WP	0.4	oz/a	EPOT						
12	Kinetic		L	2.4	fl oz/a	EPOT						

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

						ECHCG	SEBEX	CYPIR	CYPES	ALRPH	RICE
Weed Code						ECHCG	SEBEX	CYPIR	CYPES	ALRPH	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%	%	%
Rating Date						06/15/04	06/15/04	06/15/04	06/15/04	06/15/04	06/15/04
Trt-Eval Interval						47daEPOT	47daEPOT	47daEPOT	47daEPOT	47daEPOT	47daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
13	Nontreated						0	0	0	0	0	0

	ECHCG	SEBEX	CYPIR	CYPES	ALRPH	RICE
LSD (P=.05)	11.0	7.8	16.2	17.2	20.7	0.0
Standard Deviation	7.7	5.5	11.3	12.1	14.5	0.0
CV	12.65	6.63	24.29	54.49	55.03	0.0
Grand Mean	60.77	82.87	46.56	22.13	26.35	0.0
Bartlett's X2	7.71	36.611	9.959	13.734	6.446	0.0
P(Bartlett's X2)	0.564	0.001*	0.354	0.089	0.842	.

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/09/04	08/10/04
Trt-Eval Interval							101daEPOT	102daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Command	3	ME	12.8	fl oz/a	PRE	81	2757
2	Command	3	ME	12.8	fl oz/a	PRE	83	4470
2	Aim	2	EC	1.6	fl oz/a	EPOT		
2	Ag-98		L	4.8	fl oz/a	EPOT		
3	Command	3	ME	12.8	fl oz/a	PRE	89	3661
3	Aim	2	EC	2.4	fl oz/a	EPOT		
3	Ag-98		L	4.8	fl oz/a	EPOT		
4	Command	3	ME	12.8	fl oz/a	PRE	84	1869
4	Aim	2	EC	1.6	fl oz/a	EPOT		
4	Basagran	4	EC	24	fl oz/a	EPOT		
4	Ag-98		L	4.8	fl oz/a	EPOT		
5	Command	3	ME	12.8	fl oz/a	PRE	88	3498
5	Aim	2	EC	1.6	fl oz/a	EPOT		
5	Storm	4	EC	8	fl oz/a	EPOT		
5	Ag-98		L	4.8	fl oz/a	EPOT		
6	Command	3	ME	12.8	fl oz/a	PRE	88	3833
6	Aim	2	EC	1.6	fl oz/a	EPOT		
6	Grandstand	3	SL	10.7	fl oz/a	EPOT		
6	Ag-98		L	4.8	fl oz/a	EPOT		
7	Command	3	ME	12.8	fl oz/a	PRE	85	3708
7	Aim	2	EC	1.6	fl oz/a	EPOT		
7	Stam	4	EC	1	gal/a	EPOT		
8	Command	3	ME	12.8	fl oz/a	PRE	89	5136
8	Aim	2	EC	1.6	fl oz/a	EPOT		
8	Permit	75	WG	1	oz/a	EPOT		
8	Ag-98		L	4.8	fl oz/a	EPOT		
9	Command	3	ME	12.8	fl oz/a	PRE	85	5075
9	Aim	2	EC	1.6	fl oz/a	EPOT		
9	Londax	60	DG	1	oz/a	EPOT		
9	Agridex		L	19.2	fl oz/a	EPOT		
10	Command	3	ME	12.8	fl oz/a	PRE	90	6239
10	Aim	2	EC	1.6	fl oz/a	EPOT		
10	Grasp	2	AS	1.98	fl oz/a	EPOT		
10	Agridex		L	19.2	fl oz/a	EPOT		
11	Command	3	ME	12.8	fl oz/a	PRE	88	4948
11	Aim	2	EC	1.6	fl oz/a	EPOT		
11	Facet	75	DF	8	oz/a	EPOT		
11	Agridex		L	19.2	fl oz/a	EPOT		
12	Command	3	ME	12.8	fl oz/a	PRE	88	4443
12	Aim	2	EC	1.6	fl oz/a	EPOT		
12	Regiment	80	WP	0.4	oz/a	EPOT		
12	Kinetic		L	2.4	fl oz/a	EPOT		

LSU AgCenter Rice Research Station
Aim Tank Mixtures Following Command

Trial ID: C04-11
Location: RRS-Crowley, LA

Weed Code						RICE	RICE
Rating Data Type						AVG HT	YIELD
Rating Unit						CM	LB/A
Rating Date						08/09/04	08/10/04
Trt-Eval Interval						101daEPOT	102daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
13	Nontreated						75	1318

LSD (P=.05)	8.1	1157.5
Standard Deviation	5.6	801.6
CV	6.6	20.45
Grand Mean	85.56	3919.68
Bartlett's X2	31.084	28.465
P(Bartlett's X2)	0.002*	0.005*

LSU AgCenter Rice Research Station
Herbicide Drift in Rice

Experiment number .... :	**C04-14**
Location.. :	RRS - Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/01/04
Harvest date .... :	08/09/04
Crop/Variety .... :	Rice/Cheniere
Emergence date .... :	04/23/04
Uniform std. treatment.................. :	N/A

Application type .... :	LPOT
Date applied [mm/dd/yy].............. :	05/25/04
Time [hh:mm-hh:mm] .... :	1:35-2:00p
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	89/86
Relative humidity [%] .... :	52
Wind [mph, direction] .... :	6-8,SSW
Weather [sunny, etc]..................... :	sunny
Soil/Leaf surface moist................. :	dry/dry
Crop stage/Height......................... :	2-3tiller/8-10”
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size........................... :	below
Boom ht/# Noz/Spacing................ :	below
GPA/PSI .... :	below
Applied by .... :	Webster

Flush Dates .... :	04/05/04; 04/20/04; 06/01/04
Permanent Flood........................... :	06/16/04

25 GPA attained using FF/11003 DG nozzles @ 33 PSI; 5 nozzles/15” spacing/3 MPH
3.2 GPA attained using Greenleaf 005 Venturi with FF/110015 DG nozzles @ 33 PSI; 4 nozzles/19” spacing/6 MPH

LSU AgCenter Rice Research Station
Herbicide Drift in Rice

Trial ID: C04-14
Location: RRS-Crowley, LA

Crop Code						Rice	Rice	Rice	Rice	Rice
Rating Data Type						INJURY	INJURY	AVG HT	MOISTURE	YIELD
Rating Unit						%	%	CM	%	LB/A
Rating Date						06/08/04	06/22/04	08/06/04	08/09/04	08/09/04
Trt-Eval Interval						14daLPOT	28daLPOT	72daLPOT	75daLPOT	75daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1 1	Roundup WeatherMax 3.2 GPA	5.5	L	2.9	fl oz/a		60	23	81	20	4973
2 2	Roundup WeatherMax 25 GPA	5.5	L	2.9	fl oz/a		15	0	86	18	7993
3 3	Roundup WeatherMax 25 GPA	5.5	L	23.3	fl oz/a		99	99	0	0	0
4 4	Liberty 3.2 GPA	1.67	L	4.3	fl oz/a		13	0	87	18	8614
5 5	Liberty 25 GPA	1.67	L	4.3	fl oz/a		0	0	87	18	8236
6 6	Liberty 25 GPA	1.67	L	33.7	fl oz/a		97	55	80	19	2337
7 7	NewPath 3.2 GPA	2	AS	0.51	fl oz/a		15	0	83	18	7302
8 8	NewPath 25 GPA	2	AS	0.51	fl oz/a		0	0	82	18	7171
9 9	NewPath 25 GPA	2	AS	4.0	fl oz/a		73	83	0	0	0
10 10	Beyond 3.2 GPA	1	AS	0.64	fl oz/a		5	3	83	18	4650
11 11	Beyond 25 GPA	1	AS	0.64	fl oz/a		0	0	85	18	8272
12 12	Beyond 25 GPA	1	AS	5.0	fl oz/a		75	97	0	0	0
13	Nontreated						0	0	89	17	9220
LSD (P=.05)							7.3	6.0	3.9	0.6	1622.9
Standard Deviation							3.4	2.7	1.8	0.3	744.8
CV							9.71	9.95	2.74	2.02	14.08
Grand Mean							34.62	27.54	64.65	14.05	5289.74
Bartlett's X2							4.364	2.456	6.141	2.938	5.03
P(Bartlett's X2)							0.628	0.783	0.726	0.938	0.832

LSU AgCenter Rice Research Station
Red Rice Competition in Conventional and Clearfield Rice Production Systems

Experiment number .... :	**C04-15**	
Location.. :	RRS - Crowley, LA	
Experimental design .... :	RCB	
Number of reps .... :	4	
Plot size .... :	5' x 17'	
Row width/# per plot .... :	7.5"/9	
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM .... :	1.4	
pH .... :	6.4	
CEC .... :	19.1	
Planting date .... :	05/11/04	
Harvest date .... :	09/21/04	
Crop/Variety .... :	Rice/CL 161; CLXL 8; Cocodrie	
Emergence date .... :	05/22/04	
Uniform std. treatment.................. :	20 fl oz. Clincher + 1 oz. Permit + 1% Herbimax – 06/11/04; 17 fl oz. Ricestar – 06/22/04	
Application type .... :	PRE	MPOT
Date applied [mm/dd/yy].............. :	05/18/04	06/11/04
Time [hh:mm-hh:mm] .... :	10:55-11:20a	9:29-10:04a
Incorporation equip./Depth........... :	N/A	N/A
Air/Soil temperature [F] .... :	84/75	87/82
Relative humidity [%] .... :	80	63
Wind [mph, direction] .... :	2-5,SSW	6-8,SSW
Weather [sunny, etc]..................... :	mc	pc
Soil/Leaf surface moist................. :	wet/dry	dry/dry
Crop stage/Height .... :	N/A	2-3tiller/8-10"
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	14"/5/15"	21"/5/15"
GPA/PSI .... :	15/30	15/27
Applied by .... :	Zhang	Zhang
Weed Species (population)........... :	---------(height/#leaves)---------	
ORYSA (30-45 m^{-2}) .... :	0.1-0.5"/1lf	3-5"/4lf-2tiller
ECHCG (125-150 m^{-2}) .... :	0.1"/1lf	3-6"/4lf-2tiller
LEFPA (60-75 m^{-2})....................... :	0.1"/1lf	2-4"/3lf-2tiller
CYPIR (170-190 m^{-2}) .... :	0.1"/1lf	0.5-2"/3-5lf
Flush Dates .... :	05/25/04; 06/01/04	
Permanent Flood........................... :	06/16/04	

LSU AgCenter Rice Research Station
Red Rice Competition in Conventional and Clearfield Rice Production Systems

Trial ID: C04-15
Location: RRS-Crowley, LA

Weed Code							ORYSA	RICE	RED RICE	RED RICE	RICE
Rating Data Type							CONTROL	AVG HT	AVG HT	PANICLES	YIELD
Rating Unit							%	CM	CM	#/PLOT	LB/A
Rating Date							07/20/04	09/03/04	09/03/04	09/21/04	09/21/04
Trt-Eval Interval							39daMPOT	83daMPOT	83daMPOT	101daMPO	101daMPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1	CL 161						0	89	120	35	3218
1	No Red Rice										
1	Weed Free										
1	Command	3	ME	0.8	pt/a	PRE					
1	Arrosolo	6	EC	2	qt/a	4 LF					
1	Permit	75	WG	1	oz/a	4 LF					
2	Cocodrie						0	84	115	3	2703
2	No Red Rice										
2	Weed Free										
2	Command	3	ME	0.8	pt/a	PRE					
2	Arrosolo	6	EC	2	qt/a	4 LF					
2	Permit	75	WG	1	oz/a	4 LF					
3	XL 8						0	101	125	19	5255
3	No Red Rice										
3	Weed Free										
3	Command	3	ME	0.8	pt/a	PRE					
3	Arrosolo	6	EC	2	qt/a	4 LF					
3	Permit	75	WG	1	oz/a	4 LF					
4	CL 161						97	88	106	3	3650
4	Red Rice (0.3/sq ft)										
4	Newpath	2	SL	4	fl oz/a	PRE					
4	NewPath	2	SL	4	fl oz/a	4LF					
4	Blazer	2	L	0.5	pt/a	4 LF					
4	Ag-98		L	4.8	fl oz/a	4LF					
5	Cocodrie						0	83	115	33	2311
5	Red Rice (0.3/sq ft)										
5	Command	3	ME	0.8	pt/a	PRE					
5	Arrosolo	6	EC	2	qt/a	4 LF					
5	Permit	75	WG	1	oz/a	4 LF					
6	XL 8						98	102		1	5601
6	Red Rice (0.3/sq ft)										
6	Newpath	2	SL	4	fl oz/a	PRE					
6	NewPath	2	SL	4	fl oz/a	4LF					
6	Blazer	2	L	0.5	pt/a	4 LF					
6	Ag-98		L	4.8	fl oz/a	4LF					
7	CL 161						96	89		2	3165
7	Red Rice (1/sq ft)										
7	Newpath	2	SL	4	fl oz/a	PRE					
7	NewPath	2	SL	4	fl oz/a	4LF					
7	Blazer	2	L	0.5	pt/a	4 LF					
7	Ag-98		L	4.8	fl oz/a	4LF					
8	Cocodrie						0	85	113	85	1610
8	Red Rice (1/sq ft)										
8	Command	3	ME	0.8	pt/a	PRE					
8	Arrosolo	6	L	2	qt/a	4LF					
8	Permit	75	DG	1	oz/a	4LF					

LSU AgCenter Rice Research Station
Red Rice Competition in Conventional and Clearfield Rice Production Systems

Trial ID: C04-15
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ORYSA CONTROL % 07/20/04 39daMPOT	RICE AVG HT CM 09/03/04 83daMPOT	RED RICE AVG HT CM 09/03/04 83daMPOT	RED RICE PANICLES #/PLOT 09/21/04 101daMPO	RICE YIELD LB/A 09/21/04 101daMPOT
9	XL 8						98	102	128	3	5001
9	Red Rice (1/sq ft)										
9	Newpath	2	SL	4	fl oz/a	PRE					
9	NewPath	2	SL	4	fl oz/a	4LF					
9	Blazer	2	L	0.5	pt/a	4 LF					
9	Ag-98		L	4.8	fl oz/a	4LF					
10	CL 161						98	85	106	5	2680
10	Red Rice (2/sq ft)										
10	Newpath	2	SL	4	fl oz/a	PRE					
10	NewPath	2	SL	4	fl oz/a	4LF					
10	Blazer	2	L	0.5	pt/a	4 LF					
10	Ag-98		L	4.8	fl oz/a	4LF					
11	Cocodrie						0	88	116	144	1967
11	Red Rice (2/sq ft)										
11	Command	3	ME	0.8	pt/a	PRE					
11	Arrosolo	6	L	2	qt/a	4LF					
11	Permit	75	DG	1	oz/a	4LF					
12	XL 8						96	97	108	2	5251
12	Red Rice (2/sq ft)										
12	Newpath	2	SL	4	fl oz/a	PRE					
12	NewPath	2	SL	4	fl oz/a	4LF					
12	Blazer	2	L	0.5	pt/a	4 LF					
12	Ag-98		L	4.8	fl oz/a	4LF					
13	Clearfield 161						0	89	110	22	3292
13	Red Rice (0.3/sq ft)										
13	Command	3	ME	0.8	pt/a	PRE					
13	Arrosolo	6	L	2	qt/a	4LF					
13	Permit	75	DG	1	oz/a	4LF					
14	Clearfield 161						0	90	116	95	3155
14	Red Rice (1/sq ft)										
14	Command	3	ME	0.8	pt/a	PRE					
14	Arrosolo	6	L	2	qt/a	4LF					
14	Permit	75	DG	1	oz/a	4LF					
15	Clearfield 161						0	84	114	122	3031
15	Red Rice (2/sq ft)										
15	Command	3	ME	0.8	pt/a	PRE					
15	Arrosolo	6	L	2	qt/a	4LF					
15	Permit	75	DG	1	oz/a	4LF					
16	Clearfield XL8						0	103	113	40	5692
16	Red Rice (0.3/sq ft)										
16	Command	3	ME	0.8	pt/a	PRE					
16	Arrosolo	6	L	2	qt/a	4LF					
16	Permit	75	DG	1	oz/a	4LF					

LSU AgCenter Rice Research Station
Red Rice Competition in Conventional and Clearfield Rice Production Systems

Trial ID: C04-15
Location: RRS-Crowley, LA

Weed Code						ORYSA	RICE	RED RICE	RED RICE	RICE
Rating Data Type						CONTROL	AVG HT	AVG HT	PANICLES	YIELD
Rating Unit						%	CM	CM	#/PLOT	LB/A
Rating Date						07/20/04	09/03/04	09/03/04	09/21/04	09/21/04
Trt-Eval Interval						39daMPOT	83daMPOT	83daMPOT	101daMPO	101daMPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
17	Clearfield XL8						0	102	125	78	5209
17	Red Rice (1/sq ft)										
17	Command	3	ME	0.8	pt/a	PRE					
17	Arrosolo	6	L	2	qt/a	4LF					
17	Permit	75	DG	1	oz/a	4LF					
18	Clearfield XL8						0	103	123	133	4670
18	Red Rice (2/sq ft)										
18	Command	3	ME	0.8	pt/a	PRE					
18	Arrosolo	6	L	2	qt/a	4LF					
18	Permit	75	DG	1	oz/a	4LF					

LSD (P=.05)	1.0	5.7	10.5	27.8	826.3
Standard Deviation	0.7	4.0	7.3	19.7	584.3
CV	2.09	4.34	6.31	43.04	15.59
Grand Mean	32.35	92.33	115.7	45.74	3747.83
Bartlett's X2	9.561	35.009	11.698	75.363	19.994
P(Bartlett's X2)	0.089	0.006*	0.47	0.001*	0.275

LSU AgCenter Rice Research Station
Postflood Clincher Tank-Mixtures for Broadleaf/Sedge Control

Experiment number .... :	**C04-17**
Location.. :	RRS - Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/01/04
Harvest date .... :	08/10/04
Crop/Variety .... :	Rice/Cheniere
Emergence date .... :	04/23/04
Uniform std. treatment.................. :	N/A
Application type .... :	POFL
Date applied [mm/dd/yy].............. :	05/31/04
Time [hh:mm-hh:mm] .... :	9:30-9:55a
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	86/82
Relative humidity [%] .... :	68
Wind [mph, direction] .... :	6-9,S
Weather [sunny, etc]..................... :	pc
Soil/Leaf surface moist .... :	flood/dry
Crop stage/Height .... :	3-5tiller/10-15”
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD
Boom ht/# Noz/Spacing................ :	28”/5/15”
GPA/PSI .... :	15/26
Applied by .... :	Webster
Weed Species (population)........... :	--(height/#leaves)--
ECHCG (80-115 m^{-2}) .... :	12-14”/5lf-1tiller
BRAPP (100-150 m^{-2}) .... :	7-8”/4lf-2tiller
LEFPA (90-110 m^{-2})..................... :	10-12”/2-3tiller
CYPES (30-40 m^{-2}) .... :	10-20”/7-12lf
CYPIR (75-100 m^{-2}) .... :	8-12”/5-9lf
ECLAL (45-75 m^{-2}) .... :	6-7”/6-8lf
COMDI (1-4 m^{-2}).......................... :	5-7”/8-10lf
SEBEX (4-5 m^{-2}) .... :	12-30”/14-16lf
Flush Dates .... :	04/05/04; 04/20/04; 05/11/04
Permanent Flood........................... :	05/25/04

LSU AgCenter Rice Research Station
Postflood Clincher Tank-Mixtures for Broadleaf/Sedge Control

Trial ID: C04-17
Location: RRS-Crowley, LA

Weed Code							ECHCG	ECLAL	CYPIR	CYPES	SEBEX	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%	%
Rating Date							06/29/04	06/29/04	06/29/04	06/29/04	06/29/04	06/29/04
Trt-Eval Interval							29daPOFL	29daPOFL	29daPOFL	29daPOFL	29daPOFL	29daPOFL
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
1	Clincher	2.38	EC	15	fl oz/a	POFL	97	0	0	0	0	0
1	COC		L	48	fl oz/a	POFL						
2	Clincher	2.38	EC	15	fl oz/a	POFL	19	96	83	4	97	0
2	Grandstand	3	SL	10.7	fl oz/a	POFL						
2	Stam	4	EC	32	fl oz/a	POFL						
2	Agridex		L	48	fl oz/a	POFL						
3	Clincher	2.38	EC	15	fl oz/a	POFL	66	96	78	0	95	0
3	Grandstand	3	SL	16.2	fl oz/a	POFL						
3	Agridex		L	48	fl oz/a	POFL						
4	Clincher	2.38	EC	15	fl oz/a	POFL	95	93	96	6	97	0
4	Regiment	80	WP	14.7	g/a	POFL						
4	Agridex		L	48	fl oz/a	POFL						
5	Clincher	2.38	EC	15	fl oz/a	POFL	75	95	83	0	90	0
5	Londax	60	WG	1.01	oz/a	POFL						
5	Agridex		L	48	fl oz/a	POFL						
6	Clincher	2.38	EC	15	fl oz/a	POFL	45	94	25	0	95	0
6	Blazer	2	SL	16	fl oz/a	POFL						
6	Agridex		L	48	fl oz/a	POFL						
7	Stam	4	EC	4	qt/a	POFL	34	97	94	20	97	0
7	Facet	75	WG	8.1	oz/a	POFL						
8	Grandstand	3	SL	10.7	fl oz/a	POFL	0	97	59	0	96	0
8	Stam	4	EC	32	fl oz/a	POFL						
8	Agridex		L	48	fl oz/a	POFL						
9	Grandstand	3	SL	16.2	fl oz/a	POFL	0	95	11	0	94	0
9	Agridex		L	48	fl oz/a	POFL						
10	Regiment	80	WP	14.7	g/a	POFL	89	97	90	0	97	0
10	Agridex		L	48	fl oz/a	POFL						
11	Londax	60	WG	1.01	oz/a	POFL	0	91	90	6	91	0
11	Agridex		L	48	fl oz/a	POFL						
12	Blazer	2	SL	16	fl oz/a	POFL	0	96	54	0	97	0
12	Agridex		L	48	fl oz/a	POFL						
13	Nontreated						0	0	0	0	0	0
LSD (P=.05)							9.0	3.9	14.5	4.4	4.6	0.0
Standard Deviation							6.3	2.8	10.2	3.1	3.3	0.0
CV							15.71	3.44	17.35	110.74	4.04	0.0
Grand Mean							39.98	80.37	58.52	2.79	80.44	0.0
Bartlett's X2							17.127	44.022	30.566	1.592	45.076	0.0
P(Bartlett's X2)							0.017*	0.001*	0.001*	0.661	0.001*	.

LSU AgCenter Rice Research Station
Postflood Clincher Tank-Mixtures for Broadleaf/Sedge Control

Trial ID: C04-17
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG CONTROL % 07/12/04 42daPOFL	ECLAL CONTROL % 07/12/04 42daPOFL	CYPIR CONTROL % 07/12/04 42daPOFL	CYPES CONTROL % 07/12/04 42daPOFL	SEBEX CONTROL % 07/12/04 42daPOFL	RICE INJURY % 07/12/04 42daPOFL
1	Clincher	2.38	EC	15	fl oz/a	POFL	88	0	0	0	0	0
1	COC		L	48	fl oz/a	POFL						
2	Clincher	2.38	EC	15	fl oz/a	POFL	40	94	63	38	96	0
2	Grandstand	3	SL	10.7	fl oz/a	POFL						
2	Stam	4	EC	32	fl oz/a	POFL						
2	Agridex		L	48	fl oz/a	POFL						
3	Clincher	2.38	EC	15	fl oz/a	POFL	63	94	53	0	81	0
3	Grandstand	3	SL	16.2	fl oz/a	POFL						
3	Agridex		L	48	fl oz/a	POFL						
4	Clincher	2.38	EC	15	fl oz/a	POFL	83	63	68	55	95	0
4	Regiment	80	WP	14.7	g/a	POFL						
4	Agridex		L	48	fl oz/a	POFL						
5	Clincher	2.38	EC	15	fl oz/a	POFL	58	88	0	0	43	0
5	Londax	60	WG	1.01	oz/a	POFL						
5	Agridex		L	48	fl oz/a	POFL						
6	Clincher	2.38	EC	15	fl oz/a	POFL	53	45	0	0	88	0
6	Blazer	2	SL	16	fl oz/a	POFL						
6	Agridex		L	48	fl oz/a	POFL						
7	Stam	4	EC	4	qt/a	POFL	55	94	68	41	95	0
7	Facet	75	WG	8.1	oz/a	POFL						
8	Grandstand	3	SL	10.7	fl oz/a	POFL	10	96	90	80	97	0
8	Stam	4	EC	32	fl oz/a	POFL						
8	Agridex		L	48	fl oz/a	POFL						
9	Grandstand	3	SL	16.2	fl oz/a	POFL	0	91	0	0	91	0
9	Agridex		L	48	fl oz/a	POFL						
10	Regiment	80	WP	14.7	g/a	POFL	61	95	78	66	95	0
10	Agridex		L	48	fl oz/a	POFL						
11	Londax	60	WG	1.01	oz/a	POFL	0	91	65	38	54	0
11	Agridex		L	48	fl oz/a	POFL						
12	Blazer	2	SL	16	fl oz/a	POFL	0	93	55	10	93	0
12	Agridex		L	48	fl oz/a	POFL						
13	Nontreated						0	0	0	0	0	0
	LSD (P=.05)						9.8	8.9	16.3	10.7	11.2	0.0
	Standard Deviation						6.9	6.2	11.4	7.5	7.9	0.0
	CV						17.6	8.58	27.52	29.62	11.05	0.0
	Grand Mean						39.13	72.46	41.35	25.19	71.23	0.0
	Bartlett's X2						8.689	37.359	5.269	3.205	24.134	0.0
	P(Bartlett's X2)						0.369	0.001*	0.51	0.783	0.001*	.

LSU AgCenter Rice Research Station
Postflood Clincher Tank-Mixtures for Broadleaf/Sedge Control

Trial ID: C04-17
Location: RRS-Crowley, LA

Weed Code							RICE	RICE	RICE
Rating Data Type							HEADING	AVG HT	YIELD
Rating Unit							%	CM	LB/A
Rating Date							07/12/04	08/09/04	08/10/04
Trt-Eval Interval							42daPOFL	70daPOFL	71daPOFL
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg			
1	Clincher	2.38	EC	15	fl oz/a	POFL	60	72	2059
1	COC		L	48	fl oz/a	POFL			
2	Clincher	2.38	EC	15	fl oz/a	POFL	38	76	2114
2	Grandstand	3	SL	10.7	fl oz/a	POFL			
2	Stam	4	EC	32	fl oz/a	POFL			
2	Agridex		L	48	fl oz/a	POFL			
3	Clincher	2.38	EC	15	fl oz/a	POFL	45	74	2316
3	Grandstand	3	SL	16.2	fl oz/a	POFL			
3	Agridex		L	48	fl oz/a	POFL			
4	Clincher	2.38	EC	15	fl oz/a	POFL	63	70	1314
4	Regiment	80	WP	14.7	g/a	POFL			
4	Agridex		L	48	fl oz/a	POFL			
5	Clincher	2.38	EC	15	fl oz/a	POFL	55	75	1539
5	Londax	60	WG	1.01	oz/a	POFL			
5	Agridex		L	48	fl oz/a	POFL			
6	Clincher	2.38	EC	15	fl oz/a	POFL	48	74	2010
6	Blazer	2	SL	16	fl oz/a	POFL			
6	Agridex		L	48	fl oz/a	POFL			
7	Stam	4	EC	4	qt/a	POFL	20	82	2496
7	Facet	75	WG	8.1	oz/a	POFL			
8	Grandstand	3	SL	10.7	fl oz/a	POFL	30	66	1218
8	Stam	4	EC	32	fl oz/a	POFL			
8	Agridex		L	48	fl oz/a	POFL			
9	Grandstand	3	SL	16.2	fl oz/a	POFL	51	61	
9	Agridex		L	48	fl oz/a	POFL			
10	Regiment	80	WP	14.7	g/a	POFL	64	71	1982
10	Agridex		L	48	fl oz/a	POFL			
11	Londax	60	WG	1.01	oz/a	POFL	55	58	506
11	Agridex		L	48	fl oz/a	POFL			
12	Blazer	2	SL	16	fl oz/a	POFL	54	53	
12	Agridex		L	48	fl oz/a	POFL			
13	Nontreated						55	65	604
LSD (P=.05)							15.1	10.1	774.1
Standard Deviation							10.6	7.0	527.8
CV							21.65	10.12	31.98
Grand Mean							48.94	68.81	1650.78
Bartlett's X2							5.418	20.366	9.579
P(Bartlett's X2)							0.909	0.06	0.296

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control in CLXL8

Experiment number	**C04-21**	
Location	RRS - Crowley, LA	
Experimental design	RCB	
Number of reps	4	
Plot size	5’ x 17’	
Row width/# per plot	7.5”/9	
Soil type	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM	1.4	
pH	6.4	
CEC	19.1	
Planting date	05/11/04	
Harvest date	09/20/04	
Crop/Variety	Rice/CL XL 8	
Emergence date	05/23/04	
Uniform std. treatment	N/A	
Application type	DPRE	EPOT
Date applied [mm/dd/yy]	05/18/04	06/03/04
Time [hh:mm-hh:mm]	12:10-1:40p	10:00-10:30a
Incorporation equip./Depth	N/A	N/A
Air/Soil temperature [F]	83/76	85/80
Relative humidity [%]	72	73
Wind [mph, direction]	2-6,SSW	3-6,S
Weather [sunny, etc]	mc	cloudy
Soil/Leaf surface moist	wet/wet	moist/wet
Crop stage/Height	spike/0.1”	2-3lf/4-6”
Sprayer type/MPH	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size	FF/110015 TD	FF/110015 AM
Boom ht/# Noz/Spacing	17”/5/15”	19”/5/15”
GPA/PSI	15/26	15/27
Applied by	Mudge	Zhang
Weed Species (population)	---------(height/#leaves)---------	
ORYSA (0-5 m^{-2})	0.1-0.5”/1lf	1-4”/2-4lf
ECHCG (125-150 m^{-2})	0.1”/1lf	1-6”/1lf-3tiller
LEFPA (125-150 m^{-2})	0.1”/1lf	1-3”/2-4lf
BRAPP (10-15 m^{-2})	0.1”/1lf	1-3”/2-4lf
CYPIR (170-190 m^{-2})	0.1”/1lf	2-4”/3-5lf
COMDI (1-5 m^{-2})		1-2”/2-3lf
Flush Dates	05/25/04; 06/01/04	
Permanent Flood	06/16/04	

Note: Blanket PRE treatment controlled ECHCG – 60% and CYPIR – 90%.

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control in CLXL8

Trial ID: C04-21
Location: RRS-Crowley, LA

							ECHCG	LEFPA	CYPIR	RICE
Weed Code							ECHCG	LEFPA	CYPIR	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval							47daEPOT	47daEPOT	47daEPOT	47daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Nontreated						0	0	0	0
2	Newpath	2	AS	4	fl oz/a	DPRE	61	29	94	0
2	Agridex		L	19.2	fl oz/a	DPRE				
2	Newpath	2	AS	4	fl oz/a	EPOT				
2	Agridex		L	19.2	fl oz/a	EPOT				
3	Newpath	2	AS	4	fl oz/a	DPRE	64	41	97	0
3	Agridex		L	19.2	fl oz/a	DPRE				
3	Newpath	2	AS	4	fl oz/a	EPOT				
3	Aim	2	EC	1	fl oz/a	EPOT				
3	Ag-98		L	4.8	fl oz/a	EPOT				
4	Newpath	2	AS	4	fl oz/a	DPRE	71	45	96	0
4	Agridex		L	19.2	fl oz/a	DPRE				
4	Newpath	2	AS	4	fl oz/a	EPOT				
4	Permit	75	WG	1	oz/a	EPOT				
4	Agridex		L	19.2	fl oz/a	EPOT				
5	Newpath	2	AS	4	fl oz/a	DPRE	65	51	95	0
5	Agridex		L	19.2	fl oz/a	DPRE				
5	Newpath	2	AS	4	fl oz/a	EPOT				
5	Londax	60	WG	1	oz/a	EPOT				
5	Agridex		L	19.2	fl oz/a	EPOT				
6	Newpath	2	AS	4	fl oz/a	DPRE	60	38	97	0
6	Agridex		L	19.2	fl oz/a	DPRE				
6	Newpath	2	AS	4	fl oz/a	EPOT				
6	Grandstand	3	SL	16	fl oz/a	EPOT				
6	Agridex		L	19.2	fl oz/a	EPOT				
7	Newpath	2	AS	4	fl oz/a	DPRE	95	91	98	0
7	Agridex		L	19.2	fl oz/a	DPRE				
7	Newpath	2	AS	4	fl oz/a	EPOT				
7	Stam	4	EC	1	gal/a	EPOT				
8	Newpath	2	AS	4	fl oz/a	DPRE	89	60	97	0
8	Agridex		L	19.2	fl oz/a	DPRE				
8	Newpath	2	AS	4	fl oz/a	EPOT				
8	Regiment	80	WP	0.4	oz/a	EPOT				
8	Kinetic		L	2.4	fl oz/a	EPOT				
9	Newpath	2	AS	4	fl oz/a	DPRE	85	56	97	0
9	Agridex		L	19.2	fl oz/a	DPRE				
9	Newpath	2	AS	4	fl oz/a	EPOT				
9	Grasp	2	AS	1.98	fl oz/a	EPOT				
9	Agridex		L	19.2	fl oz/a	EPOT				

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control in CLXL8

Trial ID: C04-21
Location: RRS-Crowley, LA

Weed Code						ECHCG	LEFPA	CYPIR	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%
Rating Date						07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval						47daEPOT	47daEPOT	47daEPOT	47daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit / Grow Stg				
10	Newpath	2	AS	4	fl oz/a DPRE	9	20	93	0
10	Agridex		L	19.2	fl oz/a DPRE				
10	No Newpath								
LSD (P=.05)						11.0	12.1	2.5	0.0
Standard Deviation						7.6	8.3	1.7	0.0
CV						12.62	19.31	1.97	0.0
Grand Mean						59.9	43.13	86.1	0.0
Bartlett's X2						6.625	6.848	2.094	0.0
P(Bartlett's X2)						0.578	0.553	0.911	.

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control in CLXL8

Trial ID: C04-21
Location: RRS-Crowley, LA

Weed Code						RICE	RICE
Rating Data Type						AVG HT	YIELD
Rating Unit						CM	LB/A
Rating Date						09/03/04	09/20/04
Trt-Eval Interval						91daEPOT	108daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE AVG HT	RICE YIELD
1	Nontreated						96	0
2	Newpath	2	AS	4	fl oz/a	DPRE	97	2178
2	Agridex		L	19.2	fl oz/a	DPRE		
2	Newpath	2	AS	4	fl oz/a	EPOT		
2	Agridex		L	19.2	fl oz/a	EPOT		
3	Newpath	2	AS	4	fl oz/a	DPRE	103	3357
3	Agridex		L	19.2	fl oz/a	DPRE		
3	Newpath	2	AS	4	fl oz/a	EPOT		
3	Aim	2	EC	1	fl oz/a	EPOT		
3	Ag-98		L	4.8	fl oz/a	EPOT		
4	Newpath	2	AS	4	fl oz/a	DPRE	87	3417
4	Agridex		L	19.2	fl oz/a	DPRE		
4	Newpath	2	AS	4	fl oz/a	EPOT		
4	Permit	75	WG	1	oz/a	EPOT		
4	Agridex		L	19.2	fl oz/a	EPOT		
5	Newpath	2	AS	4	fl oz/a	DPRE	100	3118
5	Agridex		L	19.2	fl oz/a	DPRE		
5	Newpath	2	AS	4	fl oz/a	EPOT		
5	Londax	60	WG	1	oz/a	EPOT		
5	Agridex		L	19.2	fl oz/a	EPOT		
6	Newpath	2	AS	4	fl oz/a	DPRE	102	4284
6	Agridex		L	19.2	fl oz/a	DPRE		
6	Newpath	2	AS	4	fl oz/a	EPOT		
6	Grandstand	3	SL	16	fl oz/a	EPOT		
6	Agridex		L	19.2	fl oz/a	EPOT		
7	Newpath	2	AS	4	fl oz/a	DPRE	100	5946
7	Agridex		L	19.2	fl oz/a	DPRE		
7	Newpath	2	AS	4	fl oz/a	EPOT		
7	Stam	4	EC	1	gal/a	EPOT		
8	Newpath	2	AS	4	fl oz/a	DPRE	100	4487
8	Agridex		L	19.2	fl oz/a	DPRE		
8	Newpath	2	AS	4	fl oz/a	EPOT		
8	Regiment	80	WP	0.4	oz/a	EPOT		
8	Kinetic		L	2.4	fl oz/a	EPOT		
9	Newpath	2	AS	4	fl oz/a	DPRE	103	4006
9	Agridex		L	19.2	fl oz/a	DPRE		
9	Newpath	2	AS	4	fl oz/a	EPOT		
9	Grasp	2	AS	1.98	fl oz/a	EPOT		
9	Agridex		L	19.2	fl oz/a	EPOT		

LSU AgCenter Rice Research Station
Newpath Tank Mix Partners for Broadleaf Weed Control in CLXL8

Trial ID: C04-21
Location: RRS-Crowley, LA

Weed Code						RICE	RICE
Rating Data Type						AVG HT	YIELD
Rating Unit						CM	LB/A
Rating Date						09/03/04	09/20/04
Trt-Eval Interval						91daEPOT	108daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
10	Newpath	2	AS	4	fl oz/a	DPRE	97	1854
10	Agridex		L	19.2	fl oz/a	DPRE		
10	No Newpath							

LSD (P=.05)	10.9	1063.4
Standard Deviation	7.5	731.5
CV	7.62	22.41
Grand Mean	98.37	3264.63
Bartlett's X2	16.36	5.268
P(Bartlett's X2)	0.06	0.729

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath in CLXL8

Experiment number .... :	**C04-22**		
Location....................................... :	RRS - Crowley, LA		
Experimental design .... :	RCB		
Number of reps .... :	4		
Plot size .... :	5' x 17'		
Row width/# per plot .... :	7.5"/9		
Soil type....................................... :	Crowley silt loam (3% sand, 69% silt, 28% clay)		
% OM .... :	1.4		
pH .... :	6.4		
CEC .... :	19.1		
Planting date .... :	05/11/04		
Harvest date .... :	09/20/04		
Crop/Variety .... :	Rice/CLXL 8		
Emergence date .... :	05/22/04		
Uniform std. treatment.................. :	N/A		
Application type .... :	DPRE	EPOT	POFL
Date applied [mm/dd/yy].............. :	05/18/04	06/03/04	06/21/04
Time [hh:mm-hh:mm] .... :	12:10-1:40p	10:07-10:33a	10:35-10:42a
Incorporation equip./Depth........... :	N/A	N/A	N/A
Air/Soil temperature [F] .... :	83/76	85/80	91/85
Relative humidity [%] .... :	72	73	64
Wind [mph, direction] .... :	2-6,SSW	3-6,SW	1-2,S
Weather [sunny, etc]..................... :	mc	pc	sunny
Soil/Leaf surface moist .... :	wet/wet	wet/dry	flood/dry
Crop stage/Height .... :	spike/0.1"	2-3lf/4-6"	2-3tiller/15-18"
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	18"/5/15"	17"/5/15"	30"/5/15"
GPA/PSI .... :	15/28	15/26	15/27
Applied by .... :	Leon	Zhang	Zhang
Weed Species (population) .... :	----------------------	(height/#leaves)	---------------------------
ORYSA (0-5 m^{-2}) .... :	0.1-0.5"/1lf	1-3"/2-3lf	12-20"/2-4tiller
ECHCG (125-150 m^{-2}) .... :	0.1"/1lf	1-6"/2lf-3tiller	5-15"/5tiller-heading
LEFPA (40-55 m^{-2})....................... :	0.1"/1lf	1-3"/2-3lf	7-14"/3tiller-heading
CYPIR (170-190 m^{-2}) .... :	0.1"/1lf	2-4"/2-5lf	5-9"/8-15lf
Flush Dates .... :	05/25/04; 06/01/04		
Permanent Flood........................... :	06/16/04		

Note: The DPRE broadcast treatment controlled ECHCG – 70%, LEFPA – 90%, and CYPIR – 95%.

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath in CLXL8

Trial ID: C04-22
Location: RRS-Crowley, LA

Weed Code							ECHCG	LEFPA	CYPIR	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							07/08/04	07/08/04	07/08/04	07/08/04
Trt-Eval Interval							35daEPOT	35daEPOT	35daEPOT	35daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Nontreated						0	0	0	0
2	Newpath	2	SL	4	fl oz/a	DPRE	71	64	97	0
2	Agridex		L	19.2	fl oz/a	DPRE				
2	Newpath	2	SL	4	fl oz/a	EPOT				
2	Agridex		L	19.2	fl oz/a	EPOT				
3	Newpath	2	SL	4	fl oz/a	DPRE	79	80	97	0
3	Agridex		L	19.2	fl oz/a	DPRE				
3	Newpath	2	SL	4	fl oz/a	EPOT				
3	Clincher	2.38	EC	13.5	fl oz/a	EPOT				
3	Agridex		L	19.2	fl oz/a	EPOT				
4	Newpath	2	SL	4	fl oz/a	DPRE	79	80	98	0
4	Agridex		L	19.2	fl oz/a	DPRE				
4	Newpath	2	SL	4	fl oz/a	EPOT				
4	Clincher	2.38	EC	15	fl oz/a	EPOT				
4	Agridex		L	19.2	fl oz/a	EPOT				
5	Newpath	2	SL	4	fl oz/a	DPRE	98	90	98	0
5	Agridex		L	19.2	fl oz/a	DPRE				
5	Newpath	2	SL	4	fl oz/a	EPOT				
5	Regiment	80	WP	0.4	oz/a	EPOT				
5	Kinetic		L	3.2	fl oz/a	EPOT				
6	Newpath	2	SL	4	fl oz/a	DPRE	61	68	97	0
6	Agridex		L	19.2	fl oz/a	DPRE				
6	Newpath	2	SL	4	fl oz/a	EPOT				
6	Ricestar HT	0.58	EC	13	fl oz/a	EPOT				
6	Agridex		L	19.2	fl oz/a	EPOT				
7	Newpath	2	SL	4	fl oz/a	DPRE	75	78	97	0
7	Agridex		L	19.2	fl oz/a	DPRE				
7	Newpath	2	SL	4	fl oz/a	EPOT				
7	Ricestar HT	0.58	EC	17	fl oz/a	EPOT				
7	Agridex		L	19.2	fl oz/a	EPOT				
8	Newpath	2	SL	4	fl oz/a	DPRE	94	88	98	0
8	Agridex		L	19.2	fl oz/a	DPRE				
8	Newpath	2	SL	4	fl oz/a	EPOT				
8	Agridex		L	19.2	fl oz/a	EPOT				
8	Beyond	1	SL	5	fl oz/a	POFL				
8	Clincher	2.38	EC	15	fl oz/a	POFL				
8	Agridex		L	19.2	fl oz/a	POFL				
9	Newpath	2	SL	4	fl oz/a	DPRE	95	78	98	0
9	Agridex		L	19.2	fl oz/a	DPRE				
9	Newpath	2	SL	4	fl oz/a	EPOT				
9	Agridex		L	19.2	fl oz/a	EPOT				
9	Regiment	80	WP	0.5	oz/a	POFL				
9	Beyond	1	SL	5	fl oz/a	POFL				
9	Kinetic		L	3.2	fl oz/a	POFL				

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath in CLXL8

Trial ID: C04-22
Location: RRS-Crowley, LA

Weed Code							ECHCG	LEFPA	CYPIR	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							07/08/04	07/08/04	07/08/04	07/08/04
Trt-Eval Interval							35daEPOT	35daEPOT	35daEPOT	35daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
10	Newpath	2	SL	4	fl oz/a	DPRE	80	76	97	0
10	Agridex		L	19.2	fl oz/a	DPRE				
10	Newpath	2	SL	4	fl oz/a	EPOT				
10	Agridex		L	19.2	fl oz/a	EPOT				
10	Beyond	1	SL	5	fl oz/a	POFL				
10	Ricestar HT	0.58	EC	17	fl oz/a	POFL				
10	Agridex		L	19.2	fl oz/a	POFL				
11	Newpath	2	SL	4	fl oz/a	DPRE	91	96	98	0
11	Agridex		L	19.2	fl oz/a	DPRE				
11	Newpath	2	SL	4	fl oz/a	EPOT				
11	Agridex		L	19.2	fl oz/a	EPOT				
11	Beyond	1	SL	5	fl oz/a	POFL				
11	Agridex		L	19.2	fl oz/a	POFL				
12	Newpath	2	SL	4	fl oz/a	DPRE	90	85	98	0
12	Agridex		L	19.2	fl oz/a	DPRE				
12	Newpath	2	SL	4	fl oz/a	EPOT				
12	Agridex		L	19.2	fl oz/a	EPOT				
12	Beyond	1	SL	5	fl oz/a	POFL				
12	Grasp	2	SC	1.98	fl oz/a	POFL				
12	Agridex		L	19.2	fl oz/a	POFL				
13	Newpath	2	SL	4	fl oz/a	DPRE	89	93	97	0
13	Agridex		L	19.2	fl oz/a	DPRE				
13	Newpath	2	SL	4	fl oz/a	EPOT				
13	Stam	4	EC	1	gal/a	EPOT				
LSD (P=.05)							11.0	12.6	1.6	0.0
Standard Deviation							7.7	8.8	1.1	0.0
CV							10.0	11.8	1.22	0.0
Grand Mean							77.04	74.92	90.0	0.0
Bartlett's X2							10.404	10.25	0.162	0.0
P(Bartlett's X2)							0.406	0.508	0.999	.

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath in CLXL8

Trial ID: C04-22
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG	LEFPA	AESIN	RICE
Weed Code							ECHCG	LEFPA	AESIN	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							08/05/04	08/05/04	08/05/04	08/05/04
Trt-Eval Interval							44daPOFL	44daPOFL	44daPOFL	44daPOFL
1	Nontreated						0	0	0	0
2	Newpath	2	SL	4	fl oz/a	DPRE	88	69	68	0
2	Agridex		L	19.2	fl oz/a	DPRE				
2	Newpath	2	SL	4	fl oz/a	EPOT				
2	Agridex		L	19.2	fl oz/a	EPOT				
3	Newpath	2	SL	4	fl oz/a	DPRE	90	48	65	0
3	Agridex		L	19.2	fl oz/a	DPRE				
3	Newpath	2	SL	4	fl oz/a	EPOT				
3	Clincher	2.38	EC	13.5	fl oz/a	EPOT				
3	Agridex		L	19.2	fl oz/a	EPOT				
4	Newpath	2	SL	4	fl oz/a	DPRE	86	70	64	0
4	Agridex		L	19.2	fl oz/a	DPRE				
4	Newpath	2	SL	4	fl oz/a	EPOT				
4	Clincher	2.38	EC	15	fl oz/a	EPOT				
4	Agridex		L	19.2	fl oz/a	EPOT				
5	Newpath	2	SL	4	fl oz/a	DPRE	90	73	89	0
5	Agridex		L	19.2	fl oz/a	DPRE				
5	Newpath	2	SL	4	fl oz/a	EPOT				
5	Regiment	80	WP	0.4	oz/a	EPOT				
5	Kinetic		L	3.2	fl oz/a	EPOT				
6	Newpath	2	SL	4	fl oz/a	DPRE	86	33	75	0
6	Agridex		L	19.2	fl oz/a	DPRE				
6	Newpath	2	SL	4	fl oz/a	EPOT				
6	Ricestar HT	0.58	EC	13	fl oz/a	EPOT				
6	Agridex		L	19.2	fl oz/a	EPOT				
7	Newpath	2	SL	4	fl oz/a	DPRE	89	55	54	0
7	Agridex		L	19.2	fl oz/a	DPRE				
7	Newpath	2	SL	4	fl oz/a	EPOT				
7	Ricestar HT	0.58	EC	17	fl oz/a	EPOT				
7	Agridex		L	19.2	fl oz/a	EPOT				
8	Newpath	2	SL	4	fl oz/a	DPRE	89	83	83	0
8	Agridex		L	19.2	fl oz/a	DPRE				
8	Newpath	2	SL	4	fl oz/a	EPOT				
8	Agridex		L	19.2	fl oz/a	EPOT				
8	Beyond	1	SL	5	fl oz/a	POFL				
8	Clincher	2.38	EC	15	fl oz/a	POFL				
8	Agridex		L	19.2	fl oz/a	POFL				
9	Newpath	2	SL	4	fl oz/a	DPRE	86	69	90	0
9	Agridex		L	19.2	fl oz/a	DPRE				
9	Newpath	2	SL	4	fl oz/a	EPOT				
9	Agridex		L	19.2	fl oz/a	EPOT				
9	Regiment	80	WP	0.5	oz/a	POFL				
9	Beyond	1	SL	5	fl oz/a	POFL				
9	Kinetic		L	3.2	fl oz/a	POFL				

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath in CLXL8

Trial ID: C04-22
Location: RRS-Crowley, LA

Weed Code							ECHCG	LEFPA	AESIN	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							08/05/04	08/05/04	08/05/04	08/05/04
Trt-Eval Interval							44daPOFL	44daPOFL	44daPOFL	44daPOFL
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
10	Newpath	2	SL	4	fl oz/a	DPRE	90	80	79	0
10	Agridex		L	19.2	fl oz/a	DPRE				
10	Newpath	2	SL	4	fl oz/a	EPOT				
10	Agridex		L	19.2	fl oz/a	EPOT				
10	Beyond	1	SL	5	fl oz/a	POFL				
10	Ricestar HT	0.58	EC	17	fl oz/a	POFL				
10	Agridex		L	19.2	fl oz/a	POFL				
11	Newpath	2	SL	4	fl oz/a	DPRE	84	51	65	0
11	Agridex		L	19.2	fl oz/a	DPRE				
11	Newpath	2	SL	4	fl oz/a	EPOT				
11	Agridex		L	19.2	fl oz/a	EPOT				
11	Beyond	1	SL	5	fl oz/a	POFL				
11	Agridex		L	19.2	fl oz/a	POFL				
12	Newpath	2	SL	4	fl oz/a	DPRE	89	70	90	0
12	Agridex		L	19.2	fl oz/a	DPRE				
12	Newpath	2	SL	4	fl oz/a	EPOT				
12	Agridex		L	19.2	fl oz/a	EPOT				
12	Beyond	1	SL	5	fl oz/a	POFL				
12	Grasp	2	SC	1.98	fl oz/a	POFL				
12	Agridex		L	19.2	fl oz/a	POFL				
13	Newpath	2	SL	4	fl oz/a	DPRE	90	80	90	0
13	Agridex		L	19.2	fl oz/a	DPRE				
13	Newpath	2	SL	4	fl oz/a	EPOT				
13	Stam	4	EC	1	gal/a	EPOT				
LSD (P=.05)							4.8	11.2	13.4	0.0
Standard Deviation							3.4	7.9	9.4	0.0
CV							4.13	13.11	13.42	0.0
Grand Mean							81.25	59.9	70.04	0.0
Bartlett's X2							6.324	4.722	13.824	0.0
P(Bartlett's X2)							0.502	0.944	0.086	.

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath in CLXL8

Trial ID: C04-22
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE AVG HT CM 09/03/04 73daPOFL	RICE YIELD LB/A 09/20/04 90daPOFL
1	Nontreated						95	1270
2	Newpath	2	SL	4	fl oz/a	DPRE	102	4785
2	Agridex		L	19.2	fl oz/a	DPRE		
2	Newpath	2	SL	4	fl oz/a	EPOT		
2	Agridex		L	19.2	fl oz/a	EPOT		
3	Newpath	2	SL	4	fl oz/a	DPRE	102	5405
3	Agridex		L	19.2	fl oz/a	DPRE		
3	Newpath	2	SL	4	fl oz/a	EPOT		
3	Clincher	2.38	EC	13.5	fl oz/a	EPOT		
3	Agridex		L	19.2	fl oz/a	EPOT		
4	Newpath	2	SL	4	fl oz/a	DPRE	100	4748
4	Agridex		L	19.2	fl oz/a	DPRE		
4	Newpath	2	SL	4	fl oz/a	EPOT		
4	Clincher	2.38	EC	15	fl oz/a	EPOT		
4	Agridex		L	19.2	fl oz/a	EPOT		
5	Newpath	2	SL	4	fl oz/a	DPRE	102	6001
5	Agridex		L	19.2	fl oz/a	DPRE		
5	Newpath	2	SL	4	fl oz/a	EPOT		
5	Regiment	80	WP	0.4	oz/a	EPOT		
5	Kinetic		L	3.2	fl oz/a	EPOT		
6	Newpath	2	SL	4	fl oz/a	DPRE	100	4748
6	Agridex		L	19.2	fl oz/a	DPRE		
6	Newpath	2	SL	4	fl oz/a	EPOT		
6	Ricestar HT	0.58	EC	13	fl oz/a	EPOT		
6	Agridex		L	19.2	fl oz/a	EPOT		
7	Newpath	2	SL	4	fl oz/a	DPRE	101	5021
7	Agridex		L	19.2	fl oz/a	DPRE		
7	Newpath	2	SL	4	fl oz/a	EPOT		
7	Ricestar HT	0.58	EC	17	fl oz/a	EPOT		
7	Agridex		L	19.2	fl oz/a	EPOT		
8	Newpath	2	SL	4	fl oz/a	DPRE	101	6195
8	Agridex		L	19.2	fl oz/a	DPRE		
8	Newpath	2	SL	4	fl oz/a	EPOT		
8	Agridex		L	19.2	fl oz/a	EPOT		
8	Beyond	1	SL	5	fl oz/a	POFL		
8	Clincher	2.38	EC	15	fl oz/a	POFL		
8	Agridex		L	19.2	fl oz/a	POFL		
9	Newpath	2	SL	4	fl oz/a	DPRE	103	5790
9	Agridex		L	19.2	fl oz/a	DPRE		
9	Newpath	2	SL	4	fl oz/a	EPOT		
9	Agridex		L	19.2	fl oz/a	EPOT		
9	Regiment	80	WP	0.5	oz/a	POFL		
9	Beyond	1	SL	5	fl oz/a	POFL		
9	Kinetic		L	3.2	fl oz/a	POFL		

LSU AgCenter Rice Research Station
Postemergence Tank Mix Partners for Newpath in CLXL8

Trial ID: C04-22
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE AVG HT CM 09/03/04 73daPOFL	RICE YIELD LB/A 09/20/04 90daPOFL
10	Newpath	2	SL	4	fl oz/a	DPRE	100	5546
10	Agridex		L	19.2	fl oz/a	DPRE		
10	Newpath	2	SL	4	fl oz/a	EPOT		
10	Agridex		L	19.2	fl oz/a	EPOT		
10	Beyond	1	SL	5	fl oz/a	POFL		
10	Ricestar HT	0.58	EC	17	fl oz/a	POFL		
10	Agridex		L	19.2	fl oz/a	POFL		
11	Newpath	2	SL	4	fl oz/a	DPRE	101	4410
11	Agridex		L	19.2	fl oz/a	DPRE		
11	Newpath	2	SL	4	fl oz/a	EPOT		
11	Agridex		L	19.2	fl oz/a	EPOT		
11	Beyond	1	SL	5	fl oz/a	POFL		
11	Agridex		L	19.2	fl oz/a	POFL		
12	Newpath	2	SL	4	fl oz/a	DPRE	100	5171
12	Agridex		L	19.2	fl oz/a	DPRE		
12	Newpath	2	SL	4	fl oz/a	EPOT		
12	Agridex		L	19.2	fl oz/a	EPOT		
12	Beyond	1	SL	5	fl oz/a	POFL		
12	Grasp	2	SC	1.98	fl oz/a	POFL		
12	Agridex		L	19.2	fl oz/a	POFL		
13	Newpath	2	SL	4	fl oz/a	DPRE	97	5070
13	Agridex		L	19.2	fl oz/a	DPRE		
13	Newpath	2	SL	4	fl oz/a	EPOT		
13	Stam	4	EC	1	gal/a	EPOT		

LSD (P=.05)	6.0	1383.6
Standard Deviation	4.2	968.2
CV	4.22	19.62
Grand Mean	100.18	4935.39
Bartlett's X2	5.718	15.7
P(Bartlett's X2)	0.93	0.205

LSU AgCenter Rice Research Station
Postemergence Command Combinations

Experiment number .... :	**C04-26**
Location.. :	RRS - Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/01/04
Harvest date .... :	08/10/04
Crop/Variety .... :	Rice/Cheniere
Emergence date .... :	04/23/04
Uniform std. treatment.................. :	N/A
Application type .... :	EPOT
Date applied [mm/dd/yy].............. :	04/29/04
Time [hh:mm-hh:mm] .... :	11:05-11:20a
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	78/74
Relative humidity [%] .... :	67
Wind [mph, direction] .... :	6-9,SSE
Weather [sunny, etc]..................... :	pc
Soil/Leaf surface moist .... :	wet/dry
Crop stage/Height .... :	1-3lf/2-4”
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD
Boom ht/# Noz/Spacing................ :	17”/5/15”
GPA/PSI .... :	15/29
Applied by .... :	Leon
Weed Species (population) .... :	-(height/#leaves)-
ECHCG (150-200 m^{-2}) .... :	0.5-3”/1-3lf
BRAPP (100-150 m^{-2}) .... :	0.5-2”/1-3lf
CYPES (15-20 m^{-2}) .... :	0.5-8”/2-6lf
CYPIR (100-150 m^{-2}) .... :	0.5-1”/1-3lf
LEFPA (25-50 m^{-2})....................... :	0.25-1”/1-2lf
ECLAL (5-15 m^{-2}) .... :	0.2-0.5”/1-4lf
COMDI (1-5 m^{-2}).......................... :	0.5-1”/1-2lf
Flush Dates .... :	04/05/04; 04/20/04; 05/11/04
Permanent Flood........................... :	05/25/04

LSU AgCenter Rice Research Station
Postemergence Command Combinations

Trial ID: C04-26
Location: RRS-Crowley, LA

							ECHCG	BRAPP	CYPIR	CYPES
Weed Code							ECHCG	BRAPP	CYPIR	CYPES
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%
Rating Date							06/02/04	06/02/04	06/02/04	06/02/04
Trt-Eval Interval							34daEPOT	34daEPOT	34daEPOT	34daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Command	3	ME	12.8	fl oz/a	EPOT	89	90	0	0
1	Ag-98		L	4.8	fl oz/a	EPOT				
2	Command	3	ME	12.8	fl oz/a	EPOT	78	75	0	0
2	Aim	2	EC	1.6	fl oz/a	EPOT				
2	Ag-98		L	4.8	fl oz/a	EPOT				
3	Command	3	ME	12.8	fl oz/a	EPOT	97	97	0	0
3	Facet	75	DF	8	oz/a	EPOT				
3	Ag-98		L	4.8	fl oz/a	EPOT				
4	Command	3	ME	12.8	fl oz/a	EPOT	98	96	0	0
4	Ricestar	0.58	EC	13	fl oz/a	EPOT				
4	Ag-98		L	4.8	fl oz/a	EPOT				
5	Command	3	ME	12.8	fl oz/a	EPOT	98	98	0	0
5	Clincher	2.38	EC	10	fl oz/a	EPOT				
5	Agridex		L	48	fl oz/a	EPOT				
6	Command	3	ME	12.8	fl oz/a	EPOT	56	69	80	46
6	Regiment	80	WP	0.397	oz/a	EPOT				
6	Kinetic		L	2.4	fl oz/a	EPOT				
7	Command	3	ME	12.8	fl oz/a	EPOT	98	97	54	20
7	Arrosolo	6	EC	2	qt/a	EPOT				
7	Ag-98		L	4.8	fl oz/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	EPOT	88	87	94	95
8	Permit	75	DG	1	oz/a	EPOT				
8	Ag-98		L	4.8	fl oz/a	EPOT				
9	Command	3	ME	12.8	fl oz/a	EPOT	93	93	83	76
9	Londax	60	DF	1	oz/a	EPOT				
9	Ag-98		L	4.8	fl oz/a	EPOT				
10	Command	3	ME	12.8	fl oz/a	EPOT	91	93	33	10
10	Stam	4	EC	3	qt/a	EPOT				
11	Nontreated						0	0	0	0
12	Command	3	ME	12.8	fl oz/a	EPOT	98	93	94	96
12	Grasp	2	SL	1.98	fl oz/a	EPOT				
12	Agridex		L	19.2	fl oz/a	EPOT				
LSD (P=.05)							7.9	7.1	10.5	6.4
Standard Deviation							5.5	4.9	7.3	4.4
CV							6.68	5.98	19.99	15.49
Grand Mean							81.9	82.31	36.35	28.56
Bartlett's X2							13.781	16.63	13.121	10.31
P(Bartlett's X2)							0.032*	0.034*	0.022*	0.067

LSU AgCenter Rice Research Station
Postemergence Command Combinations

Trial ID: C04-26
Location: RRS-Crowley, LA

Weed Code							ECLAL	ALRPH	SEBEX	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							06/02/04	06/02/04	06/02/04	06/02/04
Trt-Eval Interval							34daEPOT	34daEPOT	34daEPOT	34daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Command	3	ME	12.8	fl oz/a	EPOT	0	0	0	0
1	Ag-98		L	4.8	fl oz/a	EPOT				
2	Command	3	ME	12.8	fl oz/a	EPOT	91	15	98	0
2	Aim	2	EC	1.6	fl oz/a	EPOT				
2	Ag-98		L	4.8	fl oz/a	EPOT				
3	Command	3	ME	12.8	fl oz/a	EPOT	90	15	98	0
3	Facet	75	DF	8	oz/a	EPOT				
3	Ag-98		L	4.8	fl oz/a	EPOT				
4	Command	3	ME	12.8	fl oz/a	EPOT	0	0	0	0
4	Ricestar	0.58	EC	13	fl oz/a	EPOT				
4	Ag-98		L	4.8	fl oz/a	EPOT				
5	Command	3	ME	12.8	fl oz/a	EPOT	0	0	0	0
5	Clincher	2.38	EC	10	fl oz/a	EPOT				
5	Agridex		L	48	fl oz/a	EPOT				
6	Command	3	ME	12.8	fl oz/a	EPOT	95	49	96	0
6	Regiment	80	WP	0.397	oz/a	EPOT				
6	Kinetic		L	2.4	fl oz/a	EPOT				
7	Command	3	ME	12.8	fl oz/a	EPOT	95	16	98	0
7	Arrosolo	6	EC	2	qt/a	EPOT				
7	Ag-98		L	4.8	fl oz/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	EPOT	95	25	97	0
8	Permit	75	DG	1	oz/a	EPOT				
8	Ag-98		L	4.8	fl oz/a	EPOT				
9	Command	3	ME	12.8	fl oz/a	EPOT	93	26	97	0
9	Londax	60	DF	1	oz/a	EPOT				
9	Ag-98		L	4.8	fl oz/a	EPOT				
10	Command	3	ME	12.8	fl oz/a	EPOT	91	16	97	0
10	Stam	4	EC	3	qt/a	EPOT				
11	Nontreated						0	0	0	0
12	Command	3	ME	12.8	fl oz/a	EPOT	98	88	98	0
12	Grasp	2	SL	1.98	fl oz/a	EPOT				
12	Agridex		L	19.2	fl oz/a	EPOT				
LSD (P=.05)							4.4	14.3	1.9	0.0
Standard Deviation							3.1	9.9	1.3	0.0
CV							4.92	47.6	2.07	0.0
Grand Mean							62.25	20.83	64.92	0.0
Bartlett's X2							4.86	4.299	4.609	0.0
P(Bartlett's X2)							0.562	0.745	0.203	.

LSU AgCenter Rice Research Station
Postemergence Command Combinations

Trial ID: C04-26
Location: RRS-Crowley, LA

Weed Code						ECHCG	BRAPP	CYPIR	CYPES
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit						%	%	%	%
Rating Date						06/28/04	06/28/04	06/28/04	06/28/04
Trt-Eval Interval						60daEPOT	60daEPOT	60daEPOT	60daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg			
1	Command	3	ME	12.8	fl oz/a	EPOT	81	73	0	0
1	Ag-98		L	4.8	fl oz/a	EPOT				
2	Command	3	ME	12.8	fl oz/a	EPOT	48	44	0	0
2	Aim	2	EC	1.6	fl oz/a	EPOT				
2	Ag-98		L	4.8	fl oz/a	EPOT				
3	Command	3	ME	12.8	fl oz/a	EPOT	93	96	55	0
3	Facet	75	DF	8	oz/a	EPOT				
3	Ag-98		L	4.8	fl oz/a	EPOT				
4	Command	3	ME	12.8	fl oz/a	EPOT	94	97	0	0
4	Ricestar	0.58	EC	13	fl oz/a	EPOT				
4	Ag-98		L	4.8	fl oz/a	EPOT				
5	Command	3	ME	12.8	fl oz/a	EPOT	95	95	0	0
5	Clincher	2.38	EC	10	fl oz/a	EPOT				
5	Agridex		L	48	fl oz/a	EPOT				
6	Command	3	ME	12.8	fl oz/a	EPOT	50	38	76	30
6	Regiment	80	WP	0.397	oz/a	EPOT				
6	Kinetic		L	2.4	fl oz/a	EPOT				
7	Command	3	ME	12.8	fl oz/a	EPOT	89	94	63	0
7	Arrosolo	6	EC	2	qt/a	EPOT				
7	Ag-98		L	4.8	fl oz/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	EPOT	69	58	91	88
8	Permit	75	DG	1	oz/a	EPOT				
8	Ag-98		L	4.8	fl oz/a	EPOT				
9	Command	3	ME	12.8	fl oz/a	EPOT	74	70	90	50
9	Londax	60	DF	1	oz/a	EPOT				
9	Ag-98		L	4.8	fl oz/a	EPOT				
10	Command	3	ME	12.8	fl oz/a	EPOT	85	89	70	0
10	Stam	4	EC	3	qt/a	EPOT				
11	Nontreated						0	0	0	0
12	Command	3	ME	12.8	fl oz/a	EPOT	91	95	96	92
12	Grasp	2	SL	1.98	fl oz/a	EPOT				
12	Agridex		L	19.2	fl oz/a	EPOT				

	ECHCG	BRAPP	CYPIR	CYPES
LSD (P=.05)	10.3	10.3	8.0	7.0
Standard Deviation	7.1	7.2	5.6	4.9
CV	9.88	10.17	12.35	22.56
Grand Mean	72.21	70.42	45.06	21.63
Bartlett's X2	19.402	23.041	12.909	2.978
P(Bartlett's X2)	0.035*	0.011*	0.024*	0.226

LSU AgCenter Rice Research Station
Postemergence Comm-and Combinations

Trial ID: C04-26
Location: RRS-Crowley, LA

Weed Code							ECLAL	ALRPH	SEBEX	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							06/28/04	06/28/04	06/28/04	06/28/04
Trt-Eval Interval							60daEPOT	60daEPOT	60daEPOT	60daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Command	3	ME	12.8	fl oz/a	EPOT	0	10	15	0
1	Ag-98		L	4.8	fl oz/a	EPOT				
2	Command	3	ME	12.8	fl oz/a	EPOT	80	13	86	0
2	Aim	2	EC	1.6	fl oz/a	EPOT				
2	Ag-98		L	4.8	fl oz/a	EPOT				
3	Command	3	ME	12.8	fl oz/a	EPOT	95	56	95	0
3	Facet	75	DF	8	oz/a	EPOT				
3	Ag-98		L	4.8	fl oz/a	EPOT				
4	Command	3	ME	12.8	fl oz/a	EPOT	0	0	0	0
4	Ricestar	0.58	EC	13	fl oz/a	EPOT				
4	Ag-98		L	4.8	fl oz/a	EPOT				
5	Command	3	ME	12.8	fl oz/a	EPOT	0	0	0	0
5	Clincher	2.38	EC	10	fl oz/a	EPOT				
5	Agridex		L	48	fl oz/a	EPOT				
6	Command	3	ME	12.8	fl oz/a	EPOT	93	50	83	0
6	Regiment	80	WP	0.397	oz/a	EPOT				
6	Kinetic		L	2.4	fl oz/a	EPOT				
7	Command	3	ME	12.8	fl oz/a	EPOT	94	15	94	0
7	Arrosolo	6	EC	2	qt/a	EPOT				
7	Ag-98		L	4.8	fl oz/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	EPOT	95	43	95	0
8	Permit	75	DG	1	oz/a	EPOT				
8	Ag-98		L	4.8	fl oz/a	EPOT				
9	Command	3	ME	12.8	fl oz/a	EPOT	95	31	61	0
9	Londax	60	DF	1	oz/a	EPOT				
9	Ag-98		L	4.8	fl oz/a	EPOT				
10	Command	3	ME	12.8	fl oz/a	EPOT	88	10	89	0
10	Stam	4	EC	3	qt/a	EPOT				
11	Nontreated						0	0	0	0
12	Command	3	ME	12.8	fl oz/a	EPOT	97	83	68	0
12	Grasp	2	SL	1.98	fl oz/a	EPOT				
12	Agridex		L	19.2	fl oz/a	EPOT				
LSD (P=.05)							6.3	21.1	12.0	0.0
Standard Deviation							4.4	14.6	8.3	0.0
CV							7.13	56.65	14.61	0.0
Grand Mean							61.23	25.83	57.08	0.0
Bartlett's X2							14.493	9.069	8.334	0.0
P(Bartlett's X2)							0.013*	0.337	0.215	.

LSU AgCenter Rice Research Station
Postemergence Command Combinations

Trial ID: C04-26
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE AVG HT CM 08/09/04 102daEPOT	RICE YIELD LB/A 08/10/04 103daEPOT
1	Command	3	ME	12.8	fl oz/a	EPOT	83	2205
1	Ag-98		L	4.8	fl oz/a	EPOT		
2	Command	3	ME	12.8	fl oz/a	EPOT	83	3198
2	Aim	2	EC	1.6	fl oz/a	EPOT		
2	Ag-98		L	4.8	fl oz/a	EPOT		
3	Command	3	ME	12.8	fl oz/a	EPOT	87	5030
3	Facet	75	DF	8	oz/a	EPOT		
3	Ag-98		L	4.8	fl oz/a	EPOT		
4	Command	3	ME	12.8	fl oz/a	EPOT	85	3462
4	Ricestar	0.58	EC	13	fl oz/a	EPOT		
4	Ag-98		L	4.8	fl oz/a	EPOT		
5	Command	3	ME	12.8	fl oz/a	EPOT	83	3121
5	Clincher	2.38	EC	10	fl oz/a	EPOT		
5	Agridex		L	48	fl oz/a	EPOT		
6	Command	3	ME	12.8	fl oz/a	EPOT	87	3915
6	Regiment	80	WP	0.397	oz/a	EPOT		
6	Kinetic		L	2.4	fl oz/a	EPOT		
7	Command	3	ME	12.8	fl oz/a	EPOT	88	5028
7	Arrosolo	6	EC	2	qt/a	EPOT		
7	Ag-98		L	4.8	fl oz/a	EPOT		
8	Command	3	ME	12.8	fl oz/a	EPOT	85	4951
8	Permit	75	DG	1	oz/a	EPOT		
8	Ag-98		L	4.8	fl oz/a	EPOT		
9	Command	3	ME	12.8	fl oz/a	EPOT	91	5178
9	Londax	60	DF	1	oz/a	EPOT		
9	Ag-98		L	4.8	fl oz/a	EPOT		
10	Command	3	ME	12.8	fl oz/a	EPOT	88	4750
10	Stam	4	EC	3	qt/a	EPOT		
11	Nontreated						69	0
12	Command	3	ME	12.8	fl oz/a	EPOT	87	6544
12	Grasp	2	SL	1.98	fl oz/a	EPOT		
12	Agridex		L	19.2	fl oz/a	EPOT		

	RICE AVG HT	RICE YIELD
LSD (P=.05)	8.4	950.9
Standard Deviation	5.8	658.6
CV	6.9	16.68
Grand Mean	84.67	3948.44
Bartlett's X2	23.393	9.364
P(Bartlett's X2)	0.016*	0.498

LSU AgCenter Rice Research Station
Effect of Red Rice Competition on Four Rice Cultivars

Experiment number .... : **C04-30**
Location.. : RRS - Crowley, LA
Experimental design .... : RCB
Number of reps .... : 4
Plot size .... : 5’ x 17’
Row width/# per plot .... : Broadcast
Soil type.. : Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... : 1.4
pH .... : 6.4
CEC .... : 19.1
Planting date .... : 05/25/04
Harvest date .... : 09/20/04
Crop/Variety .... : Rice/CL 121; Cocodrie; Drew; Jasmine
Emergence date .... : 05/31/04
Uniform std. treatment.................. : 3 qt Arrosolo – 06/11/04;
17 fl oz Ricestar – 06/22/04

Flush Dates .... : 05/25/04; 06/01/04
Permanent Flood........................... : 06/16/04

LSU AgCenter Rice Research Station
Effect of Red Rice Competition on Four Rice Cultivars

Trial ID: C04-30
Location: RRS - Crowley, LA

Weed Code						RICE	RED RICE	RED RICE	RICE	RICE
Rating Data Type						AVG HT	-AWNAVGHT	AWNAVGHT	MOISTURE	YIELD
Rating Unit						CM	CM	CM	%	LB/A
Rating Date						09/03/04	09/03/04	09/03/04	09/20/04	09/20/04
Trt-Eval Interval						99DAP	99DAP	99DAP	116DAP	116DAP
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1 CL 121 1 97 rice/m2 (9/ft2) 1 No Red Rice						80			13	3348
2 CL 121 2 97 rice/m2 (9/ft2) 2 Red Rice @ 20/m2 (2/ft2)						80	114	127	11	2461
3 CL 121 3 194 rice/m2 (18/ft2) 3 No Red Rice						81			12	3753
4 CL 121 4 194 rice/m2 (18/ft2) 4 Red Rice @ 20/m2 (2/ft2)						83	121	126	12	2108
5 CL 121 5 219 rice/m2 (27/ft2) 5 No Red Rice						83			13	3487
6 CL 121 6 219 rice/m2 (27/ft2) 6 Red Rice @ 20/m2 (2/ft2)						85	114	120	14	2843
7 Cocodrie 7 97 rice/m2 (9/ft2) 7 No Red Rice						79			15	2093
8 Cocodrie 8 97 rice/m2 (9/ft2) 8 Red Rice @ 20/m2 (2/ft2)						79	120	126	15	2308
9 Cocodrie 9 194 rice/m2 (18/ft2) 9 No Red Rice						83			14	3528
10 Cocodrie 10 194 rice/m2 (18/ft2) 10 Red Rice @ 20/m2 (2/ft2)						80	118	121	14	2497
11 Cocodrie 11 219 rice/m2 (27/ft2) 11 No Red Rice						85			14	4642
12 Cocodrie 12 219 rice/m2 (27/ft2) 12 Red Rice @ 20/m2 (2/ft2)						83	115	123	14	2464
13 Drew 13 97 rice/m2 (9/ft2) 13 No Red Rice						98			15	2975

LSU AgCenter Rice Research Station
Effect of Red Rice Competition on Four Rice Cultivars

Trial ID: C04-30
Location: RRS - Crowley, LA

Weed Code						RICE	RED RICE	RED RICE	RICE	RICE
Rating Data Type						AVG HT	-AWN HT	AWN HT	MOISTURE	YIELD
Rating Unit						CM	CM	CM	%	LB/A
Rating Date						09/03/04	09/03/04	09/03/04	09/20/04	09/20/04
Trt-Eval Interval						99DAP	99DAP	99DAP	116DAP	116DAP
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit / Grow Stg					
14	Drew					98	128	138	13	2796
14	97 rice/m2 (9/ft2)									
14	Red Rice @ 20/m2 (2/ft2)									
15	Drew					100			14	4240
15	194 rice/m2 (18/ft2)									
15	No Red Rice									
16	Drew					98	122	123	14	3365
16	194 rice/m2 (18/ft2)									
16	Red Rice @ 20/m2 (2/ft2)									
17	Drew					101			15	4601
17	219 rice/m2 (27/ft2)									
17	No Red Rice									
18	Drew					101	123	131	14	3948
18	219 rice/m2 (27/ft2)									
18	Red Rice @ 20/m2 (2/ft2)									
19	Jasmine-85					101			19	6034
19	97 rice/m2 (9/ft2)									
19	No Red Rice									
20	Jasmine-85					98	124	125	20	4346
20	97 rice/m2 (9/ft2)									
20	Red Rice @ 20/m2 (2/ft2)									
21	Jasmine-85					101			19	6559
21	194 rice/m2 (18/ft2)									
21	No Red Rice									
22	Jasmine-85					92	115	121	19	5027
22	194 rice/m2 (18/ft2)									
22	Red Rice @ 20/m2 (2/ft2)									
23	Jasmine-85					97			20	6963
23	219 rice/m2 (27/ft2)									
23	No Red Rice									
24	Jasmine-85					98	119	130	19	6383
24	219 rice/m2 (27/ft2)									
24	Red Rice @ 20/m2 (2/ft2)									
LSD (P=.05)						5.5	7.9	9.5	2.4	914.4
Standard Deviation						3.3	4.7	5.6	1.5	554.1
CV						3.7	3.91	4.44	9.83	14.34
Grand Mean						90.07	119.31	125.9	15.06	3865.35
Bartlett's X2						27.193	11.609	23.428	31.299	27.573
P(Bartlett's X2)						0.248	0.394	0.015*	0.116	0.232

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Experiment number :	**C04-33**		
Location :	RRS - Crowley, LA		
Experimental design :	RCB		
Number of reps :	4		
Plot size :	5' x 17'		
Row width/# per plot :	Broadcast		
Soil type :	Crowley silt loam (3% sand, 69% silt, 28% clay)		
% OM :	1.4		
pH :	6.4		
CEC :	19.1		
Planting date :	04/06/04		
Harvest date :	08/09/04		
Crop/Variety :	Rice/Cheniere		
Emergence date :	04/18/04		
Uniform std. treatment :	N/A		
Application type :	PEG	EPOT	LPOT
Date applied [mm/dd/yy] :	04/23/04	04/29/04	05/20/04
Time [hh:mm-hh:mm] :	8:00-8:15a	10:15-10:40a	11:05-11:42a
Incorporation equip./Depth :	N/A	N/A	N/A
Air/Soil temperature [F] :	74/71	78/74	86/79
Relative humidity [%] :	93	69	60
Wind [mph, direction] :	6-9,S	6-9,S	3-5,S
Weather [sunny, etc] :	cloudy	mc	pc
Soil/Leaf surface moist :	wet/wet	wet/dry	flood/dry
Crop stage/Height :	Peg-2lf/0.5-1"	1-3lf/2-4"	3-4tiller/10-14"
Sprayer type/MPH :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size :	FF/110015 TD	FF/110015 TD	FF/110015 AM
Boom ht/# Noz/Spacing :	17"/5/15"	17"/5/15"	28"/5/15"
GPA/PSI :	15/29	15/29	15/26
Applied by :	Webster	Zhang	Webster
Weed Species (population) :	-------------------(height/#leaves)-----------------------		
ECHCG (125-150 m^{-2}) :	0.5-1"/1-2lf	1-3"/2-3lf	10-14"/2-4till
LEFPA (40-60 m^{-2}) :		0.5-2"/1-3lf	4-6"/4lf-2till
BRAPP (100-150 m^{-2}) :	0.5-1"/1-2lf	0.5-2"/1-3lf	8-10"/4lf-2tiller
CYPES (3-10 m^{-2}) :	3-5"/3-4lf	3-6"/4-6lf	8-10"/6-9lf
COMDI (5-10 m^{-2}) :	0.5-1"/1lf	1"/1-2lf	3-4"/2-3lf
AESIN (1-5 m^{-2}) :		1-2"/1-3lf	8-10"/8-10lf
ECLAL (10-20 m^{-2}) :		0.1-0.25"/1-4lf	4-6"/5-8lf
CYPIR (50-80 m^{-2}) :	0.25-0.5"/1-2lf	0.5-3"/1-3lf	10-15"/4-6lf
ALRPH (1-4 m^{-2}) :		1-4"/3-6lf	8-16"/10-12lf

Flush Dates : 04/06/04; 04/20/04
Permanent Flood : 05/06/04 – 4-5 leaf
05/06/04 – 2-3 leaf
04/20/04 - Pegging

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Weed Code							ECHCG	BRAPP	CYPIR	SEBEX
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%
Rating Date							06/14/04	06/14/04	06/14/04	06/14/04
Trt-Eval Interval							25daLPOT	25daLPOT	25daLPOT	25daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Nontreated						0	0	0	0
2	Grasp	2	SC	1.73	fl oz/a	PEG	96	97	96	97
2	Agridex		L	1	qt/a	PEG				
3	Grasp	2	SC	1.98	fl oz/a	PEG	96	96	96	96
3	Agridex		L	1	qt/a	PEG				
4	Grasp	2	SC	2.3	fl oz/a	PEG	97	97	98	97
4	Agridex		L	1	qt/a	PEG				
5	Grasp	2	SC	2.88	fl oz/a	PEG	96	96	96	96
5	Agridex		L	1	qt/a	PEG				
6	Grasp	2	SC	1.98	fl oz/a	PEG	96	96	96	96
6	Command	3	ME	12.8	fl oz/a	PEG				
6	Agridex		L	1	qt/a	PEG				
7	Grasp	2	SC	1.98	fl oz/a	EPOT	97	97	96	96
7	Clincher	2.38	EC	15	fl oz/a	EPOT				
7	Agridex		L	1	qt/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	PEG	97	97	96	96
8	Regiment	80	WP	0.4	oz/a	LPOT				
8	Kinetic		L	2.4	fl oz/a	LPOT				
9	Facet	75	WG	8	oz/a	EPOT	97	97	97	97
9	Londax	60	WG	1.01	oz/a	EPOT				
9	Agridex		L	1.2	pt/a	EPOT				
10	Nontreated						0	0	0	0
11	Command	3	ME	12.8	fl oz/a	PEG	97	97	97	97
11	Regiment	80	WP	0.4	oz/a	LPOT				
11	Kinetic		L	2.4	fl oz/a	LPOT				
12	Grasp	2	SC	1.73	fl oz/a	EPOT	98	98	98	97
12	Agridex		L	1	qt/a	EPOT				
13	Grasp	2	SC	1.98	fl oz/a	EPOT	98	98	98	97
13	Agridex		L	1	qt/a	EPOT				
14	Grasp	2	SC	2.3	fl oz/a	EPOT	98	97	97	96
14	Agridex		L	1	qt/a	EPOT				
15	Grasp	2	SC	2.88	fl oz/a	EPOT	98	98	98	97
15	Agridex		L	1	qt/a	EPOT				
16	Grasp	2	SC	1.98	fl oz/a	EPOT	98	98	98	97
16	Clincher	2.38	EC	15	fl oz/a	EPOT				
16	Agridex		L	1	qt/a	EPOT				

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Weed Code							ECHCG	BRAPP	CYPIR	SEBEX
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%
Rating Date							06/14/04	06/14/04	06/14/04	06/14/04
Trt-Eval Interval							25daLPOT	25daLPOT	25daLPOT	25daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
17	Facet	75	WG	8	oz/a	EPOT	98	98	98	97
17	Londax	60	WG	1.01	oz/a	EPOT				
17	Agridex		L	1.2	pt/a	EPOT				
18	Nontreated						0	0	0	0
19	Command	3	ME	12.8	fl oz/a	PEG	96	96	20	94
19	Regiment	80	WP	0.4	oz/a	LPOT				
19	Kinetic		L	2.4	fl oz/a	LPOT				
20	Grasp	2	SC	1.73	fl oz/a	LPOT	45	76	26	90
20	Agridex		L	1	qt/a	LPOT				
21	Grasp	2	SC	1.98	fl oz/a	LPOT	50	55	18	69
21	Agridex		L	1	qt/a	LPOT				
22	Grasp	2	SC	2.3	fl oz/a	LPOT	53	59	24	81
22	Agridex		L	1	qt/a	LPOT				
23	Grasp	2	SC	2.88	fl oz/a	LPOT	61	70	35	79
23	Agridex		L	1	qt/a	LPOT				
24	Command	3	ME	12.8	fl oz/a	PEG	96	96	58	94
24	Grasp	2	SC	1.98	fl oz/a	LPOT				
24	Clincher	2.38	EC	15	fl oz/a	LPOT				
24	Agridex		L	1	qt/a	LPOT				
25	Command	3	ME	12.8	fl oz/a	PEG	96	96	24	91
25	Grasp	2	SC	1.98	fl oz/a	LPOT				
25	Grandstand	3	AS	10.7	fl oz/a	LPOT				
25	Agridex		L	1	qt/a	LPOT				
26	Facet	75	WG	8	oz/a	EPOT	79	88	88	94
26	Londax	60	WG	1.01	oz/a	EPOT				
26	Agridex		L	1.2	pt/a	EPOT				
LSD (P=.05)							6.6	6.6	7.6	5.2
Standard Deviation							4.7	4.7	5.4	3.7
CV							6.01	5.8	8.06	4.49
Grand Mean							78.06	80.41	67.1	82.23
Bartlett's X2							111.344	125.261	123.77	86.49
P(Bartlett's X2)							0.001*	0.001*	0.001*	0.001*

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ALRPH CONTROL % 06/14/04 25daLPOT	COMDI CONTROL % 06/14/04 25daLPOT	HETLI CONTROL % 06/14/04 25daLPOT	RICE INJURY % 06/14/04 25daLPOT
1	Nontreated						0	0	0	0
2	Grasp	2	SC	1.73	fl oz/a	PEG	90	96	11	0
2	Agridex		L	1	qt/a	PEG				
3	Grasp	2	SC	1.98	fl oz/a	PEG	83	94	43	0
3	Agridex		L	1	qt/a	PEG				
4	Grasp	2	SC	2.3	fl oz/a	PEG	83	95	81	0
4	Agridex		L	1	qt/a	PEG				
5	Grasp	2	SC	2.88	fl oz/a	PEG	94	96	43	0
5	Agridex		L	1	qt/a	PEG				
6	Grasp	2	SC	1.98	fl oz/a	PEG	90	95	19	0
6	Command	3	ME	12.8	fl oz/a	PEG				
6	Agridex		L	1	qt/a	PEG				
7	Grasp	2	SC	1.98	fl oz/a	EPOT	95	96	24	0
7	Clincher	2.38	EC	15	fl oz/a	EPOT				
7	Agridex		L	1	qt/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	PEG	94	97	53	0
8	Regiment	80	WP	0.4	oz/a	LPOT				
8	Kinetic		L	2.4	fl oz/a	LPOT				
9	Facet	75	WG	8	oz/a	EPOT	93	98	69	0
9	Londax	60	WG	1.01	oz/a	EPOT				
9	Agridex		L	1.2	pt/a	EPOT				
10	Nontreated						0	0	0	0
11	Command	3	ME	12.8	fl oz/a	PEG	91	97	15	0
11	Regiment	80	WP	0.4	oz/a	LPOT				
11	Kinetic		L	2.4	fl oz/a	LPOT				
12	Grasp	2	SC	1.73	fl oz/a	EPOT	94	97	86	0
12	Agridex		L	1	qt/a	EPOT				
13	Grasp	2	SC	1.98	fl oz/a	EPOT	94	97	61	0
13	Agridex		L	1	qt/a	EPOT				
14	Grasp	2	SC	2.3	fl oz/a	EPOT	85	97	55	0
14	Agridex		L	1	qt/a	EPOT				
15	Grasp	2	SC	2.88	fl oz/a	EPOT	95	97	75	0
15	Agridex		L	1	qt/a	EPOT				
16	Grasp	2	SC	1.98	fl oz/a	EPOT	94	98	24	0
16	Clincher	2.38	EC	15	fl oz/a	EPOT				
16	Agridex		L	1	qt/a	EPOT				

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Weed Code							ALRPH	COMDI	HETLI	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							06/14/04	06/14/04	06/14/04	06/14/04
Trt-Eval Interval							25daLPOT	25daLPOT	25daLPOT	25daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
17	Facet	75	WG	8	oz/a	EPOT	63	97	70	0
17	Londax	60	WG	1.01	oz/a	EPOT				
17	Agridex		L	1.2	pt/a	EPOT				
18	Nontreated						0	0	0	0
19	Command	3	ME	12.8	fl oz/a	PEG	78	95	59	0
19	Regiment	80	WP	0.4	oz/a	LPOT				
19	Kinetic		L	2.4	fl oz/a	LPOT				
20	Grasp	2	SC	1.73	fl oz/a	LPOT	80	89	80	0
20	Agridex		L	1	qt/a	LPOT				
21	Grasp	2	SC	1.98	fl oz/a	LPOT	55	75	29	0
21	Agridex		L	1	qt/a	LPOT				
22	Grasp	2	SC	2.3	fl oz/a	LPOT	53	75	63	0
22	Agridex		L	1	qt/a	LPOT				
23	Grasp	2	SC	2.88	fl oz/a	LPOT	53	83	76	0
23	Agridex		L	1	qt/a	LPOT				
24	Command	3	ME	12.8	fl oz/a	PEG	45	96	24	0
24	Grasp	2	SC	1.98	fl oz/a	LPOT				
24	Clincher	2.38	EC	15	fl oz/a	LPOT				
24	Agridex		L	1	qt/a	LPOT				
25	Command	3	ME	12.8	fl oz/a	PEG	83	95	30	0
25	Grasp	2	SC	1.98	fl oz/a	LPOT				
25	Grandstand	3	AS	10.7	fl oz/a	LPOT				
25	Agridex		L	1	qt/a	LPOT				
26	Facet	75	WG	8	oz/a	EPOT	74	91	73	0
26	Londax	60	WG	1.01	oz/a	EPOT				
26	Agridex		L	1.2	pt/a	EPOT				
LSD (P=.05)							9.0	5.5	12.5	0.0
Standard Deviation							6.3	3.9	8.8	0.0
CV							8.9	4.73	19.78	0.0
Grand Mean							71.29	82.39	44.62	0.0
Bartlett's X2							32.569	66.058	15.168	0.0
P(Bartlett's X2)							0.038*	0.001*	0.855	.

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG	BRAPP	CYPIR	SEBEX
Weed Code							ECHCG	BRAPP	CYPIR	SEBEX
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%
Rating Date							07/28/04	07/28/04	07/28/04	07/28/04
Trt-Eval Interval							39daLPOT	39daLPOT	39daLPOT	39daLPOT
1	Nontreated						0	0	0	0
2	Grasp	2	SC	1.73	fl oz/a	PEG	98	98	98	97
2	Agridex		L	1	qt/a	PEG				
3	Grasp	2	SC	1.98	fl oz/a	PEG	95	95	96	95
3	Agridex		L	1	qt/a	PEG				
4	Grasp	2	SC	2.3	fl oz/a	PEG	97	98	98	97
4	Agridex		L	1	qt/a	PEG				
5	Grasp	2	SC	2.88	fl oz/a	PEG	97	97	97	96
5	Agridex		L	1	qt/a	PEG				
6	Grasp	2	SC	1.98	fl oz/a	PEG	97	97	96	95
6	Command	3	ME	12.8	fl oz/a	PEG				
6	Agridex		L	1	qt/a	PEG				
7	Grasp	2	SC	1.98	fl oz/a	EPOT	97	97	96	97
7	Clincher	2.38	EC	15	fl oz/a	EPOT				
7	Agridex		L	1	qt/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	PEG	97	97	97	96
8	Regiment	80	WP	0.4	oz/a	LPOT				
8	Kinetic		L	2.4	fl oz/a	LPOT				
9	Facet	75	WG	8	oz/a	EPOT	98	97	97	95
9	Londax	60	WG	1.01	oz/a	EPOT				
9	Agridex		L	1.2	pt/a	EPOT				
10	Nontreated						0	0	25	0
11	Command	3	ME	12.8	fl oz/a	PEG	98	98	98	98
11	Regiment	80	WP	0.4	oz/a	LPOT				
11	Kinetic		L	2.4	fl oz/a	LPOT				
12	Grasp	2	SC	1.73	fl oz/a	EPOT	98	98	98	97
12	Agridex		L	1	qt/a	EPOT				
13	Grasp	2	SC	1.98	fl oz/a	EPOT	97	97	97	97
13	Agridex		L	1	qt/a	EPOT				
14	Grasp	2	SC	2.3	fl oz/a	EPOT	97	97	97	97
14	Agridex		L	1	qt/a	EPOT				
15	Grasp	2	SC	2.88	fl oz/a	EPOT	98	98	98	97
15	Agridex		L	1	qt/a	EPOT				
16	Grasp	2	SC	1.98	fl oz/a	EPOT	98	98	98	97
16	Clincher	2.38	EC	15	fl oz/a	EPOT				
16	Agridex		L	1	qt/a	EPOT				

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Weed Code							ECHCG	BRAPP	CYPIR	SEBEX
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%
Rating Date							07/28/04	07/28/04	07/28/04	07/28/04
Trt-Eval Interval							39daLPOT	39daLPOT	39daLPOT	39daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
17	Facet	75	WG	8	oz/a	EPOT	98	98	98	97
17	Londax	60	WG	1.01	oz/a	EPOT				
17	Agridex		L	1.2	pt/a	EPOT				
18	Nontreated						0	0	0	0
19	Command	3	ME	12.8	fl oz/a	PEG	95	95	5	90
19	Regiment	80	WP	0.4	oz/a	LPOT				
19	Kinetic		L	2.4	fl oz/a	LPOT				
20	Grasp	2	SC	1.73	fl oz/a	LPOT	21	33	5	63
20	Agridex		L	1	qt/a	LPOT				
21	Grasp	2	SC	1.98	fl oz/a	LPOT	30	38	10	59
21	Agridex		L	1	qt/a	LPOT				
22	Grasp	2	SC	2.3	fl oz/a	LPOT	30	43	0	83
22	Agridex		L	1	qt/a	LPOT				
23	Grasp	2	SC	2.88	fl oz/a	LPOT	40	50	10	75
23	Agridex		L	1	qt/a	LPOT				
24	Command	3	ME	12.8	fl oz/a	PEG	93	96	18	92
24	Grasp	2	SC	1.98	fl oz/a	LPOT				
24	Clincher	2.38	EC	15	fl oz/a	LPOT				
24	Agridex		L	1	qt/a	LPOT				
25	Command	3	ME	12.8	fl oz/a	PEG	97	96	0	92
25	Grasp	2	SC	1.98	fl oz/a	LPOT				
25	Grandstand	3	AS	10.7	fl oz/a	LPOT				
25	Agridex		L	1	qt/a	LPOT				
26	Facet	75	WG	8	oz/a	EPOT	73	86	89	91
26	Londax	60	WG	1.01	oz/a	EPOT				
26	Agridex		L	1.2	pt/a	EPOT				
LSD (P=.05)							8.3	6.4	16.2	12.3
Standard Deviation							5.9	4.5	11.5	8.7
CV							7.89	5.89	18.39	10.79
Grand Mean							74.57	76.78	62.29	80.36
Bartlett's X2							74.744	66.014	116.434	119.683
P(Bartlett's X2)							0.001*	0.001*	0.001*	0.001*

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Weed Code							ALRPH	COMDI	HETLI	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%
Rating Date							07/28/04	07/28/04	07/28/04	07/28/04
Trt-Eval Interval							39daLPOT	39daLPOT	39daLPOT	39daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Nontreated						0	0		
2	Grasp	2	SC	1.73	fl oz/a	PEG	91	94	48	0
2	Agridex		L	1	qt/a	PEG				
3	Grasp	2	SC	1.98	fl oz/a	PEG	88	93	31	0
3	Agridex		L	1	qt/a	PEG				
4	Grasp	2	SC	2.3	fl oz/a	PEG	91	95	76	0
4	Agridex		L	1	qt/a	PEG				
5	Grasp	2	SC	2.88	fl oz/a	PEG	35	93	41	0
5	Agridex		L	1	qt/a	PEG				
6	Grasp	2	SC	1.98	fl oz/a	PEG	70	91	33	0
6	Command	3	ME	12.8	fl oz/a	PEG				
6	Agridex		L	1	qt/a	PEG				
7	Grasp	2	SC	1.98	fl oz/a	EPOT	89	94	68	0
7	Clincher	2.38	EC	15	fl oz/a	EPOT				
7	Agridex		L	1	qt/a	EPOT				
8	Command	3	ME	12.8	fl oz/a	PEG	66	93	13	0
8	Regiment	80	WP	0.4	oz/a	LPOT				
8	Kinetic		L	2.4	fl oz/a	LPOT				
9	Facet	75	WG	8	oz/a	EPOT	91	96	60	0
9	Londax	60	WG	1.01	oz/a	EPOT				
9	Agridex		L	1.2	pt/a	EPOT				
10	Nontreated						0	0		
11	Command	3	ME	12.8	fl oz/a	PEG	95	98	88	0
11	Regiment	80	WP	0.4	oz/a	LPOT				
11	Kinetic		L	2.4	fl oz/a	LPOT				
12	Grasp	2	SC	1.73	fl oz/a	EPOT	93	97	85	0
12	Agridex		L	1	qt/a	EPOT				
13	Grasp	2	SC	1.98	fl oz/a	EPOT	89	97	70	0
13	Agridex		L	1	qt/a	EPOT				
14	Grasp	2	SC	2.3	fl oz/a	EPOT	90	97	88	0
14	Agridex		L	1	qt/a	EPOT				
15	Grasp	2	SC	2.88	fl oz/a	EPOT	93	98	80	0
15	Agridex		L	1	qt/a	EPOT				
16	Grasp	2	SC	1.98	fl oz/a	EPOT	91	97	80	0
16	Clincher	2.38	EC	15	fl oz/a	EPOT				
16	Agridex		L	1	qt/a	EPOT				

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ALRPH	COMDI	HETLI	RICE
	Weed Code						ALRPH	COMDI	HETLI	RICE
	Rating Data Type						CONTROL	CONTROL	CONTROL	INJURY
	Rating Unit						%	%	%	%
	Rating Date						07/28/04	07/28/04	07/28/04	07/28/04
	Trt-Eval Interval						39daLPOT	39daLPOT	39daLPOT	39daLPOT
17	Facet	75	WG	8	oz/a	EPOT	61	97	73	0
17	Londax	60	WG	1.01	oz/a	EPOT				
17	Agridex		L	1.2	pt/a	EPOT				
18	Nontreated						0	0		
19	Command	3	ME	12.8	fl oz/a	PEG	68	85	15	0
19	Regiment	80	WP	0.4	oz/a	LPOT				
19	Kinetic		L	2.4	fl oz/a	LPOT				
20	Grasp	2	SC	1.73	fl oz/a	LPOT	24	70	7	0
20	Agridex		L	1	qt/a	LPOT				
21	Grasp	2	SC	1.98	fl oz/a	LPOT	63	78	16	0
21	Agridex		L	1	qt/a	LPOT				
22	Grasp	2	SC	2.3	fl oz/a	LPOT	73	80	24	0
22	Agridex		L	1	qt/a	LPOT				
23	Grasp	2	SC	2.88	fl oz/a	LPOT	55	83	30	0
23	Agridex		L	1	qt/a	LPOT				
24	Command	3	ME	12.8	fl oz/a	PEG	54	87	15	0
24	Grasp	2	SC	1.98	fl oz/a	LPOT				
24	Clincher	2.38	EC	15	fl oz/a	LPOT				
24	Agridex		L	1	qt/a	LPOT				
25	Command	3	ME	12.8	fl oz/a	PEG	78	83	73	0
25	Grasp	2	SC	1.98	fl oz/a	LPOT				
25	Grandstand	3	AS	10.7	fl oz/a	LPOT				
25	Agridex		L	1	qt/a	LPOT				
26	Facet	75	WG	8	oz/a	EPOT	80	90	0	0
26	Londax	60	WG	1.01	oz/a	EPOT				
26	Agridex		L	1.2	pt/a	EPOT				
	LSD (P=.05)						16.1	5.0	16.0	0.0
	Standard Deviation						11.4	3.5	11.3	0.0
	CV						17.21	4.4	23.35	0.0
	Grand Mean						66.35	80.07	48.31	0.0
	Bartlett's X2						57.402	34.156	23.616	0.0
	P(Bartlett's X2)						0.001*	0.012*	0.312	.

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/09/04	08/09/04
Trt-Eval Interval							51daLPOT	51daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Nontreated						81	4507
2	Grasp	2	SC	1.73	fl oz/a	PEG	85	5412
2	Agridex		L	1	qt/a	PEG		
3	Grasp	2	SC	1.98	fl oz/a	PEG	85	6448
3	Agridex		L	1	qt/a	PEG		
4	Grasp	2	SC	2.3	fl oz/a	PEG	82	5793
4	Agridex		L	1	qt/a	PEG		
5	Grasp	2	SC	2.88	fl oz/a	PEG	79	5794
5	Agridex		L	1	qt/a	PEG		
6	Grasp	2	SC	1.98	fl oz/a	PEG	82	5106
6	Command	3	ME	12.8	fl oz/a	PEG		
6	Agridex		L	1	qt/a	PEG		
7	Grasp	2	SC	1.98	fl oz/a	EPOT	86	5747
7	Clincher	2.38	EC	15	fl oz/a	EPOT		
7	Agridex		L	1	qt/a	EPOT		
8	Command	3	ME	12.8	fl oz/a	PEG	82	5641
8	Regiment	80	WP	0.4	oz/a	LPOT		
8	Kinetic		L	2.4	fl oz/a	LPOT		
9	Facet	75	WG	8	oz/a	EPOT	83	4532
9	Londax	60	WG	1.01	oz/a	EPOT		
9	Agridex		L	1.2	pt/a	EPOT		
10	Nontreated						83	5543
11	Command	3	ME	12.8	fl oz/a	PEG	84	6800
11	Regiment	80	WP	0.4	oz/a	LPOT		
11	Kinetic		L	2.4	fl oz/a	LPOT		
12	Grasp	2	SC	1.73	fl oz/a	EPOT	84	7279
12	Agridex		L	1	qt/a	EPOT		
13	Grasp	2	SC	1.98	fl oz/a	EPOT	83	6772
13	Agridex		L	1	qt/a	EPOT		
14	Grasp	2	SC	2.3	fl oz/a	EPOT	83	6494
14	Agridex		L	1	qt/a	EPOT		
15	Grasp	2	SC	2.88	fl oz/a	EPOT	83	6774
15	Agridex		L	1	qt/a	EPOT		
16	Grasp	2	SC	1.98	fl oz/a	EPOT	84	6121
16	Clincher	2.38	EC	15	fl oz/a	EPOT		
16	Agridex		L	1	qt/a	EPOT		

LSU AgCenter Rice Research Station
Grasp Application Timing and Water Management

Trial ID: C04-33
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/09/04	08/09/04
Trt-Eval Interval							51daLPOT	51daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
17	Facet	75	WG	8	oz/a	EPOT	82	6109
17	Londax	60	WG	1.01	oz/a	EPOT		
17	Agridex		L	1.2	pt/a	EPOT		
18	Nontreated						72	4119
19	Command	3	ME	12.8	fl oz/a	PEG	81	5091
19	Regiment	80	WP	0.4	oz/a	LPOT		
19	Kinetic		L	2.4	fl oz/a	LPOT		
20	Grasp	2	SC	1.73	fl oz/a	LPOT	75	3260
20	Agridex		L	1	qt/a	LPOT		
21	Grasp	2	SC	1.98	fl oz/a	LPOT	65	2419
21	Agridex		L	1	qt/a	LPOT		
22	Grasp	2	SC	2.3	fl oz/a	LPOT	75	2400
22	Agridex		L	1	qt/a	LPOT		
23	Grasp	2	SC	2.88	fl oz/a	LPOT	72	2646
23	Agridex		L	1	qt/a	LPOT		
24	Command	3	ME	12.8	fl oz/a	PEG	82	5149
24	Grasp	2	SC	1.98	fl oz/a	LPOT		
24	Clincher	2.38	EC	15	fl oz/a	LPOT		
24	Agridex		L	1	qt/a	LPOT		
25	Command	3	ME	12.8	fl oz/a	PEG	82	5153
25	Grasp	2	SC	1.98	fl oz/a	LPOT		
25	Grandstand	3	AS	10.7	fl oz/a	LPOT		
25	Agridex		L	1	qt/a	LPOT		
26	Facet	75	WG	8	oz/a	EPOT	81	4757
26	Londax	60	WG	1.01	oz/a	EPOT		
26	Agridex		L	1.2	pt/a	EPOT		
LSD (P=.05)							7.0	1233.2
Standard Deviation							4.9	872.0
CV							6.16	16.69
Grand Mean							80.39	5225.67
Bartlett's X2							80.932	58.771
P(Bartlett's X2)							0.001*	0.001*

LSU AgCenter Rice Research Station
Grasp and Command Impregnated on Urea in Water-Seeded Rice

Experiment number	:	**C04-34**
Location	:	RRS - Crowley, LA
Experimental design	:	RCB
Number of reps	:	4
Plot size	:	5’ x 17’
Row width/# per plot	:	Broadcast
Soil type	:	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM	:	1.4
pH	:	6.4
CEC	:	19.1
Planting date	:	04/06/04
Harvest date	:	08/09/04
Crop/Variety	:	Rice/Cheniere
Emergence date	:	04/20/04
Uniform std. treatment	:	N/A

Application type	:	PEG
Date applied [mm/dd/yy]	:	04/23/04
Time [hh:mm-hh:mm]	:	8:45-9:15a
Incorporation equip./Depth	:	N/A
Air/Soil temperature [F]	:	74/71
Relative humidity [%]	:	93
Wind [mph, direction]	:	6-9,S
Weather [sunny, etc]	:	cloudy
Soil/Leaf surface moist	:	wet/dry
Crop stage/Height	:	Pegging-2LF/0.5-1”
Sprayer type/MPH	:	Fertilizer
Nozzle type/Size	:	N/A
Boom ht/# Noz/Spacing	:	N/A
GPA/PSI	:	N/A
Applied by	:	Leon

Weed Species (population)	:	-(height/#leaves)-
ECHCG (150-200 m^{-2})	:	0.25-1”/1-2lf
BRAPP (150-200 m^{-2})	:	0.25-1”/1-2lf
COMDI (5-10 m^{-2})	:	0.25-1”/1-2lf
AESIN (5-10 m^{-2})	:	0.5-1”/1-2lf
CYPES (5-10 m^{-2})	:	0.2-4”/3-4lf
CYPIR (100-150 m^{-2})	:	0.25-0.5”/1-2lf

Flush Dates	:	04/06/04; 04/20/04
Permanent Flood	:	05/11/04

LSU AgCenter Rice Research Station
Grasp and Command Impregnated on Urea in Water-Seeded Rice

Trial ID: C04-34
Location: RRS-Crowley, LA

Weed Code						ECHCG	BRAPP	CYPIR	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%
Rating Date						05/17/04	05/17/04	05/17/04	05/17/04
Trt-Eval Interval						24daPEG	24daPEG	24daPEG	24daPEG
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1 Urea - 150 lb/A						0	0	0	0
1 Nontreated									
2 Urea - 150 lb/A						95	95	25	13
2 Command	3	ME	12.8	fl oz/a	PEG				
3 Urea - 150 lb/A						89	94	84	21
3 Command	3	ME	12.8	fl oz/a	PEG				
3 Londax	60	WG	1	oz/a	PEG				
4 Urea - 150 lb/A						85	93	93	19
4 Command	3	ME	12.8	fl oz/a	PEG				
4 Permit	75	WG	1	oz/a	PEG				
5 Urea - 150 lb/A						89	95	86	20
5 Grasp	2	SC	1.73	fl oz/a	PEG				
5 Command	3	ME	12.8	fl oz/a	PEG				
6 Urea - 150 lb/A						81	95	89	15
6 Grasp	2	SC	1.98	fl oz/a	PEG				
6 Command	3	ME	12.8	fl oz/a	PEG				
7 Urea - 150 lb/A						90	95	90	24
7 Grasp	2	SC	2.3	fl oz/a	PEG				
7 Command	3	ME	12.8	fl oz/a	PEG				
8 Urea - 150 lb/A						94	95	88	24
8 Grasp	2	SC	2.88	fl oz/a	PEG				
8 Command	3	ME	12.8	fl oz/a	PEG				
LSD (P=.05)						7.1	2.1	9.7	9.2
Standard Deviation						4.8	1.4	6.6	6.3
CV						6.17	1.7	9.54	37.14
Grand Mean						77.81	82.66	69.22	16.88
Bartlett's X2						3.902	0.061	3.473	5.416
P(Bartlett's X2)						0.419	0.806	0.747	0.492

LSU AgCenter Rice Research Station
Grasp and Command Impregnated on Urea in Water-Seeded Rice

Trial ID: C04-34
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG	BRAPP	CYPIR	RICE
	Weed Code						ECHCG	BRAPP	CYPIR	RICE
	Rating Data Type						CONTROL	CONTROL	CONTROL	INJURY
	Rating Unit						%	%	%	%
	Rating Date						06/14/04	06/14/04	06/14/04	06/14/04
	Trt-Eval Interval						52daPEG	52daPEG	52daPEG	52daPEG
1	Urea - 150 lb/A						0	0	0	0
1	Nontreated									
2	Urea - 150 lb/A						95	97	0	0
2	Command	3	ME	12.8	fl oz/a	PEG				
3	Urea - 150 lb/A						93	95	63	0
3	Command	3	ME	12.8	fl oz/a	PEG				
3	Londax	60	WG	1	oz/a	PEG				
4	Urea - 150 lb/A						93	97	90	0
4	Command	3	ME	12.8	fl oz/a	PEG				
4	Permit	75	WG	1	oz/a	PEG				
5	Urea - 150 lb/A						95	98	86	0
5	Grasp	2	SC	1.73	fl oz/a	PEG				
5	Command	3	ME	12.8	fl oz/a	PEG				
6	Urea - 150 lb/A						95	98	91	0
6	Grasp	2	SC	1.98	fl oz/a	PEG				
6	Command	3	ME	12.8	fl oz/a	PEG				
7	Urea - 150 lb/A						94	97	90	0
7	Grasp	2	SC	2.3	fl oz/a	PEG				
7	Command	3	ME	12.8	fl oz/a	PEG				
8	Urea - 150 lb/A						97	98	90	0
8	Grasp	2	SC	2.88	fl oz/a	PEG				
8	Command	3	ME	12.8	fl oz/a	PEG				
	LSD (P=.05)						5.4	3.9	8.3	0.0
	Standard Deviation						3.7	2.6	5.6	0.0
	CV						4.49	3.09	8.85	0.0
	Grand Mean						82.53	84.88	63.75	0.0
	Bartlett's X2						9.149	11.801	5.857	0.0
	P(Bartlett's X2)						0.165	0.038*	0.32	.

LSU AgCenter Rice Research Station
Grasp and Command Impregnated on Urea in Water-Seeded Rice

Trial ID: C04-34
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/09/04	08/09/04
Trt-Eval Interval							107daPEG	107daPEG
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Urea - 150 lb/A						86	4107
1	Nontreated							
2	Urea - 150 lb/A						92	5826
2	Command	3	ME	12.8	fl oz/a	PEG		
3	Urea - 150 lb/A						193	6747
3	Command	3	ME	12.8	fl oz/a	PEG		
3	Londax	60	WG	1	oz/a	PEG		
4	Urea - 150 lb/A						87	7289
4	Command	3	ME	12.8	fl oz/a	PEG		
4	Permit	75	WG	1	oz/a	PEG		
5	Urea - 150 lb/A						92	6397
5	Grasp	2	SC	1.73	fl oz/a	PEG		
5	Command	3	ME	12.8	fl oz/a	PEG		
6	Urea - 150 lb/A						92	7825
6	Grasp	2	SC	1.98	fl oz/a	PEG		
6	Command	3	ME	12.8	fl oz/a	PEG		
7	Urea - 150 lb/A						90	6684
7	Grasp	2	SC	2.3	fl oz/a	PEG		
7	Command	3	ME	12.8	fl oz/a	PEG		
8	Urea - 150 lb/A						91	7599
8	Grasp	2	SC	2.88	fl oz/a	PEG		
8	Command	3	ME	12.8	fl oz/a	PEG		
LSD (P=.05)							107.7	1574.6
Standard Deviation							73.2	1070.6
CV							71.3	16.32
Grand Mean							102.7	6559.21
Bartlett's X2							110.301	6.645
P(Bartlett's X2)							0.001*	0.467

LSU AgCenter Rice Research Station
Herbicides Impregnated With Command on Urea

Experiment number .... :	**C04-35**
Location.. :	RRS - Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5' x 17'
Row width/# per plot .... :	Broadcast
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/06/04
Harvest date .... :	08/09/04
Crop/Variety .... :	Rice/Cheniere
Emergence date .... :	04/20/04
Uniform std. treatment.................. :	N/A
Application type .... :	PEG
Date applied [mm/dd/yy].............. :	04/23/04
Time [hh:mm-hh:mm] .... :	8:45-9:15a
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	74/71
Relative humidity [%] .... :	90
Wind [mph, direction] .... :	6-9,S
Weather [sunny, etc]..................... :	cloudy
Soil/Leaf surface moist .... :	wet/dry
Crop stage/Height .... :	Pegging-2LF/0.5-1"
Sprayer type/MPH .... :	Fertilizer carrier
Nozzle type/Size .... :	N/A
Boom ht/# Noz/Spacing................ :	N/A
GPA/PSI .... :	N/A
Applied by .... :	EPW
Weed Species (population) .... :	-(height/#leaves)-
ECHCG (150-200 m^{-2}) .... :	0.25-1"/1-2lf
BRAPP (150-200 m^{-2}) .... :	0.25-1"/1-2lf
COMDI (5-10 m^{-2})........................ :	0.25-1"/1-2lf
AESIN (5-10 m^{-2}) .... :	0.5-1"/1-2lf
CYPES (5-10 m^{-2}) .... :	0.2-4"/3-4lf
CYPIR (100-150 m^{-2}) .... :	0.25-0.5"/1-2lf
Flush Dates .... :	04/06/04; 04/20/04
Permanent Flood........................... :	05/11/04

LSU AgCenter Rice Research Station
Herbicides Impregnated With Command on Urea

Trial ID: C04-35
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHCG	BRAPP	CYPIR	CYPES	RICE
	Weed Code						ECHCG	BRAPP	CYPIR	CYPES	RICE
	Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	INJURY
	Rating Unit						%	%	%	%	%
	Rating Date						05/17/04	05/17/04	05/17/04	05/17/04	05/17/04
	Trt-Eval Interval						24daPEG	24daPEG	24daPEG	24daPEG	24daPEG
1	Urea - 150 lb/A						0	0	0	0	0
1	No herbicide										
2	Urea - 150 lb/A						90	90	0	0	25
2	Command	3	ME	17	fl oz/a	PEG					
3	Urea - 150 lb/A						86	86	89	91	28
3	Command	3	ME	17	fl oz/a	PEG					
3	Permit	75	DF	1	oz/a	PEG					
4	Urea - 150 lb/A						84	85	83	79	21
4	Command	3	ME	17	fl oz/a	PEG					
4	Londax	60	DF	1	oz/a	PEG					
5	Urea - 150 lb/A						86	89	84	91	25
5	Command	3	ME	17	fl oz/a	PEG					
5	Londax	60	DF	1	oz/a	PEG					
5	Permit	75	DF	1	oz/a	PEG					
6	Urea - 150 lb/A						86	89	90	89	28
6	Command	3	ME	17	fl oz/a	PEG					
6	Londax	60	DF	0.67	oz/a	PEG					
6	Permit	75	DF	0.67	oz/a	PEG					
7	Urea - 150 lb/A						90	90	91	93	19
7	Command	3	ME	17	fl oz/a	PEG					
7	Londax	60	DF	0.5	oz/a	PEG					
7	Permit	75	DF	0.5	oz/a	PEG					
8	Urea - 150 lb/A						89	90	91	91	21
8	Command	3	ME	17	fl oz/a	PEG					
8	Grasp	2	SL	1.98	fl oz/a	PEG					
9	Urea - 150 lb/A						93	94	71	61	23
9	Command	3	ME	17	fl oz/a	PEG					
9	Regiment	80	WP	0.4	oz/a	PEG					
10	Urea - 150 lb/A						86	89	75	78	26
10	Command	3	ME	17	fl oz/a	PEG					
10	Callisto	4	SC	5	fl oz/a	PEG					
	LSD (P=.05)						7.1	6.9	10.1	10.4	11.1
	Standard Deviation						4.9	4.7	6.9	7.2	7.6
	CV						6.17	5.92	10.29	10.67	35.52
	Grand Mean						79.0	80.13	67.38	67.25	21.5
	Bartlett's X2						8.031	5.62	6.094	10.78	13.79
	P(Bartlett's X2)						0.33	0.585	0.529	0.148	0.087

LSU AgCenter Rice Research Station
Herbicides Impregnated With Command on Urea

Trial ID: C04-35
Location: RRS-Crowley, LA

Weed Code							ECHCG	BRAPP	CYPIR	CYPES	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%
Rating Date							06/14/04	06/14/04	06/14/04	06/14/04	06/14/04
Trt-Eval Interval							52daPEG	52daPEG	52daPEG	52daPEG	52daPEG
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1	Urea - 150 lb/A						0	0	0	0	0
1	No herbicide										
2	Urea - 150 lb/A						93	95	0	0	0
2	Command	3	ME	17	fl oz/a	PEG					
3	Urea - 150 lb/A						93	86	88	45	0
3	Command	3	ME	17	fl oz/a	PEG					
3	Permit	75	DF	1	oz/a	PEG					
4	Urea - 150 lb/A						95	94	71	33	0
4	Command	3	ME	17	fl oz/a	PEG					
4	Londax	60	DF	1	oz/a	PEG					
5	Urea - 150 lb/A						95	98	95	73	0
5	Command	3	ME	17	fl oz/a	PEG					
5	Londax	60	DF	1	oz/a	PEG					
5	Permit	75	DF	1	oz/a	PEG					
6	Urea - 150 lb/A						90	96	89	60	0
6	Command	3	ME	17	fl oz/a	PEG					
6	Londax	60	DF	0.67	oz/a	PEG					
6	Permit	75	DF	0.67	oz/a	PEG					
7	Urea - 150 lb/A						94	93	90	49	0
7	Command	3	ME	17	fl oz/a	PEG					
7	Londax	60	DF	0.5	oz/a	PEG					
7	Permit	75	DF	0.5	oz/a	PEG					
8	Urea - 150 lb/A						98	95	88	63	0
8	Command	3	ME	17	fl oz/a	PEG					
8	Grasp	2	SL	1.98	fl oz/a	PEG					
9	Urea - 150 lb/A						94	96	48	0	0
9	Command	3	ME	17	fl oz/a	PEG					
9	Regiment	80	WP	0.4	oz/a	PEG					
10	Urea - 150 lb/A						94	97	69	25	0
10	Command	3	ME	17	fl oz/a	PEG					
10	Callisto	4	SC	5	fl oz/a	PEG					
LSD (P=.05)							4.4	5.3	7.8	12.8	0.0
Standard Deviation							3.0	3.7	5.4	8.8	0.0
CV							3.57	4.32	8.47	25.39	0.0
Grand Mean							84.45	84.88	63.63	34.63	0.0
Bartlett's X2							3.624	18.622	1.588	5.373	0.0
P(Bartlett's X2)							0.889	0.017*	0.953	0.497	.

LSU AgCenter Rice Research Station
Herbicides Impregnated With Command on Urea

Trial ID: C04-35
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/09/04	08/09/04
Trt-Eval Interval							107daPEG	107daPEG
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Urea - 150 lb/A						79	2580
1	No herbicide							
2	Urea - 150 lb/A						89	4777
2	Command	3	ME	17	fl oz/a	PEG		
3	Urea - 150 lb/A						90	6807
3	Command	3	ME	17	fl oz/a	PEG		
3	Permit	75	DF	1	oz/a	PEG		
4	Urea - 150 lb/A						91	7211
4	Command	3	ME	17	fl oz/a	PEG		
4	Londax	60	DF	1	oz/a	PEG		
5	Urea - 150 lb/A						88	7620
5	Command	3	ME	17	fl oz/a	PEG		
5	Londax	60	DF	1	oz/a	PEG		
5	Permit	75	DF	1	oz/a	PEG		
6	Urea - 150 lb/A						88	6016
6	Command	3	ME	17	fl oz/a	PEG		
6	Londax	60	DF	0.67	oz/a	PEG		
6	Permit	75	DF	0.67	oz/a	PEG		
7	Urea - 150 lb/A						91	7127
7	Command	3	ME	17	fl oz/a	PEG		
7	Londax	60	DF	0.5	oz/a	PEG		
7	Permit	75	DF	0.5	oz/a	PEG		
8	Urea - 150 lb/A						89	8407
8	Command	3	ME	17	fl oz/a	PEG		
8	Grasp	2	SL	1.98	fl oz/a	PEG		
9	Urea - 150 lb/A						87	5526
9	Command	3	ME	17	fl oz/a	PEG		
9	Regiment	80	WP	0.4	oz/a	PEG		
10	Urea - 150 lb/A						90	6460
10	Command	3	ME	17	fl oz/a	PEG		
10	Callisto	4	SC	5	fl oz/a	PEG		
LSD (P=.05)							6.1	1321.0
Standard Deviation							4.2	908.7
CV							4.74	14.53
Grand Mean							88.09	6253.19
Bartlett's X2							10.167	7.325
P(Bartlett's X2)							0.337	0.603

LSU AgCenter Rice Research Station
Herbicide Programs for Brook Paspalum Control

Experiment number .... :	**C04-55**
Location.. :	RRS-Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/22/04
Harvest date .... :	08/16/04
Crop/Variety .... :	Rice/CL 161
Emergence date .... :	04/27/04
Uniform std. treatment.................. :	N/A

Application type .... :	PRE	VEPOT	EPOT	MPOT
Date applied [mm/dd/yy]............. :	04/28/04	05/10/04	05/18/04	05/25/04
Time [hh:mm-hh:mm] .... :	9:30-10:30a	9:45-10:15a	11:40-11:50a	10:30-11:00a
Incorporation equip./Depth........... :	N/A	N/A	N/A	N/A
Air/Soil temperature [F] .... :	80/81	82/83	83/82	85/85
Relative humidity [%] .... :	52	60	52	40
Wind [mph, direction] .... :	3-6,S	3-7,S	4-5,S	5-7,S
Weather [sunny, etc]..................... :	cloudy	cloudy	cloudy	cloudy
Soil/Leaf surface moist .... :	moist/dry	moist/dry	wet/dry	moist/dry
Crop stage/Height .... :	N/A	1-2lf/2”	3-4lf/4-6”	4lf-1tiller/6-9”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	15”/5/15”	15”/5/15”	15”/5/15”	17”/5/15”
GPA/PSI .... :	15/28	15/30	15/30	15/27
Applied by .... :	Griffin	Griffin	Griffin	Griffin

Weed Species (population)........... :	----------------------------(height/#leaves)--------------------------------			
Brook paspalum (10-20 m^{-2})......... :		1-4”/2-4lf	3-18”/trailing	6-20”/trailing

LSU AgCenter Rice Research Station
Herbicide Programs for Brook Paspalum Control

Experiment number .... :	**C04-55**
Location.. :	RRS-Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/22/04
Harvest date .... :	08/16/04
Crop/Variety .... :	Rice/CL 161
Emergence date .... :	04/27/04
Uniform std. treatment.................. :	N/A
Application type .... :	LPOT
Date applied [mm/dd/yy].............. :	05/31/04
Time [hh:mm-hh:mm] .... :	10:07-10:38a
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	88/82
Relative humidity [%] .... :	72
Wind [mph, direction] .... :	6-10,SSW
Weather [sunny, etc]..................... :	pc
Soil/Leaf surface moist................. :	dry/dry
Crop stage/Height......................... :	2tiller/7-11”
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size........................... :	FF/110015 TD
Boom ht/# Noz/Spacing................ :	16”/5/15”
GPA/PSI .... :	15/27
Applied by .... :	Griffin
Weed Species (population)........... :	-(height/#leaves)-
Brook paspalum (10-20 m^{-2})......... :	6-20”/trailing

LSU AgCenter Rice Research Station
Herbicide Programs for Brook Paspalum Control

Trial ID: C04-55
Location: RRS-Crowley, LA

						BROOK	ECHCG	ORYSA	LEFPA	RICE
Weed Code										
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%	%
Rating Date						07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval						49daLPOT	49daLPOT	49daLPOT	49daLPOT	49daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Command	3	ME	17	oz/a	PRE	50	90	90	90	0
1	Clincher	2.38	EC	10	oz/a	EPOST					
1	COC		L	48	oz/a	EPOST					
1	Clincher	2.38	EC	15	oz/a	LPOST					
1	COC		L	48	oz/a	LPOST					
2	Clincher	2.38	EC	10	oz/a	EPOST	45	90	86	90	0
2	COC		L	48	oz/a	EPOST					
2	Clincher	2.38	EC	15	oz/a	LPOST					
2	COC		L	48	oz/a	LPOST					
3	Command	3	ME	17	oz/a	PRE	50	90	85	90	0
3	Regiment	80	WP	0.397	oz/a	EPOST					
3	Kinetic		L	2.4	oz/a	EPOST					
3	Regiment	80	WP	0.397	oz/a	LPOST					
3	Kinetic		L	2.4	oz/a	LPOST					
4	Regiment	80	WP	0.397	oz/a	EPOST	25	90	65	23	0
4	Kinetic		L	2.4	oz/a	EPOST					
4	Regiment	80	WP	0.397	oz/a	LPOST					
4	Kinetic		L	2.4	oz/a	LPOST					
5	Command	3	ME	17	oz/a	PRE	30	90	78	90	0
5	Ricestar HT	0.58	EC	13	oz/a	EPOST					
5	Ricestar HT	0.58	EC	17	oz/a	LPOST					
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	20	90	90	88	0
6	Ricestar HT	0.58	EC	17	oz/a	LPOST					
7	Command	3	ME	17	oz/a	PRE	45	90	90	90	0
7	NewPath	2	AS	4.03	oz/a	VEPOST					
7	Ag-98		L	4.8	oz/a	VEPOST					
7	NewPath	2	AS	4.03	oz/a	MPOST					
7	Ag-98		L	4.8	oz/a	MPOST					
8	NewPath	2	AS	4.03	oz/a	VEPOST	50	90	90	89	0
8	Ag-98		L	4.8	oz/a	VEPOST					
8	NewPath	2	AS	4.03	oz/a	MPOST					
8	Ag-98		L	4.8	oz/a	MPOST					
9	Command	3	ME	17	oz/a	PRE	35	90	80	85	0
9	Grasp	2	SC	2.88	oz/a	MPOST					
9	COC		L	48	oz/a	MPOST					

LSU AgCenter Rice Research Station
Herbicide Programs for Brook Paspalum Control

Trial ID: C04-55
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	BROOK	ECHCG	ORYSA	LEFPA	RICE
	Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	INJURY
	Rating Unit						%	%	%	%	%
	Rating Date						07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
	Trt-Eval Interval						49daLPOT	49daLPOT	49daLPOT	49daLPOT	49daLPOT
10	Grasp	2	SC	2.88	oz/a	MPOST	33	89	63	18	0
10	COC		L	48	oz/a	MPOST					
11	Nontreated						0	0	0	0	0
	LSD (P=.05)						8.9	1.1	17.1	6.7	0.0
	Standard Deviation						6.2	0.8	11.9	4.7	0.0
	CV						17.73	0.92	15.99	6.82	0.0
	Grand Mean						34.77	81.7	74.2	68.3	0.0
	Bartlett's X2						2.33	0.0	7.108	7.659	0.0
	P(Bartlett's X2)						0.939	.	0.213	0.105	.

LSU AgCenter Rice Research Station
Herbicide Programs for Brook Paspalum Control

Trial ID: C04-55
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/16/04	08/16/04
Trt-Eval Interval							75daLPOT	75daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Command	3	ME	17	oz/a	PRE	94	4618
1	Clincher	2.38	EC	10	oz/a	EPOST		
1	COC		L	48	oz/a	EPOST		
1	Clincher	2.38	EC	15	oz/a	LPOST		
1	COC		L	48	oz/a	LPOST		
2	Clincher	2.38	EC	10	oz/a	EPOST	91	5701
2	COC		L	48	oz/a	EPOST		
2	Clincher	2.38	EC	15	oz/a	LPOST		
2	COC		L	48	oz/a	LPOST		
3	Command	3	ME	17	oz/a	PRE	93	4912
3	Regiment	80	WP	0.397	oz/a	EPOST		
3	Kinetic		L	2.4	oz/a	EPOST		
3	Regiment	80	WP	0.397	oz/a	LPOST		
3	Kinetic		L	2.4	oz/a	LPOST		
4	Regiment	80	WP	0.397	oz/a	EPOST	89	4454
4	Kinetic		L	2.4	oz/a	EPOST		
4	Regiment	80	WP	0.397	oz/a	LPOST		
4	Kinetic		L	2.4	oz/a	LPOST		
5	Command	3	ME	17	oz/a	PRE	93	5024
5	Ricestar HT	0.58	EC	13	oz/a	EPOST		
5	Ricestar HT	0.58	EC	17	oz/a	LPOST		
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	91	5343
6	Ricestar HT	0.58	EC	17	oz/a	LPOST		
7	Command	3	ME	17	oz/a	PRE	91	5120
7	NewPath	2	AS	4.03	oz/a	VEPOST		
7	Ag-98		L	4.8	oz/a	VEPOST		
7	NewPath	2	AS	4.03	oz/a	MPOST		
7	Ag-98		L	4.8	oz/a	MPOST		
8	NewPath	2	AS	4.03	oz/a	VEPOST	95	5402
8	Ag-98		L	4.8	oz/a	VEPOST		
8	NewPath	2	AS	4.03	oz/a	MPOST		
8	Ag-98		L	4.8	oz/a	MPOST		
9	Command	3	ME	17	oz/a	PRE	91	5126
9	Grasp	2	SC	2.88	oz/a	MPOST		
9	COC		L	48	oz/a	MPOST		

LSU AgCenter Rice Research Station
Herbicide Programs for Brook Paspalum Control

Trial ID: C04-55
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE	RICE
Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/16/04	08/16/04
Trt-Eval Interval							75daLPOT	75daLPOT
10	Grasp	2	SC	2.88	oz/a	MPOST	86	3143
10	COC		L	48	oz/a	MPOST		
11	Nontreated						73	2232
LSD (P=.05)							4.6	1342.3
Standard Deviation							3.2	929.6
CV							3.52	20.02
Grand Mean							89.65	4643.17
Bartlett's X2							8.954	11.44
P(Bartlett's X2)							0.536	0.324

LSU AgCenter Rice Research Station
Herbicide Programs for Knotgrass Control

Experiment number .... :	**C04-58**			
Location.. :	RRS-Crowley, LA			
Experimental design .... :	RCB			
Number of reps .... :	4			
Plot size .... :	5' x 17'			
Row width/# per plot .... :	7.5"/8			
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)			
% OM .... :	1.4			
pH .... :	6.4			
CEC .... :	19.1			
Planting date .... :	04/22/04			
Harvest date .... :	08/16/04			
Variety .... :	Rice/CL 161			
Emergence date .... :	04/27/04			
Uniform std. treatment.................. :	N/A			
Application type .... :	PRE	VEPOT	EPOT	MPOT
Date applied [mm/dd/yy].............. :	04/28/04	05/10/04	05/18/04	05/25/04
Time [hh:mm-hh:mm] .... :	9:30-10:30a	9:45-10:15a	11:40-11:50a	10:30-11:00a
Incorporation equip./Depth........... :	N/A	N/A	N/A	N/A
Air/Soil temperature [F] .... :	80/81	82/83	83/82	85/85
Relative humidity [%] .... :	52	60	52	40
Wind [mph, direction] .... :	3-6,S	3-7,S	4-5,S	5-7,S
Weather [sunny, etc]..................... :	cloudy	cloudy	cloudy	cloudy
Soil/Leaf surface moist .... :	moist/dry	moist/dry	wet/dry	moist/dry
Crop stage/Height .... :	N/A	1-2lf/2"	3-4lf/4-6"	4lf-1tiller/6-9"
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	15"/5/15"	15"/5/15"	15"/5/15"	17"/5/15"
GPA/PSI .... :	15/28	15/30	15/30	15/27
Applied by .... :	Griffin	Griffin	Griffin	Griffin
Weed Species (population) .... :	------------------------------(height/#leaves)--------------------------------			
PASDS (10-20 m^{-2}) .... :		1-4"/2-4lf	3-18"/trailing	6-20"/trailing

LSU AgCenter Rice Research Station
Herbicide Programs for Knotgrass Control

Experiment number .... :	**C04-58**
Location.. :	RRS-Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/22/04
Harvest date .... :	08/16/04
Crop/Variety .... :	Rice/CL 161
Emergence date .... :	04/27/04
Uniform std. treatment.................. :	N/A

Application type .... :	LPOT
Date applied [mm/dd/yy].............. :	05/31/04
Time [hh:mm-hh:mm] .... :	10:07-10:38a
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	88/82
Relative humidity [%] .... :	72
Wind [mph, direction] .... :	6-10,SSW
Weather [sunny, etc]..................... :	pc
Soil/Leaf surface moist................. :	dry/dry
Crop stage/Height......................... :	2tiller/7-11”
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD
Boom ht/# Noz/Spacing................ :	16”/5/15”
GPA/PSI .... :	15/27
Applied by .... :	Griffin

Weed Species (population)........... :	-(height/#leaves)-
PASDS (10-20 m^{-2}) .... :	6-20”/trailing

LSU AgCenter Rice Research Station
Herbicide Programs for Knotgrass Control

Trial ID: C04-58
Location: RRS-Crowley, LA

Weed Code						PASDS	ECHCG	ORYSA	LEFPA	RICE
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit						%	%	%	%	%
Rating Date						07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval						49daLPOT	49daLPOT	49daLPOT	49daLPOT	49daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg				
1	Command	3	ME	17	oz/a	PRE	89	91	58	91	0
1	Clincher	2.38	EC	10	oz/a	EPOST					
1	COC		L	48	oz/a	EPOST					
1	Clincher	2.38	EC	15	oz/a	LPOST					
1	COC		L	48	oz/a	LPOST					
2	Clincher	2.38	EC	10	oz/a	EPOST	88	91	50	91	0
2	COC		L	48	oz/a	EPOST					
2	Clincher	2.38	EC	15	oz/a	LPOST					
2	COC		L	48	oz/a	LPOST					
3	Command	3	ME	17	oz/a	PRE	76	89	60	90	0
3	Regiment	80	WP	0.397	oz/a	EPOST					
3	Kinetic		L	2.4	oz/a	EPOST					
3	Regiment	80	WP	0.397	oz/a	LPOST					
3	Kinetic		L	2.4	oz/a	LPOST					
4	Regiment	80	WP	0.397	oz/a	EPOST	30	90	73	13	0
4	Kinetic		L	2.4	oz/a	EPOST					
4	Regiment	80	WP	0.397	oz/a	LPOST					
4	Kinetic		L	2.4	oz/a	LPOST					
5	Command	3	ME	17	oz/a	PRE	65	90	60	90	0
5	Ricestar HT	0.58	EC	13	oz/a	EPOST					
5	Ricestar HT	0.58	EC	17	oz/a	LPOST					
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	30	88	63	85	0
6	Ricestar HT	0.58	EC	17	oz/a	LPOST					
7	Command	3	ME	17	oz/a	PRE	93	93	93	93	0
7	NewPath	2	AS	4.03	oz/a	VEPOST					
7	Ag-98		L	4.8	oz/a	VEPOST					
7	NewPath	2	AS	4.03	oz/a	MPOST					
7	Ag-98		L	4.8	oz/a	MPOST					
8	NewPath	2	AS	4.03	oz/a	VEPOST	90	91	91	85	0
8	Ag-98		L	4.8	oz/a	VEPOST					
8	NewPath	2	AS	4.03	oz/a	MPOST					
8	Ag-98		L	4.8	oz/a	MPOST					
9	Command	3	ME	17	oz/a	PRE	70	90	50	70	0
9	Grasp	2	SC	2.88	oz/a	MPOST					
9	COC		L	48	oz/a	MPOST					

LSU AgCenter Rice Research Station
Herbicide Programs for Knotgrass Control

Trial ID: C04-58
Location: RRS-Crowley, LA

Weed Code							PASDS	ECHCG	ORYSA	LEFPA	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%
Rating Date							07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval							49daLPOT	49daLPOT	49daLPOT	49daLPOT	49daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
10	Grasp	2	SC	2.88	oz/a	MPOST	20	75	60	10	0
10	COC		L	48	oz/a	MPOST					
11	Nontreated						0	0	0	0	0
LSD (P=.05)							12.1	8.5	13.6	6.0	0.0
Standard Deviation							8.4	5.9	9.5	4.2	0.0
CV							14.15	7.28	15.84	6.39	0.0
Grand Mean							59.09	80.68	59.66	65.23	0.0
Bartlett's X2							12.578	22.312	15.22	7.567	0.0
P(Bartlett's X2)							0.083	0.001*	0.055	0.272	.

LSU AgCenter Rice Research Station
Herbicide Programs for Knotgrass Control

Trial ID: C04-58
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							YIELD	YIELD
Rating Unit							G/PLOT	LB/A
Rating Date							08/16/04	08/16/04
Trt-Eval Interval							75daLPOT	75daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Command	3	ME	17	oz/a	PRE	1490	4998
1	Clincher	2.38	EC	10	oz/a	EPOST		
1	COC		L	48	oz/a	EPOST		
1	Clincher	2.38	EC	15	oz/a	LPOST		
1	COC		L	48	oz/a	LPOST		
2	Clincher	2.38	EC	10	oz/a	EPOST	1408	4723
2	COC		L	48	oz/a	EPOST		
2	Clincher	2.38	EC	15	oz/a	LPOST		
2	COC		L	48	oz/a	LPOST		
3	Command	3	ME	17	oz/a	PRE	1441	4833
3	Regiment	80	WP	0.397	oz/a	EPOST		
3	Kinetic		L	2.4	oz/a	EPOST		
3	Regiment	80	WP	0.397	oz/a	LPOST		
3	Kinetic		L	2.4	oz/a	LPOST		
4	Regiment	80	WP	0.397	oz/a	EPOST	953	3199
4	Kinetic		L	2.4	oz/a	EPOST		
4	Regiment	80	WP	0.397	oz/a	LPOST		
4	Kinetic		L	2.4	oz/a	LPOST		
5	Command	3	ME	17	oz/a	PRE	1524	5112
5	Ricestar HT	0.58	EC	13	oz/a	EPOST		
5	Ricestar HT	0.58	EC	17	oz/a	LPOST		
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	1682	5645
6	Ricestar HT	0.58	EC	17	oz/a	LPOST		
7	Command	3	ME	17	oz/a	PRE	1428	4791
7	NewPath	2	AS	4.03	oz/a	VEPOST		
7	Ag-98		L	4.8	oz/a	VEPOST		
7	NewPath	2	AS	4.03	oz/a	MPOST		
7	Ag-98		L	4.8	oz/a	MPOST		
8	NewPath	2	AS	4.03	oz/a	VEPOST	1671	5608
8	Ag-98		L	4.8	oz/a	VEPOST		
8	NewPath	2	AS	4.03	oz/a	MPOST		
8	Ag-98		L	4.8	oz/a	MPOST		
9	Command	3	ME	17	oz/a	PRE	1626	5457
9	Grasp	2	SC	2.88	oz/a	MPOST		
9	COC		L	48	oz/a	MPOST		

LSU AgCenter Rice Research Station
Herbicide Programs for Knotgrass Control

Trial ID: C04-58
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							YIELD	YIELD
Rating Unit							G/PLOT	LB/A
Rating Date							08/16/04	08/16/04
Trt-Eval Interval							75daLPOT	75daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
10	Grasp	2	SC	2.88	oz/a	MPOST	766	2569
10	COC		L	48	oz/a	MPOST		
11	Nontreated						738	2477
LSD (P=.05)							361.2	1211.8
Standard Deviation							250.1	839.3
CV							18.68	18.68
Grand Mean							1338.7	4491.88
Bartlett's X2							11.049	11.049
P(Bartlett's X2)							0.354	0.354

LSU AgCenter Rice Research Station
Herbicide Programs for Water Paspalum Control

Experiment number	**C04-61**			
Location	RRS-Crowley, LA			
Experimental design	RCB			
Number of reps	4			
Plot size	5’ x 17’			
Row width/# per plot	7.5”/8			
Soil type	Crowley silt loam (3% sand, 69% silt, 28% clay)			
% OM	1.4			
pH	6.4			
CEC	19.1			
Planting date	04/22/04			
Harvest date	08/16/04			
Crop/Variety	Rice/CL 161			
Emergence date	04/27/04			
Uniform std. treatment	N/A			

Application type	PRE	VEPOT	EPOT	MPOT
Date applied [mm/dd/yy]	04/28/04	05/10/04	05/18/04	05/25/04
Time [hh:mm-hh:mm]	9:30-10:30a	9:45-10:15a	11:40-11:50a	10:30-11:00a
Incorporation equip./Depth	N/A	N/A	N/A	N/A
Air/Soil temperature [F]	80/81	82/83	83/82	85/85
Relative humidity [%]	52	60	52	40
Wind [mph, direction]	3-6,S	3-7,S	4-5,S	5-7,S
Weather [sunny, etc]	cloudy	cloudy	cloudy	cloudy
Soil/Leaf surface moist	moist/dry	moist/dry	wet/dry	moist/dry
Crop stage/Height	N/A	1-2lf/2”	3-4lf/4-6”	4lf-1tiller/6-9”
Sprayer type/MPH	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size	FF/110015 TD	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing	15”/5/15”	15”/5/15”	15”/5/15”	17”/5/15”
GPA/PSI	15/28	15/30	15/30	15/27
Applied by	Griffin	Griffin	Griffin	Griffin

Weed Species (population)	------------------------------(height/#leaves)------------------------------			
PASFL (10-20 m^{-2})		1-4”/2-4lf	3-18”/trailing	6-20”/trailing

LSU AgCenter Rice Research Station
Herbicide Programs for Water Paspalum Control

Experiment number .... :	**C04-61**
Location.. :	RRS-Crowley, LA
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/22/04
Harvest date .... :	08/16/04
Crop/Variety .... :	Rice/CL 161
Emergence date .... :	04/27/04
Uniform std. treatment.................. :	N/A

Application type .... :	LPOT
Date applied [mm/dd/yy].............. :	05/31/04
Time [hh:mm-hh:mm] .... :	10:07-10:38a
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	88/82
Relative humidity [%] .... :	72
Wind [mph, direction] .... :	6-10,SSW
Weather [sunny, etc]..................... :	pc
Soil/Leaf surface moist................. :	dry/dry
Crop stage/Height......................... :	2tiller/7-11”
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD
Boom ht/# Noz/Spacing................ :	16”/5/15”
GPA/PSI .... :	15/27
Applied by .... :	Griffin

Weed Species (population)........... :	-(height/#leaves)-
PASFL (10-20 m^{-2})....................... :	6-20”/trailing

LSU AgCenter Rice Research Station
Herbicide Programs for Water Paspalum Control

Trial ID: C04-61
Location: RRS-Crowley, LA

Weed Code							PASFL	ECHCG	ORYSA	LEFPA	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%
Rating Date							07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval							50daLPOT	50daLPOT	50daLPOT	50daLPOT	50daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1	Command	3	ME	17	oz/a	PRE	84	85	48	88	0
1	Clincher	2.38	EC	10	oz/a	EPOST					
1	COC		L	48	oz/a	EPOST					
1	Clincher	2.38	EC	15	oz/a	LPOST					
1	COC		L	48	oz/a	LPOST					
2	Clincher	2.38	EC	10	oz/a	EPOST	81	90	53	90	0
2	COC		L	48	oz/a	EPOST					
2	Clincher	2.38	EC	15	oz/a	LPOST					
2	COC		L	48	oz/a	LPOST					
3	Command	3	ME	17	oz/a	PRE	45	88	48	88	0
3	Regiment	80	WP	0.397	oz/a	EPOST					
3	Kinetic		L	2.4	oz/a	EPOST					
3	Regiment	80	WP	0.397	oz/a	LPOST					
3	Kinetic		L	2.4	oz/a	LPOST					
4	Regiment	80	WP	0.397	oz/a	EPOST	28	90	60	45	0
4	Kinetic		L	2.4	oz/a	EPOST					
4	Regiment	80	WP	0.397	oz/a	LPOST					
4	Kinetic		L	2.4	oz/a	LPOST					
5	Command	3	ME	17	oz/a	PRE	68	88	65	90	0
5	Ricestar HT	0.58	EC	13	oz/a	EPOST					
5	Ricestar HT	0.58	EC	17	oz/a	LPOST					
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	33	83	65	88	0
6	Ricestar HT	0.58	EC	17	oz/a	LPOST					
7	Command	3	ME	17	oz/a	PRE	94	94	94	94	0
7	NewPath	2	AS	4.03	oz/a	VEPOST					
7	Ag-98		L	4.8	oz/a	VEPOST					
7	NewPath	2	AS	4.03	oz/a	MPOST					
7	Ag-98		L	4.8	oz/a	MPOST					
8	NewPath	2	AS	4.03	oz/a	VEPOST	94	94	94	93	0
8	Ag-98		L	4.8	oz/a	VEPOST					
8	NewPath	2	AS	4.03	oz/a	MPOST					
8	Ag-98		L	4.8	oz/a	MPOST					
9	Command	3	ME	17	oz/a	PRE	78	85	45	70	0
9	Grasp	2	SC	2.88	oz/a	MPOST					
9	COC		L	48	oz/a	MPOST					

LSU AgCenter Rice Research Station
Herbicide Programs for Water Paspalum Control

Trial ID: C04-61
Location: RRS-Crowley, LA

Weed Code							PASFL	ECHCG	ORYSA	LEFPA	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%
Rating Date							07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval							50daLPOT	50daLPOT	50daLPOT	50daLPOT	50daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
10	Grasp	2	SC	2.88	oz/a	MPOST	55	90	38	35	0
10	COC		L	48	oz/a	MPOST					
11	Nontreated						0	0	0	0	0
LSD (P=.05)							21.2	7.0	14.3	15.8	0.0
Standard Deviation							14.7	4.9	9.9	10.9	0.0
CV							24.57	6.04	17.98	15.46	0.0
Grand Mean							59.77	80.45	55.23	70.8	0.0
Bartlett's X2							30.078	9.187	16.217	28.509	0.0
P(Bartlett's X2)							0.001*	0.163	0.062	0.001*	.

LSU AgCenter Rice Research Station
Herbicide Programs for Water Paspalum Control

Trial ID: C04-61
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/16/04	08/16/04
Trt-Eval Interval							76daLPOT	76daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Command	3	ME	17	oz/a	PRE	88	4087
1	Clincher	2.38	EC	10	oz/a	EPOST		
1	COC		L	48	oz/a	EPOST		
1	Clincher	2.38	EC	15	oz/a	LPOST		
1	COC		L	48	oz/a	LPOST		
2	Clincher	2.38	EC	10	oz/a	EPOST	87	4076
2	COC		L	48	oz/a	EPOST		
2	Clincher	2.38	EC	15	oz/a	LPOST		
2	COC		L	48	oz/a	LPOST		
3	Command	3	ME	17	oz/a	PRE	85	4191
3	Regiment	80	WP	0.397	oz/a	EPOST		
3	Kinetic		L	2.4	oz/a	EPOST		
3	Regiment	80	WP	0.397	oz/a	LPOST		
3	Kinetic		L	2.4	oz/a	LPOST		
4	Regiment	80	WP	0.397	oz/a	EPOST	86	4385
4	Kinetic		L	2.4	oz/a	EPOST		
4	Regiment	80	WP	0.397	oz/a	LPOST		
4	Kinetic		L	2.4	oz/a	LPOST		
5	Command	3	ME	17	oz/a	PRE	86	5192
5	Ricestar HT	0.58	EC	13	oz/a	EPOST		
5	Ricestar HT	0.58	EC	17	oz/a	LPOST		
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	85	4847
6	Ricestar HT	0.58	EC	17	oz/a	LPOST		
7	Command	3	ME	17	oz/a	PRE	88	4519
7	NewPath	2	AS	4.03	oz/a	VEPOST		
7	Ag-98		L	4.8	oz/a	VEPOST		
7	NewPath	2	AS	4.03	oz/a	MPOST		
7	Ag-98		L	4.8	oz/a	MPOST		
8	NewPath	2	AS	4.03	oz/a	VEPOST	88	5202
8	Ag-98		L	4.8	oz/a	VEPOST		
8	NewPath	2	AS	4.03	oz/a	MPOST		
8	Ag-98		L	4.8	oz/a	MPOST		
9	Command	3	ME	17	oz/a	PRE	88	4385
9	Grasp	2	SC	2.88	oz/a	MPOST		
9	COC		L	48	oz/a	MPOST		

LSU AgCenter Rice Research Station
Herbicide Programs for Water Paspalum Control

Trial ID: C04-61
Location: RRS-Crowley, LA

Weed Code						RICE	RICE
Rating Data Type						AVG HT	YIELD
Rating Unit						CM	LB/A
Rating Date						08/16/04	08/16/04
Trt-Eval Interval						76daLPOT	76daLPOT
Trt No. Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
10 Grasp	2	SC	2.88	oz/a	MPOST	86	3301
10 COC		L	48	oz/a	MPOST		
11 Nontreated						83	1597
LSD (P=.05)						6.6	1456.4
Standard Deviation						4.6	1008.7
CV						5.32	24.24
Grand Mean						86.38	4161.91
Bartlett's X2						23.868	6.955
P(Bartlett's X2)						0.008*	0.73

LSU AgCenter Rice Research Station
Newpath for Control of Brook Paspalum

Experiment number .... :	**C04-63**	
Location.. :	RRS-Crowley, LA	
Experimental design .... :	RCB	
Number of reps .... :	4	
Plot size .... :	5’ x 17’	
Row width/# per plot .... :	7.5”/8	
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM .... :	1.4	
pH .... :	6.4	
CEC .... :	19.1	
Planting date .... :	04/22/04	
Harvest date .... :	08/16/04	
Crop/Variety .... :	Rice/CL 161	
Emergence date .... :	04/27/04	
Uniform std. treatment.................. :	N/A	
Application type .... :	EPOT	LPOT
Date applied [mm/dd/yy].............. :	05/18/04	05/31/04
Time [hh:mm-hh:mm] .... :	11:40-11:50a	10:07-10:38a
Incorporation equip./Depth........... :	N/A	N/A
Air/Soil temperature [F] .... :	83/82	88/82
Relative humidity [%] .... :	52	72
Wind [mph, direction] .... :	4-5,S	6-10,SSW
Weather [sunny, etc]..................... :	cloudy	pc
Soil/Leaf surface moist .... :	wet/dry	dry/dry
Crop stage/Height .... :	3-4lf/4-6”	2tiller/7-11”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	15”/5/15”	17”/5/15”
GPA/PSI .... :	15/30	15/27
Applied by .... :	Griffin	Griffin
Weed Species (population)........... :	----------(height/#leaves)--------	
Brook paspalum (10-20 m^{-2})......... :	3-18”/trailing	6-20”/trailing

LSU AgCenter Rice Research Station
Newpath for Control of Brook Paspalum

Trial ID: C04-63
Location: RRS-Crowley, LA

Weed Code							BROOK	ECHCG	RICE
Rating Data Type							CONTROL	CONTROL	INJURY
Rating Unit							%	%	%
Rating Date							06/28/04	06/28/04	06/28/04
Trt-Eval Interval							28daLPOT	28daLPOT	28daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg			
1	Newpath	2	AS	4	fl oz/a	EPOT	45	63	0
1	Agridex		L	19.2	fl oz/a	EPOT			
1	Newpath	2	AS	4	fl oz/a	LPOT			
1	Agridex		L	19.2	fl oz/a	LPOT			
2	Newpath	2	AS	4	fl oz/a	EPOT	48	65	0
2	Agridex		L	19.2	fl oz/a	EPOT			
2	Newpath	2	AS	6	fl oz/a	LPOT			
2	Agridex		L	19.2	fl oz/a	LPOT			
3	Newpath	2	AS	6	fl oz/a	EPOT	53	69	0
3	Agridex		L	19.2	fl oz/a	EPOT			
3	Newpath	2	AS	4	fl oz/a	LPOT			
3	Agridex		L	19.2	fl oz/a	LPOT			
4	Newpath	2	AS	5	fl oz/a	EPOT	38	70	0
4	Agridex		L	19.2	fl oz/a	EPOT			
4	Newpath	2	AS	5	fl oz/a	LPOT			
4	Agridex		L	19.2	fl oz/a	LPOT			
5	Newpath	2	AS	4	fl oz/a	EPOT	23	20	0
5	Agridex		L	19.2	fl oz/a	EPOT			
6	Newpath	2	AS	4	fl oz/a	LPOT	35	50	0
6	Agridex		L	19.2	fl oz/a	LPOT			
7	Newpath	2	AS	4	fl oz/a	EPOT	33	65	0
7	Agridex		L	19.2	fl oz/a	EPOT			
7	Beyond	2	AS	5	fl oz/a	LPOT			
7	Agridex		L	19.2	fl oz/a	LPOT			
8	Newpath	2	AS	6	fl oz/a	EPOT	35	66	0
8	Agridex		L	19.2	fl oz/a	EPOT			
8	Beyond	2	AS	5	fl oz/a	LPOT			
8	Agridex		L	19.2	fl oz/a	LPOT			
9	Newpath	2	AS	5	fl oz/a	EPOT	35	66	0
9	Agridex		L	19.2	fl oz/a	EPOT			
9	Beyond	2	AS	5	fl oz/a	LPOT			
9	Agridex		L	19.2	fl oz/a	LPOT			
10	Nontreated						0	0	0
LSD (P=.05)							9.7	9.5	0.0
Standard Deviation							6.7	6.5	0.0
CV							19.53	12.25	0.0
Grand Mean							34.25	53.38	0.0
Bartlett's X2							4.247	2.375	0.0
P(Bartlett's X2)							0.834	0.936	.

LSU AgCenter Rice Research Station
Newpath for Control of Brook Paspalum

Trial ID: C04-63
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE AVG HT CM 08/16/04 76daLPOT	RICE YIELD LB/A 08/16/04 76daLPOT
1	Newpath	2	AS	4	fl oz/a	EPOT	86	2367
1	Agridex		L	19.2	fl oz/a	EPOT		
1	Newpath	2	AS	4	fl oz/a	LPOT		
1	Agridex		L	19.2	fl oz/a	LPOT		
2	Newpath	2	AS	4	fl oz/a	EPOT	84	3112
2	Agridex		L	19.2	fl oz/a	EPOT		
2	Newpath	2	AS	6	fl oz/a	LPOT		
2	Agridex		L	19.2	fl oz/a	LPOT		
3	Newpath	2	AS	6	fl oz/a	EPOT	84	2724
3	Agridex		L	19.2	fl oz/a	EPOT		
3	Newpath	2	AS	4	fl oz/a	LPOT		
3	Agridex		L	19.2	fl oz/a	LPOT		
4	Newpath	2	AS	5	fl oz/a	EPOT	86	2739
4	Agridex		L	19.2	fl oz/a	EPOT		
4	Newpath	2	AS	5	fl oz/a	LPOT		
4	Agridex		L	19.2	fl oz/a	LPOT		
5	Newpath	2	AS	4	fl oz/a	EPOT	76	1813
5	Agridex		L	19.2	fl oz/a	EPOT		
6	Newpath	2	AS	4	fl oz/a	LPOT	83	2049
6	Agridex		L	19.2	fl oz/a	LPOT		
7	Newpath	2	AS	4	fl oz/a	EPOT	84	2418
7	Agridex		L	19.2	fl oz/a	EPOT		
7	Beyond	2	AS	5	fl oz/a	LPOT		
7	Agridex		L	19.2	fl oz/a	LPOT		
8	Newpath	2	AS	6	fl oz/a	EPOT	87	2750
8	Agridex		L	19.2	fl oz/a	EPOT		
8	Beyond	2	AS	5	fl oz/a	LPOT		
8	Agridex		L	19.2	fl oz/a	LPOT		
9	Newpath	2	AS	5	fl oz/a	EPOT	84	1705
9	Agridex		L	19.2	fl oz/a	EPOT		
9	Beyond	2	AS	5	fl oz/a	LPOT		
9	Agridex		L	19.2	fl oz/a	LPOT		
10	Nontreated						67	826

	RICE AVG HT	RICE YIELD
LSD (P=.05)	4.7	987.7
Standard Deviation	3.2	680.7
CV	3.92	30.25
Grand Mean	82.0	2250.31
Bartlett's X2	16.73	12.188
P(Bartlett's X2)	0.053	0.203

LSU AgCenter Rice Research Station
Newpath for Control of Knotgrass

Experiment number .... :	**C04-64**	
Location.. :	RRS-Crowley, LA	
Experimental design .... :	RCB	
Number of reps .... :	4	
Plot size .... :	5’ x 17’	
Row width/# per plot .... :	7.5”/8	
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM .... :	1.4	
pH .... :	6.4	
CEC .... :	19.1	
Planting date .... :	04/22/04	
Harvest date .... :	08/16/04	
Crop/Variety .... :	Rice/CL 161	
Emergence date .... :	04/27/04	
Uniform std. treatment.................. :	N/A	
Application type .... :	EPOT	LPOT
Date applied [mm/dd/yy].............. :	05/18/04	05/31/04
Time [hh:mm-hh:mm] .... :	11:40-11:50a	10:07-10:38a
Incorporation equip./Depth........... :	N/A	N/A
Air/Soil temperature [F] .... :	83/82	88/82
Relative humidity [%] .... :	52	72
Wind [mph, direction] .... :	4-5,S	6-10,SSW
Weather [sunny, etc]..................... :	cloudy	pc
Soil/Leaf surface moist .... :	wet/dry	dry/dry
Crop stage/Height .... :	3-4lf/4-6”	2tiller/7-11”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	15”/5/15”	17”/5/15”
GPA/PSI .... :	15/30	15/27
Applied by .... :	Griffin	Griffin
Weed Species (population)........... :	----------(height/#leaves)--------	
PASDS (10-20 m^{-2}) .... :	3-18”/trailing	6-20”/trailing

LSU AgCenter Rice Research Station
Newpath for Control of Knotgrass

Trial ID: C04-64
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	PASDS	ECHCG	RICE
	Weed Code						PASDS	ECHCG	RICE
	Rating Data Type						CONTROL	CONTROL	INJURY
	Rating Unit						%	%	%
	Rating Date						06/28/04	06/28/04	06/28/04
	Trt-Eval Interval						28daLPOT	28daLPOT	28daLPOT
1	Newpath	2	AS	4	fl oz/a	EPOT	91	45	0
1	Agridex		L	19.2	fl oz/a	EPOT			
1	Newpath	2	AS	4	fl oz/a	LPOT			
1	Agridex		L	19.2	fl oz/a	LPOT			
2	Newpath	2	AS	4	fl oz/a	EPOT	93	63	0
2	Agridex		L	19.2	fl oz/a	EPOT			
2	Newpath	2	AS	6	fl oz/a	LPOT			
2	Agridex		L	19.2	fl oz/a	LPOT			
3	Newpath	2	AS	6	fl oz/a	EPOT	93	53	0
3	Agridex		L	19.2	fl oz/a	EPOT			
3	Newpath	2	AS	4	fl oz/a	LPOT			
3	Agridex		L	19.2	fl oz/a	LPOT			
4	Newpath	2	AS	5	fl oz/a	EPOT	93	50	0
4	Agridex		L	19.2	fl oz/a	EPOT			
4	Newpath	2	AS	5	fl oz/a	LPOT			
4	Agridex		L	19.2	fl oz/a	LPOT			
5	Newpath	2	AS	4	fl oz/a	EPOT	93	38	0
5	Agridex		L	19.2	fl oz/a	EPOT			
6	Newpath	2	AS	4	fl oz/a	LPOT	91	55	0
6	Agridex		L	19.2	fl oz/a	LPOT			
7	Newpath	2	AS	4	fl oz/a	EPOT	89	50	0
7	Agridex		L	19.2	fl oz/a	EPOT			
7	Beyond	2	AS	5	fl oz/a	LPOT			
7	Agridex		L	19.2	fl oz/a	LPOT			
8	Newpath	2	AS	6	fl oz/a	EPOT	91	61	0
8	Agridex		L	19.2	fl oz/a	EPOT			
8	Beyond	2	AS	5	fl oz/a	LPOT			
8	Agridex		L	19.2	fl oz/a	LPOT			
9	Newpath	2	AS	5	fl oz/a	EPOT	93	40	0
9	Agridex		L	19.2	fl oz/a	EPOT			
9	Beyond	2	AS	5	fl oz/a	LPOT			
9	Agridex		L	19.2	fl oz/a	LPOT			
10	Nontreated						0	0	0
	LSD (P=.05)						3.6	11.5	0.0
	Standard Deviation						2.5	7.9	0.0
	CV						3.0	17.47	0.0
	Grand Mean						82.5	45.38	0.0
	Bartlett's X2						5.171	3.177	0.0
	P(Bartlett's X2)						0.739	0.923	.

LSU AgCenter Rice Research Station
Newpath for Control of Knotgrass

Trial ID: C04-64
Location: RRS-Crowley, LA

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE AVG HT CM 08/16/04 83daLPOT	RICE YIELD LB/A 08/16/04 83daLPOT
1	Newpath	2	AS	4	fl oz/a	EPOT	85	2471
1	Agridex		L	19.2	fl oz/a	EPOT		
1	Newpath	2	AS	4	fl oz/a	LPOT		
1	Agridex		L	19.2	fl oz/a	LPOT		
2	Newpath	2	AS	4	fl oz/a	EPOT	84	2571
2	Agridex		L	19.2	fl oz/a	EPOT		
2	Newpath	2	AS	6	fl oz/a	LPOT		
2	Agridex		L	19.2	fl oz/a	LPOT		
3	Newpath	2	AS	6	fl oz/a	EPOT	89	3578
3	Agridex		L	19.2	fl oz/a	EPOT		
3	Newpath	2	AS	4	fl oz/a	LPOT		
3	Agridex		L	19.2	fl oz/a	LPOT		
4	Newpath	2	AS	5	fl oz/a	EPOT	86	2487
4	Agridex		L	19.2	fl oz/a	EPOT		
4	Newpath	2	AS	5	fl oz/a	LPOT		
4	Agridex		L	19.2	fl oz/a	LPOT		
5	Newpath	2	AS	4	fl oz/a	EPOT	83	2437
5	Agridex		L	19.2	fl oz/a	EPOT		
6	Newpath	2	AS	4	fl oz/a	LPOT	81	1196
6	Agridex		L	19.2	fl oz/a	LPOT		
7	Newpath	2	AS	4	fl oz/a	EPOT	86	1851
7	Agridex		L	19.2	fl oz/a	EPOT		
7	Beyond	2	AS	5	fl oz/a	LPOT		
7	Agridex		L	19.2	fl oz/a	LPOT		
8	Newpath	2	AS	6	fl oz/a	EPOT	86	3030
8	Agridex		L	19.2	fl oz/a	EPOT		
8	Beyond	2	AS	5	fl oz/a	LPOT		
8	Agridex		L	19.2	fl oz/a	LPOT		
9	Newpath	2	AS	5	fl oz/a	EPOT	86	3392
9	Agridex		L	19.2	fl oz/a	EPOT		
9	Beyond	2	AS	5	fl oz/a	LPOT		
9	Agridex		L	19.2	fl oz/a	LPOT		
10	Nontreated						75	1551

	RICE AVG HT	RICE YIELD
LSD (P=.05)	6.3	897.1
Standard Deviation	4.4	618.3
CV	5.19	25.17
Grand Mean	84.01	2456.45
Bartlett's X2	2.736	16.429
P(Bartlett's X2)	0.974	0.058

LSU AgCenter Rice Research Station
Newpath for Control of Water Paspalum

Experiment number .... :	**C04-65**	
Location.. :	RRS-Crowley, LA	
Experimental design .... :	RCB	
Number of reps.......................... :	4	
Plot size .... :	5' x 17'	
Row width/# per plot................. :	7.5"/8	
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)	
% OM .... :	1.4	
pH .... :	6.4	
CEC .... :	19.1	
Planting date .... :	04/22/04	
Harvest date.................................. :	08/16/04	
Crop/Variety .... :	Rice/CL 161	
Emergence date .... :	04/27/04	
Uniform std. treatment.................. :	N/A	
Application type .... :	EPOT	LPOT
Date applied [mm/dd/yy].............. :	05/18/04	05/31/04
Time [hh:mm-hh:mm].................. :	11:40-11:50a	10:07-10:38a
Incorporation equip./Depth........... :	N/A	N/A
Air/Soil temperature [F] .... :	83/82	88/82
Relative humidity [%] .... :	52	72
Wind [mph, direction] .... :	4-5,S	6-10,SSW
Weather [sunny, etc]..................... :	cloudy	pc
Soil/Leaf surface moist................. :	wet/dry	dry/dry
Crop stage/Height......................... :	3-4lf/4-6"	2tiller/7-11"
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size........................... :	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	15"/5/15"	17"/5/15"
GPA/PSI .... :	15/30	15/27
Applied by .... :	Griffin	Griffin
Weed Species (population)........... :	----------(height/#leaves)--------	
PASDS (10-20 m^{-2}) .... :	3-18"/trailing	6-20"/trailing

LSU AgCenter Rice Research Station
Newpath for Control of Water Paspalum

Trial ID: C04-65
Location: RRS-Crowley, LA

Weed Code							PASFL	ECHCG	ORYSA	LEFPA	RICE
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	INJURY
Rating Unit							%	%	%	%	%
Rating Date							07/27/04	07/27/04	07/27/04	07/27/04	07/27/04
Trt-Eval Interval							57daLPOT	57daLPOT	57daLPOT	57daLPOT	57daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg					
1	Newpath	2	AS	4	fl oz/a	EPOT	99	78	69	40	0
1	Agridex		L	19.2	fl oz/a	EPOT					
1	Newpath	2	AS	4	fl oz/a	LPOT					
1	Agridex		L	19.2	fl oz/a	LPOT					
2	Newpath	2	AS	4	fl oz/a	EPOT	99	75	78	55	0
2	Agridex		L	19.2	fl oz/a	EPOT					
2	Newpath	2	AS	6	fl oz/a	LPOT					
2	Agridex		L	19.2	fl oz/a	LPOT					
3	Newpath	2	AS	6	fl oz/a	EPOT	99	74	76	50	0
3	Agridex		L	19.2	fl oz/a	EPOT					
3	Newpath	2	AS	4	fl oz/a	LPOT					
3	Agridex		L	19.2	fl oz/a	LPOT					
4	Newpath	2	AS	5	fl oz/a	EPOT	99	84	80	65	0
4	Agridex		L	19.2	fl oz/a	EPOT					
4	Newpath	2	AS	5	fl oz/a	LPOT					
4	Agridex		L	19.2	fl oz/a	LPOT					
5	Newpath	2	AS	4	fl oz/a	EPOT	90	45	55	43	0
5	Agridex		L	19.2	fl oz/a	EPOT					
6	Newpath	2	AS	4	fl oz/a	LPOT	99	68	56	30	0
6	Agridex		L	19.2	fl oz/a	LPOT					
7	Newpath	2	AS	4	fl oz/a	EPOT	99	78	71	30	0
7	Agridex		L	19.2	fl oz/a	EPOT					
7	Beyond	2	AS	5	fl oz/a	LPOT					
7	Agridex		L	19.2	fl oz/a	LPOT					
8	Newpath	2	AS	6	fl oz/a	EPOT	99	73	68	43	0
8	Agridex		L	19.2	fl oz/a	EPOT					
8	Beyond	2	AS	5	fl oz/a	LPOT					
8	Agridex		L	19.2	fl oz/a	LPOT					
9	Newpath	2	AS	5	fl oz/a	EPOT	94	75	53	53	0
9	Agridex		L	19.2	fl oz/a	EPOT					
9	Beyond	2	AS	5	fl oz/a	LPOT					
9	Agridex		L	19.2	fl oz/a	LPOT					
10	Nontreated						67	30	35	25	0
LSD (P=.05)							21.9	18.4	27.5	24.0	0.0
Standard Deviation							15.1	12.7	18.9	16.6	0.0
CV							15.98	18.69	29.54	38.32	0.0
Grand Mean							94.4	67.75	64.08	43.25	0.0
Bartlett's X2							8.662	11.58	12.263	1.913	0.0
P(Bartlett's X2)							0.013*	0.238	0.199	0.965	.

LSU AgCenter Rice Research Station
Newpath for Control of Water Paspalum

Trial ID: C04-65
Location: RRS-Crowley, LA

Weed Code							RICE	RICE
Rating Data Type							AVG HT	YIELD
Rating Unit							CM	LB/A
Rating Date							08/16/04	08/16/04
Trt-Eval Interval							77daLPOT	77daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg		
1	Newpath	2	AS	4	fl oz/a	EPOT	81	3382
1	Agridex		L	19.2	fl oz/a	EPOT		
1	Newpath	2	AS	4	fl oz/a	LPOT		
1	Agridex		L	19.2	fl oz/a	LPOT		
2	Newpath	2	AS	4	fl oz/a	EPOT	83	3879
2	Agridex		L	19.2	fl oz/a	EPOT		
2	Newpath	2	AS	6	fl oz/a	LPOT		
2	Agridex		L	19.2	fl oz/a	LPOT		
3	Newpath	2	AS	6	fl oz/a	EPOT	80	3881
3	Agridex		L	19.2	fl oz/a	EPOT		
3	Newpath	2	AS	4	fl oz/a	LPOT		
3	Agridex		L	19.2	fl oz/a	LPOT		
4	Newpath	2	AS	5	fl oz/a	EPOT	83	3504
4	Agridex		L	19.2	fl oz/a	EPOT		
4	Newpath	2	AS	5	fl oz/a	LPOT		
4	Agridex		L	19.2	fl oz/a	LPOT		
5	Newpath	2	AS	4	fl oz/a	EPOT	77	1920
5	Agridex		L	19.2	fl oz/a	EPOT		
6	Newpath	2	AS	4	fl oz/a	LPOT	82	2618
6	Agridex		L	19.2	fl oz/a	LPOT		
7	Newpath	2	AS	4	fl oz/a	EPOT	81	3254
7	Agridex		L	19.2	fl oz/a	EPOT		
7	Beyond	2	AS	5	fl oz/a	LPOT		
7	Agridex		L	19.2	fl oz/a	LPOT		
8	Newpath	2	AS	6	fl oz/a	EPOT	81	3825
8	Agridex		L	19.2	fl oz/a	EPOT		
8	Beyond	2	AS	5	fl oz/a	LPOT		
8	Agridex		L	19.2	fl oz/a	LPOT		
9	Newpath	2	AS	5	fl oz/a	EPOT	80	2494
9	Agridex		L	19.2	fl oz/a	EPOT		
9	Beyond	2	AS	5	fl oz/a	LPOT		
9	Agridex		L	19.2	fl oz/a	LPOT		
10	Nontreated						74	1609
LSD (P=.05)							4.8	1303.5
Standard Deviation							3.3	898.4
CV							4.13	29.59
Grand Mean							80.01	3036.54
Bartlett's X2							7.726	8.735
P(Bartlett's X2)							0.562	0.462

LSU AgCenter Rice Research Station
Herbicide Programs for Echinochloa polystachya Control

Experiment number .... :	**C04-52**			
Location.. :	Leonard Farms			
Experimental design .... :	RCB			
Number of reps .... :	4			
Plot size .... :	5’ x 17’			
Row width/# per plot .... :	7.5”/8			
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)			
% OM .... :	1.4			
pH .... :	6.4			
CEC .... :	19.1			
Planting date .... :	04/05/04			
Harvest date .... :	08/12/04			
Crop/Variety .... :	Rice/CL 161			
Emergence date .... :	04/20/04			
Uniform std. treatment.................. :	N/A			
Application type .... :	PRE	VEPOT	EPOT	MPOT
Date applied [mm/dd/yy].............. :	04/07/04	04/22/04	05/03/04	05/18/04
Time [hh:mm-hh:mm] .... :	2:45-3:00p	9:07-9:10a	8:37-8:45a	11:40-11:50a
Incorporation equip./Depth........... :	N/A	N/A	N/A	N/A
Air/Soil temperature [F] .... :	77/78	74/71	73/71	81/77
Relative humidity [%] .... :	60	90	53	74
Wind [mph, direction] .... :	4-8,W	6-9,S	3-5,N	6-8,S
Weather [sunny, etc]..................... :	pc	cloudy	sunny	cloudy
Soil/Leaf surface moist................. :	wet/N/A	dry/dry	wet/dry	wet/dry
Crop stage/Height......................... :	N/A	1-4LF/1-3”	2-4lf/2-4”	3-4lf/6-8”
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD	FF/110015 TD	FF/110015 TD	FF/110015 TD
Boom ht/# Noz/Spacing................ :	15”/5/15”	17”/5/15”	19”/5/15”	”/5/15”
GPA/PSI .... :	15/27	15/29	15/28	15/30
Applied by .... :	Griffin	EPW	Griffin	Griffin
Weed Species (population)........... :	-----------------------------(height/#leaves)--------------------------------			
E. polystachya (10 m^{-2})................ :	1-2lf/1-2”	2-3”/2-3lf	3-6”/4-7lf	4”-1.5’/6-15lf
Flush Dates .... :	04/05/04			
Permanent Flood........................... :	05/20/04			

LSU AgCenter Rice Research Station
Herbicide Programs for Echinochloa polystachya Control

Experiment number .... :	**C04-52**
Location.. :	Leonard Farms
Experimental design .... :	RCB
Number of reps .... :	4
Plot size .... :	5’ x 17’
Row width/# per plot .... :	7.5”/8
Soil type.. :	Crowley silt loam (3% sand, 69% silt, 28% clay)
% OM .... :	1.4
pH .... :	6.4
CEC .... :	19.1
Planting date .... :	04/05/04
Harvest date .... :	08/12/04
Crop/Variety .... :	Rice/CL 161
Emergence date .... :	04/20/04
Uniform std. treatment.................. :	N/A

Application type .... :	LPOT
Date applied [mm/dd/yy].............. :	05/25/04
Time [hh:mm-hh:mm] .... :	10:30-11:00a
Incorporation equip./Depth........... :	N/A
Air/Soil temperature [F] .... :	85/85
Relative humidity [%] .... :	40
Wind [mph, direction] .... :	5-7,S
Weather [sunny, etc]..................... :	cloudy
Soil/Leaf surface moist .... :	moist/dry
Crop stage/Height .... :	5-6lf/5-8”
Sprayer type/MPH .... :	CO_2BkPk/3.0
Nozzle type/Size .... :	FF/110015 TD
Boom ht/# Noz/Spacing................ :	15”/5/15”
GPA/PSI .... :	15/28
Applied by .... :	Griffin

Weed Species (population) .... :	-(height/#leaves)-
E. polystachya (10-20 m^{-2}) .... :	6-20”/trailing

Flush Dates .... :	04/05/04
Permanent Flood........................... :	05/20/04

LSU AgCenter Rice Research Station
Herbicide Programs for Echinochloa polystachya Control

Trial ID: C04-52
Location: Leonard Farms

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	ECHPO CONTROL % 07/14/04 49daLPOT	ECHCG CONTROL % 07/14/04 49daLPOT	ORYSA CONTROL % 07/14/04 49daLPOT	LEFPA CONTROL % 07/14/04 49daLPOT	RICE INJURY % 07/14/04 49daLPOT
1	Command	3	ME	17	oz/a	PRE	58	90	90	90	0
1	Clincher	2.38	EC	10	oz/a	EPOST					
1	COC		L	48	oz/a	EPOST					
1	Clincher	2.38	EC	15	oz/a	LPOST					
1	COC		L	48	oz/a	LPOST					
2	Clincher	2.38	EC	10	oz/a	EPOST	35	90	90	90	0
2	COC		L	48	oz/a	EPOST					
2	Clincher	2.38	EC	15	oz/a	LPOST					
2	COC		L	48	oz/a	LPOST					
3	Command	3	ME	17	oz/a	PRE	49	90	90	90	0
3	Regiment	80	WP	0.397	oz/a	EPOST					
3	Kinetic		L	2.4	oz/a	EPOST					
3	Regiment	80	WP	0.397	oz/a	LPOST					
3	Kinetic		L	2.4	oz/a	LPOST					
4	Regiment	80	WP	0.397	oz/a	EPOST	40	90	90	90	0
4	Kinetic		L	2.4	oz/a	EPOST					
4	Regiment	80	WP	0.397	oz/a	LPOST					
4	Kinetic		L	2.4	oz/a	LPOST					
5	Command	3	ME	17	oz/a	PRE	48	90	90	90	0
5	Ricestar HT	0.58	EC	13	oz/a	EPOST					
5	Ricestar HT	0.58	EC	17	oz/a	LPOST					
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	33	90	91	90	0
6	Ricestar HT	0.58	EC	17	oz/a	LPOST					
7	Command	3	ME	17	oz/a	PRE	53	90	90	90	0
7	NewPath	2	AS	4.03	oz/a	VEPOST					
7	Ag-98		L	4.8	oz/a	VEPOST					
7	NewPath	2	AS	4.03	oz/a	MPOST					
7	Ag-98		L	4.8	oz/a	MPOST					
8	NewPath	2	AS	4.03	oz/a	VEPOST	38	89	90	90	0
8	Ag-98		L	4.8	oz/a	VEPOST					
8	NewPath	2	AS	4.03	oz/a	MPOST					
8	Ag-98		L	4.8	oz/a	MPOST					
9	Command	3	ME	17	oz/a	PRE	58	88	90	90	0
9	Grasp	2	SC	2.88	oz/a	MPOST					
9	COC		L	48	oz/a	MPOST					
10	Grasp	2	SC	2.88	oz/a	MPOST	35	78	90	83	0
10	COC		L	48	oz/a	MPOST					
11	Nontreated						0	0	0	0	0
LSD (P=.05)							11.7	4.7	0.4	4.2	0.0
Standard Deviation							8.1	3.3	0.3	2.9	0.0
CV							20.05	4.09	0.37	3.56	0.0
Grand Mean							40.34	80.36	81.86	81.14	0.0
Bartlett's X2							7.243	15.972	0.0	0.0	0.0
P(Bartlett's X2)							0.612	0.001*	.	.	.

LSU AgCenter Rice Research Station
Herbicide Programs for Echinochloa polystachya Control

Trial ID: C04-52
Location: Leonard Farms

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	RICE AVG HT CM 08/12/04 77daLPOT	RICE YIELD LB/A 08/12/04 77daLPOT
1	Command	3	ME	17	oz/a	PRE	84	4233
1	Clincher	2.38	EC	10	oz/a	EPOST		
1	COC		L	48	oz/a	EPOST		
1	Clincher	2.38	EC	15	oz/a	LPOST		
1	COC		L	48	oz/a	LPOST		
2	Clincher	2.38	EC	10	oz/a	EPOST	80	4729
2	COC		L	48	oz/a	EPOST		
2	Clincher	2.38	EC	15	oz/a	LPOST		
2	COC		L	48	oz/a	LPOST		
3	Command	3	ME	17	oz/a	PRE	81	4406
3	Regiment	80	WP	0.397	oz/a	EPOST		
3	Kinetic		L	2.4	oz/a	EPOST		
3	Regiment	80	WP	0.397	oz/a	LPOST		
3	Kinetic		L	2.4	oz/a	LPOST		
4	Regiment	80	WP	0.397	oz/a	EPOST	77	4293
4	Kinetic		L	2.4	oz/a	EPOST		
4	Regiment	80	WP	0.397	oz/a	LPOST		
4	Kinetic		L	2.4	oz/a	LPOST		
5	Command	3	ME	17	oz/a	PRE	79	3839
5	Ricestar HT	0.58	EC	13	oz/a	EPOST		
5	Ricestar HT	0.58	EC	17	oz/a	LPOST		
6	Ricestar HT	0.58	EC	13	oz/a	EPOST	78	4187
6	Ricestar HT	0.58	EC	17	oz/a	LPOST		
7	Command	3	ME	17	oz/a	PRE	84	4921
7	NewPath	2	AS	4.03	oz/a	VEPOST		
7	Ag-98		L	4.8	oz/a	VEPOST		
7	NewPath	2	AS	4.03	oz/a	MPOST		
7	Ag-98		L	4.8	oz/a	MPOST		
8	NewPath	2	AS	4.03	oz/a	VEPOST	81	4637
8	Ag-98		L	4.8	oz/a	VEPOST		
8	NewPath	2	AS	4.03	oz/a	MPOST		
8	Ag-98		L	4.8	oz/a	MPOST		
9	Command	3	ME	17	oz/a	PRE	82	4798
9	Grasp	2	SC	2.88	oz/a	MPOST		
9	COC		L	48	oz/a	MPOST		
10	Grasp	2	SC	2.88	oz/a	MPOST	80	4105
10	COC		L	48	oz/a	MPOST		
11	Nontreated						76	2729

	RICE AVG HT	RICE YIELD
LSD (P=.05)	4.2	831.7
Standard Deviation	2.9	576.0
CV	3.61	13.52
Grand Mean	80.11	4261.53
Bartlett's X2	9.998	5.791
P(Bartlett's X2)	0.441	0.832

LSU AgCenter Rice Research Station
Mexicanweed Control with Rice Herbicides

Experiment number .... :	**OS04-85**	
Location.. :	Jeff Davis Parish; Jennings, LA	
Experimental design .... :	RCB	
Number of reps .... :	4	
Plot size .... :	5' x 17'	
Soil type.. :	N/A	
% OM .... :	N/A	
pH .... :	N/A	
CEC .... :	N/A	
Uniform std. treatment.................. :	N/A	
Application type .... :	EPOT	LPOT
Date applied [mm/dd/yy].............. :	06/30/04	07/12/04
Time [hh:mm-hh:mm] .... :	9:43-10:30a	10:50-11:24a
Incorporation equip./Depth........... :	N/A	N/A
Air/Soil temperature [F] .... :	83/80	89/84
Relative humidity [%] .... :	85	60
Wind [mph, direction] .... :	1-3,E	2-5,W
Weather [sunny, etc]..................... :	pc	pc
Soil/Leaf surface moist................. :	wet/dry	wet/dry
Crop stage/Height......................... :	N/A	N/A
Sprayer type/MPH .... :	CO_2BkPk/3.0	CO_2BkPk/3.0
Nozzle type/Size........................... :	FF/110015 TD	FF/110015 AM
Boom ht/# Noz/Spacing................ :	16"/5/15""	21"/5/15"
GPA/PSI .... :	15/26	15/28
Applied by .... :	Webster	Webster

Weed Species (population)........... :	----------(height/#leaves)---------	
CNPCA (200-250 m^{-2})................. :	1-4"/cot-3lf	5-8"/5-7lf
ORYSA (10-15 m^{-2}).. .... :	4-6"/3-4lf	6-9"/4lf-2tiller
CYPIR (125-150 m^{-2}).. .... :	0.5-2"/1-3lf	4-7"/3-7lf
ECLAL (50-70 m^{-2}).. .... :	0.1-1"/cot-1lf	1-4"/2-6lf
ALRPH (2-7 m^{-2}).. .... :	4-12"/6lf-trailing	6-18"/10+lf
MEOCO (20-40 m^{-2}).. .... :	0.5-2"/cot-3lf	3-5"/5-8lf
AESIN (3-10 m^{-2}).. .... :	1-3"/cot-3lf	6-10"/7-9lf

LSU AgCenter Rice Research Station
Mexicanweed Control with Rice Herbicides

Trial ID: OS04-85
Location: Jeff Davis Parish

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	CNPCA CONTROL % 07/12/04 12daEPOT	AESIN CONTROL % 07/12/04 12daEPOT	ECLAL CONTROL % 07/12/04 12daEPOT	CYPIR CONTROL % 07/12/04 12daEPOT	MEOCO CONTROL % 07/12/04 12daEPOT	ALRPH CONTROL % 07/12/04 12daEPOT
1	Newpath	2	AS	4	fl oz/a	EPOT	60	10	93	97	97	0
1	Herbimax		L	19.2	fl oz/a	EPOT						
2	Command	3	ME	17	fl oz/a	EPOT	6	18	52	0	93	8
3	Exp. Herb.	3.3	FL	7.76	fl oz/a	EPOT	77	97	98	98	98	1
3	Herbimax		L	19.2	fl oz/a	EPOT						
4	Regiment	80	WP	0.4	oz/a	EPOT	62	97	96	97	97	91
4	Kinetic		L	2.4	fl oz/a	EPOT						
5	Basagran	4	EC	2	pt/a	EPOT	6	0	97	97	97	0
5	Herbimax		L	19.2	fl oz/a	EPOT						
6	IR5878	50	WG	2	oz/a	EPOT	88	97	97	98	98	0
6	Kinetic		L	2.4	fl oz/a	EPOT						
7	Stam	4	EC	3	qt/a	EPOT	95	97	97	97	98	0
8	Grandstand	3	SL	16.2	fl oz/a	EPOT	70	96	97	97	98	90
8	Herbimax		L	19.2	fl oz/a	EPOT						
9	Grasp	2	AS	1.98	fl oz/a	EPOT	68	95	97	97	96	89
9	Herbimax		L	19.2	fl oz/a	EPOT						
10	Facet	75	DF	10.7	oz/a	EPOT	64	96	98	98	98	0
10	Herbimax		L	19.2	fl oz/a	EPOT						
11	Permit	75	WG	1	oz/a	EPOT	84	97	98	98	98	0
11	Herbimax		L	19.2	fl oz/a	EPOT						
12	Aim	2	EC	1.6	fl oz/a	EPOT	82	93	97	31	97	3
13	Blazer	2	SL	16	fl oz/a	EPOT	98	86	97	95	98	3
13	Herbimax		L	19.2	fl oz/a	EPOT						
14	Beyond	1	SL	5	fl oz/a	EPOT	73	11	96	97	96	0
14	Herbimax		L	19.2	fl oz/a	EPOT						
15	Newpath	2	AS	4	fl oz/a	LPOT						
15	Herbimax		L	19.2	fl oz/a	LPOT						
16	Unison	1.74	SL	1	qt/a	LPOT						
17	Exp. Herb.	3.3	FL	7.76	fl oz/a	LPOT						
17	Herbimax		L	19.2	fl oz/a	LPOT						
18	Regiment	80	WP	0.4	oz/a	LPOT						
18	Kinetic		L	2.4	fl oz/a	LPOT						
19	Basagran	4	EC	2	pt/a	LPOT						
19	Herbimax		L	19.2	fl oz/a	LPOT						

LSU AgCenter Rice Research Station
Mexicanweed Control with Rice Herbicides

Trial ID: OS04-85
Location: Jeff Davis Parish

Weed Code							CNPCA	AESIN	ECLAL	CYPIR	MEOCO	ALRPH
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%	%	%
Rating Date							07/12/04	07/12/04	07/12/04	07/12/04	07/12/04	07/12/04
Trt-Eval Interval							12daEPOT	12daEPOT	12daEPOT	12daEPOT	12daEPOT	12daEPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
20	IR5878	50	WG	2	oz/a	LPOT						
20	Kinetic		L	2.4	fl oz/a	LPOT						
21	Grandstand	3	SL	16.2	fl oz/a	LPOT						
21	Herbimax		L	19.2	fl oz/a	LPOT						
22	Grasp	2	AS	1.98	fl oz/a	LPOT						
22	Herbimax		L	19.2	fl oz/a	LPOT						
23	Facet	75	DF	10.7	oz/a	LPOT						
23	Herbimax		L	19.2	fl oz/a	LPOT						
24	Permit	75	WG	1	oz/a	LPOT						
24	Herbimax		L	19.2	fl oz/a	LPOT						
25	Stam	4	EC	4	qt/a	LPOT						
26	Aim	2	EC	1.6	fl oz/a	LPOT						
27	Blazer	2	SL	16	fl oz/a	LPOT						
27	Herbimax		L	19.2	fl oz/a	LPOT						
28	Beyond	1	SL	5	fl oz/a	LPOT						
28	Herbimax		L	19.2	fl oz/a	LPOT						
29	Nontreated											
LSD (P=.05)							13.0	5.8	9.0	3.7	2.4	5.3
Standard Deviation							9.1	4.1	6.3	2.6	1.7	3.7
CV							13.69	5.79	6.74	3.06	1.75	18.37
Grand Mean							66.61	70.59	93.38	85.39	96.79	20.27
Bartlett's X2							45.869	57.771	120.081	59.772	36.876	5.622
P(Bartlett's X2)							0.001*	0.001*	0.001*	0.001*	0.001*	0.467

LSU AgCenter Rice Research Station
Mexicanweed Control with Rice Herbicides

Trial ID: OS04-85
Location: Jeff Davis Parish

Weed Code							CNPCA	AESIN	ALRPH	MEOCO	CYPIR	ECLAL
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%	%	%
Rating Date							07/20/04	07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval							8daLPOT	8daLPOT	8daLPOT	8daLPOT	8daLPOT	8daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
1	Newpath	2	AS	4	fl oz/a	EPOT	68	0	0	97	95	18
1	Herbimax		L	19.2	fl oz/a	EPOT						
2	Command	3	ME	17	fl oz/a	EPOT	5	1	0	92	0	41
3	Exp. Herb.	3.3	FL	7.76	fl oz/a	EPOT	70	96	0	97	93	88
3	Herbimax		L	19.2	fl oz/a	EPOT						
4	Regiment	80	WP	0.4	oz/a	EPOT	33	96	87	96	96	95
4	Kinetic		L	2.4	fl oz/a	EPOT						
5	Basagran	4	EC	2	pt/a	EPOT	4	0	0	96	95	97
5	Herbimax		L	19.2	fl oz/a	EPOT						
6	IR5878	50	WG	2	oz/a	EPOT	72	95	0	96	97	58
6	Kinetic		L	2.4	fl oz/a	EPOT						
7	Stam	4	EC	3	qt/a	EPOT	84	94	0	96	0	73
8	Grandstand	3	SL	16.2	fl oz/a	EPOT	38	97	78	93	93	96
8	Herbimax		L	19.2	fl oz/a	EPOT						
9	Grasp	2	AS	1.98	fl oz/a	EPOT	40	97	65	97	96	96
9	Herbimax		L	19.2	fl oz/a	EPOT						
10	Facet	75	DF	10.7	oz/a	EPOT	84	96	13	96	79	97
10	Herbimax		L	19.2	fl oz/a	EPOT						
11	Permit	75	WG	1	oz/a	EPOT	82	97	0	97	96	98
11	Herbimax		L	19.2	fl oz/a	EPOT						
12	Aim	2	EC	1.6	fl oz/a	EPOT	66	84	0	97	0	97
13	Blazer	2	SL	16	fl oz/a	EPOT	96	1	0	97	9	91
13	Herbimax		L	19.2	fl oz/a	EPOT						
14	Beyond	1	SL	5	fl oz/a	EPOT	85	4	90	97	96	73
14	Herbimax		L	19.2	fl oz/a	EPOT						
15	Newpath	2	AS	4	fl oz/a	LPOT	6	0	3	91	93	95
15	Herbimax		L	19.2	fl oz/a	LPOT						
16	Unison	1.74	SL	1	qt/a	LPOT	78	89	91	97	95	97
17	Exp. Herb.	3.3	FL	7.76	fl oz/a	LPOT	26	80	49	93	96	96
17	Herbimax		L	19.2	fl oz/a	LPOT						
18	Regiment	80	WP	0.4	oz/a	LPOT	18	97	8	90	92	97
18	Kinetic		L	2.4	fl oz/a	LPOT						
19	Basagran	4	EC	2	pt/a	LPOT	5	0	0	96	97	97
19	Herbimax		L	19.2	fl oz/a	LPOT						

LSU AgCenter Rice Research Station
Mexicanweed Control with Rice Herbicides

Trial ID: OS04-85
Location: Jeff Davis Parish

Weed Code							CNPCA	AESIN	ALRPH	MEOCO	CYPIR	ECLAL
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit							%	%	%	%	%	%
Rating Date							07/20/04	07/20/04	07/20/04	07/20/04	07/20/04	07/20/04
Trt-Eval Interval							8daLPOT	8daLPOT	8daLPOT	8daLPOT	8daLPOT	8daLPOT
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg						
20	IR5878	50	WG	2	oz/a	LPOT	35	87	8	96	94	97
20	Kinetic		L	2.4	fl oz/a	LPOT						
21	Grandstand	3	SL	16.2	fl oz/a	LPOT	78	93	93	96	92	97
21	Herbimax		L	19.2	fl oz/a	LPOT						
22	Grasp	2	AS	1.98	fl oz/a	LPOT	19	95	96	91	92	97
22	Herbimax		L	19.2	fl oz/a	LPOT						
23	Facet	75	DF	10.7	oz/a	LPOT	59	92	83	97	95	98
23	Herbimax		L	19.2	fl oz/a	LPOT						
24	Permit	75	WG	1	oz/a	LPOT	36	87	0	95	95	97
24	Herbimax		L	19.2	fl oz/a	LPOT						
25	Stam	4	EC	4	qt/a	LPOT	80	96	11	95	95	98
26	Aim	2	EC	1.6	fl oz/a	LPOT	5	0	6	96	26	94
27	Blazer	2	SL	16	fl oz/a	LPOT	26	5	0	96	94	94
27	Herbimax		L	19.2	fl oz/a	LPOT						
28	Beyond	1	SL	5	fl oz/a	LPOT	45	11	15	97	88	90
28	Herbimax		L	19.2	fl oz/a	LPOT						
29	Nontreated						0	0	0	0	0	0
LSD (P=.05)							18.5	6.7	13.6	5.1	7.1	13.4
Standard Deviation							13.1	4.7	9.6	3.6	5.0	9.5
CV							28.37	8.15	35.28	3.95	6.63	11.2
Grand Mean							46.2	58.28	27.34	91.95	75.37	84.65
Bartlett's X2							54.826	74.928	50.715	110.632	57.356	215.6
P(Bartlett's X2)							0.001*	0.001*	0.001*	0.001*	0.001*	0.001*

LSU AgCenter Rice Research Station
Mexicanweed Control with Rice Herbicides

Trial ID: OS04-85
Location: Jeff Davis Parish

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	CNPCA CONTROL % 08/11/04 30daLPOT	AESIN CONTROL % 08/11/04 30daLPOT
1	Newpath	2	AS	4	fl oz/a	EPOT	63	15
1	Herbimax		L	19.2	fl oz/a	EPOT		
2	Command	3	ME	17	fl oz/a	EPOT	0	16
3	Exp. Herb.	3.3	FL	7.76	fl oz/a	EPOT	58	96
3	Herbimax		L	19.2	fl oz/a	EPOT		
4	Regiment	80	WP	0.4	oz/a	EPOT	44	96
4	Kinetic		L	2.4	fl oz/a	EPOT		
5	Basagran	4	EC	2	pt/a	EPOT	0	13
5	Herbimax		L	19.2	fl oz/a	EPOT		
6	IR5878	50	WG	2	oz/a	EPOT	58	92
6	Kinetic		L	2.4	fl oz/a	EPOT		
7	Stam	4	EC	3	qt/a	EPOT	64	93
8	Grandstand	3	SL	16.2	fl oz/a	EPOT	23	95
8	Herbimax		L	19.2	fl oz/a	EPOT		
9	Grasp	2	AS	1.98	fl oz/a	EPOT	41	95
9	Herbimax		L	19.2	fl oz/a	EPOT		
10	Facet	75	DF	10.7	oz/a	EPOT	51	97
10	Herbimax		L	19.2	fl oz/a	EPOT		
11	Permit	75	WG	1	oz/a	EPOT	66	97
11	Herbimax		L	19.2	fl oz/a	EPOT		
12	Aim	2	EC	1.6	fl oz/a	EPOT	28	43
13	Blazer	2	SL	16	fl oz/a	EPOT	82	50
13	Herbimax		L	19.2	fl oz/a	EPOT		
14	Beyond	1	SL	5	fl oz/a	EPOT	81	23
14	Herbimax		L	19.2	fl oz/a	EPOT		
15	Newpath	2	AS	4	fl oz/a	LPOT	49	1
15	Herbimax		L	19.2	fl oz/a	LPOT		
16	Unison	1.74	SL	1	qt/a	LPOT	58	95
17	Exp. Herb.	3.3	FL	7.76	fl oz/a	LPOT	45	95
17	Herbimax		L	19.2	fl oz/a	LPOT		
18	Regiment	80	WP	0.4	oz/a	LPOT	23	96
18	Kinetic		L	2.4	fl oz/a	LPOT		
19	Basagran	4	EC	2	pt/a	LPOT	0	0
19	Herbimax		L	19.2	fl oz/a	LPOT		

LSU AgCenter Rice Research Station
Mexicanweed Control with Rice Herbicides

Trial ID: OS04-85
Location: Jeff Davis Parish

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Unit	Grow Stg	CNPCA	AESIN
Weed Code							CNPCA	AESIN
Rating Data Type							CONTROL	CONTROL
Rating Unit							%	%
Rating Date							08/11/04	08/11/04
Trt-Eval Interval							30daLPOT	30daLPOT
20	IR5878	50	WG	2	oz/a	LPOT	38	84
20	Kinetic		L	2.4	fl oz/a	LPOT		
21	Grandstand	3	SL	16.2	fl oz/a	LPOT	49	96
21	Herbimax		L	19.2	fl oz/a	LPOT		
22	Grasp	2	AS	1.98	fl oz/a	LPOT	15	91
22	Herbimax		L	19.2	fl oz/a	LPOT		
23	Facet	75	DF	10.7	oz/a	LPOT	46	92
23	Herbimax		L	19.2	fl oz/a	LPOT		
24	Permit	75	WG	1	oz/a	LPOT	38	93
24	Herbimax		L	19.2	fl oz/a	LPOT		
25	Stam	4	EC	4	qt/a	LPOT	60	86
26	Aim	2	EC	1.6	fl oz/a	LPOT	20	16
27	Blazer	2	SL	16	fl oz/a	LPOT	24	35
27	Herbimax		L	19.2	fl oz/a	LPOT		
28	Beyond	1	SL	5	fl oz/a	LPOT	66	0
28	Herbimax		L	19.2	fl oz/a	LPOT		
29	Nontreated						0	0
LSD (P=.05)							19.5	12.8
Standard Deviation							13.8	9.1
CV							33.65	14.6
Grand Mean							40.89	61.99
Bartlett's X2							18.43	97.531
P(Bartlett's X2)							0.782	0.001*

RICE INSECTS RESEARCH

COMPARISON OF FOLIAR INSECTICIDES AND FERTILIZER IMPREGNATION

M. Stout and R. Pousson

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft; plots surrounded by metal flashing to retard water movement

Planting Method/Date: Drill seeded/June 1, 2004

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; nine treatments, four replications

Treatments:
1. Untreated control (UTC)
2. Icon @ 0.04 lb ai/A
3. Karate @ 0.03 lb ai/A, apply 1 day after flooding (daf)
4. Prolex @ 0.015 lb ai/A, apply 1 daf
5. Prolex @ 0.015 lb ai/A, apply 1 and 7 daf
6. Prolex @ 0.02 lb ai/A, apply 1 daf
7. Mustang Max @ 0.023 lb ai/A, apply 1 daf
8. Mustang Max impregnated on fertilizer @ 0.023 lb ai/A, apply 1 daf
9. Mustang Max impregnated on fertilizer @ 0.023 lb ai/A, apply 14 daf

Water Management: Flushed, June 22; permanent flood, June 22 (rice at 3- to 4-leaf stage); drained, Sept 23

Insecticide: See treatments above

Method: Seed treatment (Icon), backpack CO_2-powered sprayer (foliar sprays) or by hand (granular impregnation)

Date: Seed treatments: June 1 (at planting); Foliar sprays: June 23 (1 daf) and June 30 (7daf) (Treatment 5 only); Fertilizer impregnation: June 23 or June 30

Sampling: Cores/plot, three core samples per plot

Sampling Dates: July 8 (16 daf, 15 d after first insecticide application, 8 d after second insecticide application [Treatment 5 only]); July 15 (23 daf, 22 d after first insecticide application, 15 d after second insecticide application [Treatment 5 only]); and July 27 (35 daf, 34 d after first insecticide application, 27 d after second insecticide application [Treatment 5 only])

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Total number of larvae per plot was calculated by summing mean number of larvae per core over the three sampling dates. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation

Results:

	Larvae per core sample (± S.E.)		
	July 8	July 15	July 23
Treatment	(15 d after first foliar application)	(22 d after first foliar application)	(34 d after first foliar application)
UTC	12.4 ± 3.8	31.3 ± 8.4	15.6 ± 3.3
Icon	**0.8 ± 0.2***	16.7 ± 1.3	10.9 ± 0.6
Karate 1 daf	7.5 ± 3.0	20.1 ± 7.8	19.1 ± 5.1
Prolex 0.015 1 daf	**3.1 ± 0.9***	20.0 ± 4.4	16.8 ± 3.9
Prolex 0.015 1 daf + 7 daf	**1.0 ± 0.3***	11.2 ± 4.0	15.9 ± 3.5
Prolex 0.02 1 daf	**1.2 ± 0.2***	16.8 ± 2.5	19.2 ± 3.1
Mustang 1 daf	7.0 ± 1.7	30.8 ± 11.3	11.4 ± 2.8
Mustang fertilizer 1 daf	**2.2 ± 0.6***	14.2 ± 1.4	19.7 ± 0.2
Mustang fertilizer 14 daf	8.7 ± 2.5	15.2 ± 4.9	11.6 ± 1.5

* Means in bold and denoted with an asterisk are significantly different from mean for UTC for the indicated core sampling date (Tukey).

	Yields (lb/A ± S.E)
Treatment	
UTC	1451.8 ± 251
Icon	**4302.2 ± 518***
Karate 1 daf	2979.3 ± 731
Prolex 0.015 1 daf	3465.5 ± 1047
Prolex 0.015 1 daf + 7 daf	**4677.8 ± 148***
Prolex 0.02 1 daf	**4024.6 ± 723***
Mustang 1 daf	3357.5 ± 477
Mustang fertilizer 1 daf	3365.4 ± 450
Mustang fertilizer 14 daf	**3815.7 ± 557***

* Means in bold and denoted with an asterisk are significantly different from mean for UTC (Tukey).

Type III tests of fixed effects:

Core sampling 1: $F_{8,26}$= 4.69; Pr > F = 0.001
Core sampling 2: $F_{8,26}$= 1.37; Pr > F = 0.25
Core sampling 3: $F_{8,26}$ = 1.35; Pr > F = 0.26
Total larvae: $F_{8,26}$= 2.19; Pr > F 0.06
Yields: $F_{8,24}$ = 4.25; Pr > F = 0.003

Comments: Larval pressure was high. Significant treatment effects on numbers of larvae (Tukey tests) were observed only on the first core sampling date, although results from the second and third core samplings were suggestive. Total numbers of larvae were lower (albeit marginally, $P < 0.10$) in plots treated with Icon and with two applications of Prolex than in untreated control plots. Prolex applications were as effective as Karate or Mustang Max applications. Highest yields were obtained from plots in which two applications of Prolex were made. Mustang Max impregnated on fertilizer reduced larval populations on the first core sampling date when made 1 daf and increased yields over controls when made 14 daf. This indicates that fertilizer impregnations/coatings of pyrethroids may be an effective alternative for weevil control. The 14-daf treatment suggests that this type of application may have some curative (larvacidal) properties.

COMPARISON OF SEED TREATMENTS FOR RICE WATER WEEVIL CONTROL, 2003-2004

M. Stout and R. Pousson

2003 Experiment

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft

Planting Method/Date: Drill-seeded, Apr 22, 2003

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; eight treatments, four replications

Treatments:

10. Untreated control (UTC)
11. Icon @ 42 gm ai/100 kg seed
12. Cruiser (thiomethoxam) @ 80 gm ai/100 kg seed
13. Cruiser (thiomethoxam) @ 100 gm ai/100 kg seed
14. Karate Z seed treatment @ 50 gm ai/100 kg seed – low rate
15. Karate Z seed treatment @ 80 gm ai/100 kg seed – mid rate
16. Karate Z seed treatment @ 100 gm ai/100 kg seed – high rate
17. A14006 @ 200 gm ai/100 kg seed

All seed treatments (applications), including Icon, were made by Syngenta on dry seed and seeds were sent in labeled packages to Crowley

Water Management: Flushed, Apr 22; permanent flood, May 15; drained, Aug 1

Insecticide: See treatments above

Method: See seed treatments above

Sampling: Cores/plot: three core samples per plot

Sampling Dates: June 12 (28 days after flooding, daf; 51 days after planting, dap); June 19 (35 daf; 58 dap)

Harvest: Aug 13 with a Kubota 1300 combine

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larvae per core sample (± S.E.) on		Yields (lb/A)
	June 12	June 19	(Adjusted to 12% moisture)
Treatment	(28 daf; 51 dap)	(35 daf; 58 dap)	
UTC	10.3 ± 3.2	9.4 ± 2.5	6265.7 ± 1020
Icon	2.8 ± 0.6	5.2 ± 1.5	8116.0 ± 382
Cruiser – low rate	4.7 ± 1.7	6.4 ± 1.2	7900.4 ± 143
Cruiser – high rate	4.2 ± 1.2	7.4 ± 1.4	7831.9 ± 354
A14006	2.7 ± 1.2	2.6 ± 0.6	8215.3 ± 771
Karate – low rate	9.0 ± 2.3	11.8 ± 4.8	7471.1 ± 78
Karate – mid rate	14.4 ± 4.1	12.4 ± 1.4	7412.0 ± 200
Karate – high rate	10.3 ± 2.6	8.0 ± 0.8	7717.4 ± 338

*Means in bold and denoted with an asterisk are significantly different from mean for UTC for the indicated core sampling date (Tukey).

Type III tests of fixed effects:

Core sampling 1: $F_{7,23}$= 3.47; Pr > F = 0.01
Core sampling 2: $F_{7,21}$= 1.9; Pr > F = 0.11
Yields: $F_{7,21}$= 1.5; Pr > F = 0.21

2004 Early-Season Experiment

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17% CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft

Planting Method/Date: Drill-seeded, Apr 22

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; seven treatments, four replications

Treatments:
1. Untreated control (UTC)
2. Icon @ 42 gm ai/100 kg seed
3. Cruiser (thiomethoxam) @ 80 gm ai/100 kg seed
4. Karate seed treatment @ 80 gm ai/100 kg seed
5. A14006 @ 25 gm ai/100 kg seed – low rate
6. A14006 @ 50 gm ai/100 kg seed – mid rate
7. A14006 @ 100 gm ai/100 kg seed – high rate

All seed treatments (applications), including Icon, were made by Syngenta on dry seed and seeds were sent in labeled packages to Crowley.

Water Management: Flushed, Apr 22; permanent flood, May 24 (rice at early tillering stage); drained, Aug 2

Insecticide: See treatments above

Method: See seed treatments above

Sampling: Cores/plot: three core samples per plot

Sampling Dates: June 21 (28 daf, 60 d after planting) and June 29 (36 daf, 68 d after planting)

Harvest: Aug 16 with a Kubota 1300 combine

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larvae per core sample (± S.E.)		Yields (lb/A)
	June 21	June 29	Adjusted to 12%
Treatment	(28 daf; 60 dap)	(36 daf; 68 dap)	moisture)
UTC	17.6 ± 2.6	13.3 ± 0.7	5267.9 ± 195
Icon	13.6 ± 2.4	**7.0 ± 0.8***	5936.5 ± 144
A14006 – low rate	**7.2 ± 1.8***	7.5 ± 0.7	5784.0 ± 222
A14006 – mid rate	**7.1 ± 1.7***	**2.8 ± 0.5 ***	5978.5 ± 172
A14006 – high rate	**4.9 ± 0.6***	**3.5 ± 0.3 ***	5806.4 ± 310
Cruiser	13.7 ± 3.1	13.0 ± 3.0	5736.1 ± 225
Karate	**6.8 ± 1.3***	**4.6 ± 0.9***	5786.8 ± 446

* Means in bold and denoted with an asterisk are significantly different from mean for UTC for the indicated core sampling date (Tukey).

Type III tests of fixed effects:

Core sampling 1: $F_{6,20} = 5.3$; $Pr > F = 0.002$

Core sampling 2: $F_{6,20} = 10.8$; $Pr > F = 0.0001$

Yields: $F_{6,20} = 1.0$; $Pr > F = 0.48$

2004 Late-Season Experiment

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft

Planting Method/Date: Drill-seeded/May 27

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; seven treatments, four replications

Treatments:

1. Untreated control (UTC)
2. Icon @ 42 gm ai/100 kg seed
3. Cruiser (thiomethoxam) @ 80 gm ai/100kg seed
4. Karate seed treatment @ 80 gm ai/100 kg seed
5. A14006 (avermectin) @ 25 gm ai/100 kg seed – low rate
6. A14006 (avermectin) @ 50 gm ai/100 kg seed – mid rate
7. A14006 (avermectin) @ 100 gm ai/100 kg seed – high rate

All seed treatments (applications), including Icon, were made by Syngenta on dry seed and seeds were sent in labeled packages to Crowley.

Water Management: Flushed, June 11; permanent flood, June 23; drained, Sept 23

Insecticide: See treatments above

Method: See seed treatments above

Sampling: Cores/plot: three core samples per plot

Sampling Date: July 21 (30 daf, 55 dap)

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larva per core sample (± S.E)
	July 24
Treatment	(30 daf; 55 dap)
UTC	16.9 ± 4.4
Icon	**4.7 ± 1.1***
A14006 – low rate	**4.4 ± 2.0***
A14006 – mid rate	**5.9 ± 1.7***
A14006 – high rate	**4.2 ± 0.7***
Cruiser	**4.6 ± 1.2***
Karate	**7.1 ± 1.7***

* Means in bold and denoted with an asterisk are significantly different from mean for UTC for the indicated core sampling date (Tukey).

Type III tests of fixed effects:

Core sampling 1: $F_{6,20} = 4.37$; Pr > F = 0.006

Summary of Seed Treatment Experiments: The control given by the Karate Z and Cruiser seed treatments was not consistently as good as the control given by Icon. Control given by A14006 was comparable with that given by Icon, especially at the mid and high rates.

WATER- AND DRILL-SEEDED TESTS OF DINOTEFURAN

M. Stout and R. Pousson

A granular formulation of dinotefuran, a neonicotonoid insecticide, was tested against rice water weevil larvae in a water-seeded and a drill-seeded experiment in 2004. The timing of application was approximately 2 ½ weeks after flooding in both experiments (in other words, a use pattern similar to that of carbofuran).

Water-Seeded Experiment

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/140 lb/A

Plot Size: 4 x 18 ft; plots surrounded by metal flashing to retard water movement

Planting Method/Date: Water seeded/May 5

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; five treatments, four replications

Treatments:

18. Untreated control (UTC)
19. Icon @ 0.04 lb ai/A
20. Dinotefuran 1.5% granule @ 200 g ai/ha – low rate
21. Dinotefuran 1.5% granule @ 300 g ai/ha – mid rate
22. Dinotefuran 1.5% granule @ 600 g ai/ha – high rate

Dinotefuran applications made 17 days after flooding (daf)

Water Management: Planting flood, May 5; drained, May 10; flushed, May 12; permanent flood, May 24 (rice at 3-leaf stage); drained, July 26

Insecticide:

Name: Icon	Name: Dinotefuran 1.5% granule
Method: Seed treatment	Method: Shaker jar, by hand
Date: May 5 (at planting)	Date: June 10 (17 daf)
Rate: 0.04 lb ai/A	Rate: see above

Sampling: Cores/plot: three core samples per plot

Sampling Date: June 14 (21 daf, 4 d after dinotefuran applications); June 28 (35 daf; 18 d after dinotefuran)

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larvae per core sample (± S.E.)	
	June 14	June 28
Treatment	(4 d after application)	(18 d after application)
UTC	12.2 ± 2.6	13.2 ± 3.0
Icon	15.8 ± 2.0	10.7 ± 2.0
Dinotefuran – low rate	8.3 ± 1.0	**2.3 ± 0.2 ***
Dinotefuran – mid rate	9.0 ± 1.3	**2.7 ± 1.9 ***
Dinotefuran – high rate	4.9 ± 1.1	**1.1 ± 0.2 ***

* Means in bold and denoted with an asterisk are significantly different from mean for UTC for the indicated core sampling date (Tukey).

Type III tests of fixed effects:

Core sampling 1: $F_{4,14} = 5.69$; Pr > F = 0.0062
Core sampling 2: $F_{4,14} = 9.41$; Pr > F = 0.0007

Drill-Seeded Experiment

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft; plots surrounded by metal flashing to retard water movement

Planting Method/Date: Drill seeded/May 27

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; seven treatments, four replications

Treatments:
1. Untreated control (UTC)
2. Icon @ 0.04 lb ai/A
3. Dinotefuran 1.5% granule @ 200g ai/ha – low rate
4. Dinotefuran 1.5% granule @ 300 g ai/ha – mid rate
5. Dinotefuran 1.5% granule @ 600 g ai/ha – high rate
6. Furadan @ 0.6 lb ai/A, applied at the same time as dinotefuran
7. Additional control plots (ACP) – six untreated plots were located in a separately-leveed area approximately 25 feet from the main test in response to the concern that the metal flashing around plots was insufficient to prevent movement of insecticide in water to surrounding plots

Dinotefuran and carbofuran applications were made 18 days after flooding (daf)

Water Management: Flushed, May 31; permanent flood, June 18 (rice at 3- to 4-leaf stage); drained, Sept 7

Insecticide:

Name: Icon
Method: Seed treatment
Date: May 27 (at planting)
Rate: 0.04 lb ai/A

Name: Dinotefuran 1.5% granule
Method: By hand, shaker jar
Date: July 6 (18 daf)
Rate: see above

Sampling: Cores/plot: Three core samples per plot

Sampling Date: July 9 (21 daf, 3 d after dinotefuran applications); July 16 (28 daf, 10 d after dinotefuran); July 23 (35 daf, 17 d after dinotefuran)

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larvae per core sample (± S.E.)		
	July 9	July 16	July 23
Treatment	(3 d after application)	(10 d after application)	(17 d after application)
UTC	12.0 ± 0.8	34.6 ± 3.8	17.7 ± 3.5
ACP	18.1 ± 1.2	20.5 ± 2.3	20.6 ± 1.7
Icon	10.7 ± 0.8	**9.8 ± 0.9***	8.5 ± 1.3
Furadan	9.8 ± 1.3	**8.0 ± 3.3***	10.4 ± 0.7
Dinotefuran – low rate	15.3 ± 3.4	27.2 ± 3.0	15.8 ± 1.8
Dinotefuran – mid rate	13.3 ± 1.0	**18.7 ± 3.2***	10.2 ± 3.0
Dinotefuran – high rate	12.8 ± 1.6	**9.5 ± 1.8***	7.6 ± 2.7 **

*Means in bold and denoted with an asterisk are significantly different from mean for UTC for the indicated core sampling date (Tukey).
** P = 0.06.

Type III tests of fixed effects:

Core sampling 1: $F_{6,22} = 3.47$; Pr > F = 0.01
Core sampling 2: $F_{6,22} = 12.75$; Pr > F = 0.0001
Core sampling 3: $F_{6,22} = 5.64$; Pr > F = 0.001

Comments:

Water-Seeded Experiment: Significant treatment effects on both core sampling dates indicate that application of Dinotefuran significantly reduced larval densities. Poor performance of Icon probably resulted from treating seed by hand when wet and seeding too soon after treatment. Reduction in larval densities was greater 18 d after application than 4 d after application, suggesting that the insecticidal activity of Dinotefuran is slow. The high rate of Dinotefuran reduced larval densities 60% 4 d after application and 92% 18 d after application.

Drill-Seeded Experiment: Significant treatment effects on all core sampling dates suggest that application of Dinotefuran significantly reduced larval densities. Poor performance of all insecticides on first and third sampling dates was probably due to high weevil populations. Reductions in larval densities were greater 10 and 17 d after application than 3 d after application. The high rate of Dinotefuran reduced larval densities 73% 10 d after application.

WATER- AND DRILL-SEEDED TESTS OF ETOFENPROX

M. Stout and R. Pousson

A granular formulation of Etofenprox, a "pyrethroid-like" insecticide, was tested in a drill-seeded and a water-seeded experiment in 2004. Although a granular formulation was used, the timing of application was similar to that of the other pyrethroids used in rice, which are registered as liquid formulations.

Water-Seeded Experiment:

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/140 lb/A

Plot Size: 4 x 18 ft; plots surrounded by metal flashing to retard water movement

Planting Method/Date: Water seeded/Apr 22

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; five treatments, four replications

Treatments:

23. Untreated control (UTC)
24. Icon @ 0.04 lb ai/A
25. Etofenprox 1.5% granular @ 200g ai/ha – low rate
26. Etofenprox 1.5% granular @ 300 g ai/ha – mid rate
27. Etofenprox 1.5% granular @ 600 g ai/ha – high rate

Etofenprox applications made by hand using a shaker jar 6 days after flooding (daf)

Water Management: Planting flood, Apr 22; drained, Apr 27; permanent flood, May 18 (rice at 3- to 4-leaf stage); drained, July 26

Insecticide:

Name: Icon	Name: Etofenprox 1.5% granular
Method: Seed treatment	Method: By hand, shaker jar
Date: Apr 22 (at planting)	Date: May 24 (6 daf)
Rate: 0.04 lb ai/A	Rate: see above

Sampling: Cores/plot: three core samples per plot

Sampling Date: June 10 (23 daf, 17 d after etofenprox applications); June 18 (31 daf; 25 d after etofenprox)

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larvae per core sample (± S.E.)	
	June 10	June 18
Treatment	(17 d after application)	(25 d after application)
UTC	13.3 ± 0.9	15.5 ± 1.7
Icon	11.7 ± 2.3	10.3 ± 1.6
Etofenprox – low rate	**6.3 ± 1.7**	**8.6 ± 0.7**
Etofenprox – mid rate	**4.2 ± 1.1**	**7.5 ± 2.3**
Etofenprox– high rate	**2.9 ± 0.5**	**5.5 ± 1.0**

* Means in bold and denoted with an asterisk are significantly different from mean for UTC for the indicated core sampling date (Tukey).

Type III tests of fixed effects:

Core sampling 1: $F_{4,14} = 15.9$; $Pr > F = 0.0001$

Core sampling 2: $F_{4,14} = 6.9$; $Pr > F = 0.003$

Drill-Seeded Experiment:

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft; plots surrounded by metal flashing to retard water movement

Planting Method: Drill seeded/May 27

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; seven treatments, four replications

Treatments:

1. Untreated control (UTC)
2. Icon @ 0.04 lb ai/A
3. Etofenprox @ 200g ai/ha – low rate
4. Etofenprox @ 300 g ai/ha – mid rate
5. Etofenprox @ 600 g ai/ha – high rate
6. Karate @ 0.03 lb ai/A, applied at the same time as etofenprox
7. Additional control plots (ACP) – six untreated plots were located in a separately-leveed area approximately 25 feet from the main test in response to the concern that the metal flashing around plots was insufficient to prevent movement of insecticide in water to surrounding plots

Etofenprox and Karate applications were made 3 d after flooding.

Water Management: Flushed, May 31; permanent flood, June 18 (rice at 3- to 4-leaf stage)

Insecticide:

Name: Icon
Method: Seed treatment
Date: May 27 (at planting)
Rate: 0.04 lb ai/A

Name: Etofenprox
Method: By hand
Date: June 21 (daf)
Rate: see above

Name: Karate
Method: backpack sprayer
Date: June 21 (3 daf)
Rate: 0.03 lb ai/A

Sampling: Cores/plot: three core samples per plot

Sampling Date: July 12 (24 daf, 21 d after etofenprox applications); July 14 (27 daf, 24 d after etofenprox); and July 22 (34 daf, 31 d after etofenprox)

Harvest: Sept 14 with a Kubota 1300 combine

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larvae per core sample (± S.E.)		
	July 12	July 14	July 22
Treatment	(21 d after application)	(24 d after application)	(31 d after application)
UTC	**12.7 ± 1.6***	23.6 ± 3.3	16.1 ± 1.5
ACP	23.3 ± 1.3	22.8 ± 4.3	19.3 ± 2.5
Icon	**6.2 ± 1.6***	5.8 ± 1.0**	8.4 ± 0.9
Karate	**8.9 ± 1.8***	14.7 ± 3.5	18.4 ± 2.6
Etofenprox– low rate	**11.1 ± 1.9***	15.5 ± 5.2	11.9 ± 2.0
Etofenprox – mid rate	**8.5 ± 0.9***	18.0 ± 4.9	12.5 ± 1.7
Etofenprox – high rate	**9.7 ± 2.4***	13.3 ± 3.6	11.5 ± 0.2

* Means in bold and denoted with an asterisk are significantly different from mean for ACP for the indicated core sampling date (Tukey).
** P = 0.06.

Type III tests of fixed effects:
Core sampling 1: $F_{6,19} = 9.78$; Pr > F = 0.0001
Core sampling 2: $F_{6,19} = 2.75$; Pr > F = 0.04
Core sampling 2: $F_{6,19} = 5.35$; Pr > F = 0.002
Yields: $F_{5,15} = 2.67$; Pr > F = 0.06

Comments:

Water-Seeded Experiment: Poor performance of Icon probably resulted from treating seeds when wet and seeding too soon after treating. Etofenprox significantly reduced larval densities at both core sampling dates. At the high rate, control ranged from 65% (first core sampling) to 78% (second core sampling). Timing of etofenprox (6 daf) may not have been optimal. Experiment may underestimate the effect of etofenprox if product drifted in water from treated to untreated plots.

Drill-Seeded Experiment: High populations of adults probably contributed to poor performance of all insecticides. Higher numbers of weevils in untreated plots separated by a levee from etofenprox-treated plots than in untreated plots not separated by a levee from etofenprox-treated plots (Compare UTC with ACP treatments) suggest that drift of etofenprox from plots to which it was applied was occurring. For this reason, mean comparisons were made between treated plots and the ACP treatment (not the UTC treatment). Significant treatment effects were found on all core sampling dates, but Tukey tests revealed differences between ACP and insecticide treatments only on the first core sampling date. Performance of etofenprox was comparable with Karate but worse than Icon.

COMPARISON OF INSECTICIDES FOR RICE STINKBUG CONTROL

M. Stout and R. Pousson

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft; plots separated by at least 15 ft on all sides to minimize movement of bugs between plots

Planting Method/Date: Drill-seeded/Apr 20, 2004

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; eight treatments, four replications

Treatments:
1. Untreated control (UTC)
2. Karate Z, 0.03 lb ai/A, one application
3. Karate Z, 0.03 lb ai/A, two applications
4. Prolex, 0.015 lb ai/A, one application
5. Prolex, 0.02 lb ai/A, one application
6. Mustang Max, 0.023 lb ai/A, one application
7. Malathion, 0.75 lb ai/A, one application
8. Malathion, 1.5 lb ai/A, one application

The first application of insecticides was made on July 19, when rice was 50 to 75% headed and stinkbugs were present. Second application of Karate (Treatment 3 only) was made on July 23.

Water Management: Flushed, Apr 22; permanent flood, May 24; drained, Aug 13

Insecticide:

Name: Icon (water weevil control)	Name: see above for stink bug insecticides
Method: Seed treatment	Method: backpack CO_2 sprayer
Date: Apr 20 (at planting)	Date: July 19 and July 23
Rate: 0.07 lb ai/A	Rate: see above

Sampling: Sweeping: 10 sweeps per plot on each sampling date

Sampling Dates: (July 20, 21, 23, 26, 28, and 30 and Aug 3) with standard sweep net

Harvested: Aug 16 with a Kubota 1300 combine

Data Analysis: Numbers of adults and nymphs were combined for analysis. Because the number of bugs per 10 sweeps was low on any given sampling date, numbers of bugs per plot were summed through July 23 (subtotal1), July 28 (subtotal2), and Aug 3 (total). Treatment effects on stinkbug densities were analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Stinkbugs per 10 sweeps (± S.E.)	
	Subtotal 1	Subtotal 2
Treatment	(July 7-23, 1-4 d after application first)	(July 20-26, 1-6 d after first application)
UTC	2.5 ± 0.5	7.5 ± 1.3
Karate x 1	1.0 ± 0.6	3.0 ± 1.1
Karate x 2	1.0 ± 0.4	**1.3 ± 0.5****
Prolex – low rate	1.8 ± 0.9	5.0 ± 2.0
Prolex – high rate	0.8 ± 0.5	2.3 ± 0.6
Mustang Max	0.8 ± 0.8	4.0 ± 2.5
Malathion – low rate	3.0 ± 1.1	10.3 ± 1.0
Malathion – high rate	2.5 ± 0.3	5.8 ± 1.8

	Stinkbugs per 10 sweeps (± S.E.)	
	Total	Yields
Treatment	(July 20-Aug 3, 1-15 d after first application)	Adjusted to 12% moisture
UTC	22.3 ± 3.8	4635.4 ± 454
Karate x 1	12.3 ± 3.7	4869.8 ± 173
Karate x 2	**6.3 ± 1.7***	4954.3 ± 426
Prolex – low rate	**10.8 ± 3.6****	4333.4 ± 309
Prolex – high rate	**9.5 ± 2.1***	4644.1 ± 228
Mustang Max	12.3 ± 1.7	5038.4 ± 322
Malathion – low rate	25.0 ± 2.3	4306.0 ± 530
Malathion – high rate	20.3 ± 2.8	4424.2 ± 453

*Means in bold and denoted with a single asterisk are significantly different from mean for UTC for the indicated core sampling date ($P < 0.05$, Tukey).
** Means in bold and denoted with two asterisks are marginally different from mean for UTC for the indicated core sampling date ($P < 0.10$, Tukey).

Type III tests of fixed effects:
- Subtotal 1: $F_{7,23} = 1.8$; Pr > F = 0.15
- Subtotal 2: $F_{7,23} = 4.1$; Pr > F = 0.005
- Total: $F_{7,23} = 6.34$; Pr > F = 0.0003
- Yield: $F_{7,23} = 0.6$; Pr > F = 0.72

Comments: Low stinkbug densities hindered comparisons of the treatments. Two applications of Karate appeared to be the best treatment. Prolex was no worse than Mustang Max and Karate at controlling stinkbugs, and perhaps had a longer residual activity (indicated by significantly lower total numbers of stinkbugs).

TEST OF KARATE IMPREGNATED ON FERTILIZER

M. Stout, S. Martin, and R. Pousson

Location: Rice Research Station, Crowley, LA

Soil Type: Crowley silt loam (ph 6.0, Clay 12%, Silt 71%, Sand 17%, CEC 9.4 mole/kg)

Variety/Seeding Rate: Cocodrie/90 lb/A

Plot Size: 4 x 18 ft; plots surrounded by metal flashing to retard movement of insecticides between plots

Planting Method/Date: Drill-seeded/May 10, 2004

Fertilization/Weed Control: Standard practices

Experimental Design: Randomized complete block; six treatments, three replications

Treatments:

1. Untreated control (UTC)
2. Karate Z 2.08 CS @ 0.03 lb ai/A, impregnated (coated) on fertilizer, applied 1 day after flooding (daf)
3. SYN-007, fertilizer impregnation, applied 1 daf
4. Karate Z 2.08 CS @ 0.03 lb ai/A), spray treatment, applied 1 daf
5. SYN-007, spray treatment, 1 daf
6. Karate Z 2.08 CS @ 0.03 lb ai/A, impregnated on fertilizer, applied 14 daf

Water Management: Flushed, May 12 and May 25; permanent flood, June 2; drained, Aug 13

Insecticide:

Name: Karate Z 2.08 CS
Method: backpack CO2 sprayer
Date: June 30 (1 daf)
Rate: 0.03 lb ai/A

Name: Karate Z 2.08 CS
Method: Impregnated on fertilizer, applied by hand
Date: June 3 (1 daf); June 16 (14 daf)
Rate: 0.03 lb ai/A

Name: SYN-007 (identity not disclosed)
Method: backpack CO_2 sprayer, fertilizer impregnation
Date: June 3 (1 daf)

Sampling: Cores/plot: three core samples per plot

Sampling Dates: June 16 (14 daf, 13 d after initial insecticide applications); June 25 (23 daf; 22 d after initial insecticide application, 9 d after second application of Karate on fertilizer, Treatment 6); July 12 (40 daf, 39 d after first, 26 d after second insecticide application)

Data Analysis: Mean number of larvae per core calculated for each plot based on three core samples at each sampling date. Treatment effects on number of larvae per core and yields analyzed by PROC MIXED; treatment as fixed effect, block as random effect; Tukey mean separation.

Results:

	Larvae per core sample (± S.E.)		
	June 16	June 25	July 12
Treatment	(13 d after application)	(22 & 9 d after application)	(39 & 26 d after application)
UTC	6.0 ± 0.4	18.1 ± 3.4	10.6 ± 2.1
Karate fert, 1 daf	1.2 ± 0.5	9.8 ± 1.8	19.2 ± 2.7
Karate spray 1 daf	2.4 ± 0.6	**4.8 ± 1.0***	13.9 ± 1.2
SYN, fert, 1 daf	4.6 ± 2.6	12.8 ± 1.5	9.7 ± 2.4
SYN, spray, 1 daf	2.6 ± 0.9	10.9 ± 2.5	12.1 ± 1.6
Karate fert, 14 daf	12.3 ± 3.4	**7.0 ± 2.5***	10.9 ± 3.0

*Means in bold and denoted with an asterisk are significantly different from mean for ACP for the indicated core sampling date (Tukey)

Type III tests of fixed effects:

Core sampling 1: $F_{5,11} = 4.9$; Pr > F = 0.01
Core sampling 2: $F_{5,11} = 4.4$; Pr > F = 0.02
Core sampling 3: $F_{5,11} = 2.9$; Pr > F = 0.07

Comments: Larval densities were unaccountably low in control plots on the first core sampling date. However, larval densities in plots of Treatment 6 (Karate on fertilizer, applied 14 daf), which had not yet been treated on the first core sampling date, were significantly higher than larval densities in Treatment 2 (Karate on fertilizer, applied 1 daf), Treatment 3 (Karate, spray application, 1 daf), and Treatment 5 (SYN-007, spray application, 1 daf). This strongly suggests that these latter three treatments were effective in reducing weevil densities on the first core sampling date. Karate impregnated on fertilizer and applied on June 16 (14 daf) reduced larval densities relative to controls on June 25. The effectiveness of this application strongly suggests that it was killing larvae after they had established on the roots. Yields did not differ significantly among treatments (data not shown).

STATION PERSONNEL

Steve Linscombe, Professor	**Resident Coordinator**
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Gerardo R. Romero[4]	Research Associate
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[1] Retired 12/31/04.
[2] Appointed 11/15/04.
[3] Appointed 06/14/04.
[4] Transferred to Central Station 11/01/04.
[5] Transferred to Plant Pathology 04/26/04.
[6] Transferred from Southwest Region on 09/01/04.
[7] Retired 12/31/04.
[8] Resigned 12/31/04.
[9] Retired 12/31/04.

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Jeffery L. Jackson	Research Farm Specialist II
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