

Projected Costs and Returns Crop Enterprise Budgets for Sorghum Production in Louisiana, 2019

Michael A. Deliberto and Brian M. Hilbun



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by

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Introduction

This publication presents estimates of projected costs and returns for grain sorghum production in Louisiana for the 2019 crop year. Crop producers are annually faced with critical management decisions that impact the employment of production inputs for various crop enterprises and the combination of crops that will be assembled into a cropping system. The need for reliable information is crucial if sound production decisions are to be made. Planning information plays a pivotal role in the development of annual crop production plans by producers and is important in supporting their efforts to secure the necessary resources to carry out their plans. In addition, information regarding production alternatives and costs and returns for major crop enterprises is needed by extension personnel, researchers, lending institutions, and others involved in agriculture or agribusiness. The purpose of this report is to provide planning information regarding crop production costs and market returns for the 2019 crop year.

Crop enterprise budgets in this report are presented in two budget formats. The first budget format (table A) is a summary of costs and returns for the crop enterprise. The second budget format (table B) provides a table listing the sequence of production operations, indicating the equipment and

implements used, month of operation, labor required, machine time required, and materials used. Labor costs, material costs, custom costs, and direct and fixed costs for tractors and equipment are also included for each operation. All costs are summed giving the total cost per operation or practice. In addition, breakeven prices to cover direct production costs and total specified production costs are presented in tables C and D.

Procedure

The general procedure used in this study was to project machinery and other input price data and apply these data to the production practice data for crop enterprises produced in Louisiana. Input prices were obtained from surveys of farm suppliers, machinery dealers, and aerial applicators to provide a basis for estimating 2019 planning budgets. Machinery and other input cost data are presented in the Appendix.

The budgets included in this report are categorized by per acre total direct expenses and per acre total fixed expenses for a production season. Within these two broad categories, the various inputs are itemized with their respective costs. Although a particular enterprise budget is presented on a per acre basis, some individual cost items are specified on an hourly or price per unit

basis. Direct expenses include such cost items as seed, fertilizer, chemicals, fuel, labor, repairs, and irrigation. Fixed expenses include such items as depreciation and interest on investment which are generally incurred during the production period.

Due to the detailed nature of the cost computations, a computerized budget generator procedure was utilized. The Mississippi State Budget Generator Program, developed at Mississippi State University, is utilized by the LSU Agricultural Center in developing these crop enterprise costs and returns budgets. The budget generator provides a standard format for crop and livestock budgets and this computational procedure is widely accepted for estimating projected commodity costs and returns information for upcoming crop year planning purposes.

Expected Crop Yields and Market Prices

Projected crop enterprise budgets in this report include a calculation of expected market returns for the crop. Expected crop yields and market prices are selected at the beginning of the crop year. Projected crop yields are determined based on recent production history for expected yield given normal weather conditions. Projected market prices are specified as expected marketing year average prices for the commodity, based on harvest time futures price quotes as well as other market information at the beginning of the crop year. No estimate of income from farm program participation or crop insurance is included in this budgets due to the wide variety of farm program and crop insurance choices available to producers.

Direct Production Costs

Direct or variable production costs were estimated by utilizing updated crop production input price data. Input price data for various crop production inputs were updated by obtaining prices from farm input suppliers in the fall and winter prior to the crop year. Herbicide, fertilizer, and insecticide expenditures for each enterprise budget are based upon the types of chemicals producers generally reported using for that situation. Suggested prices for selected farm inputs and aerial application rates are presented in the appendix.

Hired labor was charged at \$10.73 per hour for all classes of labor except for harvest machinery and laser leveling operator labor. This wage rate include a basic wage rate plus additional costs for social security, Medicare, and workman's compensation. Operator labor was charged at \$15.30 per hour, which includes a basic wage rate plus additional costs for social security, Medicare, and workman's compensation. The higher wage rate was charged for these classes of operators because of the relatively higher skills required to run these types of machinery and the general consensus that these operators are generally twelve month (salaried) employees i.e. foremen. Farm labor may not be generally available on an hourly basis; however, an hourly charge represents a practical method for charging labor to the respective crop enterprises on a per acre basis.

Interest on operating capital (short term) was charged at a nominal rate of 6.00% per year. Operating capital was assumed to be borrowed in a manner consistent with timely acquisition of inputs. Fuel price for diesel was \$2.50 per gallon. Variable costs for tractors, self-propelled

machinery, and irrigation machinery include the cost of fuel, lubrication, and repair.

The intermediate term interest rate was charged at an historical real rate of 6.50%. The reasoning behind the difference in short and intermediate term rates is that longer term nominal rates are highly variable and closely follow the trend set by the rate of inflation. Intermediate term interest rates above the real rate of interest can overstate true interest costs because they overlook the value gained by an asset due solely to inflation.

Farm Machinery Costs

Machinery cost data were obtained from a sample of machinery dealers. New machinery prices were used to reflect the economic cost of acquiring and maintaining capital assets in current dollar values. Purchase prices for selected power and machinery items included in this report are presented in the appendix. Other data included in the appendix indicate hours of annual use and years of life for each selected machinery item. Fuel consumption, accumulated repair costs, and other machinery performance data are based on ASAE standards. Machinery fixed costs are calculated using the capital recovery method which includes estimates of both annual depreciation and interest on investment.

Overhead Costs

Overhead costs reflect significant expenses associated with the operation of the entire farm business, but are not necessarily attributable to a specific crop enterprise. Examples of farm overhead costs include tax services, record keeping, utilities, farmstead maintenance, and insurance and property taxes where applicable. General farm overhead costs can

vary greatly from farm to farm based on many factors including farm size, land tenure and crop production technology utilized. A single general farm overhead charge is included in each crop enterprise budget included in this report. This single overhead charge is based on production cost data published by the Economic Research Service, USDA for major crops produced in this region of the United States.

Acknowledgments

Several individuals were instrumental in making this report possible. The authors are particularly indebted to Louisiana crop producers and LSU Agricultural Center Extension Service agents and Experiment Station scientists for their cooperation and assistance in providing specific production practice information, as well as farm suppliers and agribusiness firms for supplying input price information.

Internet Access

This publication, along with projected costs and returns reports for other major agricultural crop commodities produced in Louisiana, as well as other farm management publications, are available on the Internet on the LSU AgCenter web page under the “*Extension and Outreach*” section of the Department of Agricultural Economics and Agribusiness web page. These projected costs and returns reports are also available on the LSU Ag Center crop commodities web pages. The web address for the LSU AgCenter is: www.lsuagcenter.com

Table 1.A Estimated costs per Acre
Grain Sorghum, 8-row equipment, 38 inch rows, non-irrigated,
Northeast Louisiana, 2019.

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
CUSTOM SPRAY					
App by Air (5 gal)	appl	6.50	1.5000	9.75	_____
App by Air (3 gal)	appl	5.00	2.0000	10.00	_____
FERTILIZERS					
LA Nitrogen	lb	0.43	110.0000	47.30	_____
LA Phosphate	lb	0.55	40.0000	22.00	_____
LA Potash	lb	0.32	40.0000	12.80	_____
FUNGICIDES					
Quadris	oz	1.56	6.0000	9.36	_____
HERBICIDES					
Roundup WeatherMax	oz	0.26	55.0000	14.30	_____
2,4-D Amine 4	pt	2.31	2.0000	4.62	_____
Atrazine 4L	pt	1.50	4.0000	6.00	_____
Dual II Magnum	pt	14.50	1.0000	14.50	_____
INSECTICIDES					
Karate Z	oz	1.02	2.1300	2.17	_____
Belt	oz	7.00	2.5000	17.50	_____
Transform	oz	7.81	1.0000	7.81	_____
Sivanto	oz	2.50	4.0000	10.00	_____
SEED/PLANTS					
Sorghum Concept	lb	2.10	6.0000	12.60	_____
CUSTOM FERT/LIME					
Lime (Spread)	ton	38.00	0.3300	12.54	_____
CUSTOM HARVEST/HAUL					
Haul Sorghum	bu	0.25	100.0000	25.00	_____
OPERATOR LABOR					
Harvesters	hour	13.40	0.0851	1.14	_____
LA Hired Labor					
Implements	hour	10.73	0.1190	1.28	_____
Tractors	hour	10.73	0.4011	4.30	_____
DIESEL FUEL					
Tractors	gal	2.50	3.4993	8.74	_____
Harvesters	gal	2.50	1.2047	3.01	_____
REPAIR & MAINTENANCE					
Implements	Acre	5.49	1.0000	5.49	_____
Tractors	Acre	2.02	1.0000	2.02	_____
Harvesters	Acre	2.79	1.0000	2.79	_____
INTEREST ON OP. CAP.	Acre	8.57	1.0000	8.57	_____

TOTAL DIRECT EXPENSES				275.59	_____
FIXED EXPENSES					
Implements	Acre	8.25	1.0000	8.25	_____
Tractors	Acre	13.80	1.0000	13.80	_____
Harvesters	Acre	12.02	1.0000	12.02	_____

TOTAL FIXED EXPENSES				34.07	_____

TOTAL SPECIFIED EXPENSES				309.66	_____

Table 1.B Estimated resource use and costs for field operations, per Acre
Grain Sorghum, 8-row equipment, 38 inch rows, non-irrigated,
Northeast Louisiana, 2019.

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST		EQUIPMENT COST		ALLOC LABOR		OPERATING/DURABLE INPUT			TOTAL COST	
						DIRECT	FIXED	DIRECT	FIXED	HOURS	COST	AMOUNT	PRICE	COST		
						-----dollars-----				dollars		-----dollars-----				
Lime (Spread)	ton			0.33	Oct							0.3300	38.00	12.54	12.54	
Disk Bed (Hipper)Rdg	8R-38	MFWD 190	0.074	1.00	Oct	2.23	2.88	0.35	1.01	0.07	0.80				7.27	
Roller	32'	MFWD 170	0.046	1.00	Oct	1.26	1.67	0.14	0.86	0.04	0.50				4.43	
Ditcher		2WD 130	0.020	1.00	Oct	0.39	0.40	0.05	0.07	0.02	0.21				1.12	
App by Air (5 gal)	appl			1.00	Mar							1.0000	6.50	6.50	6.50	
Roundup WeatherMax	oz											22.0000	0.26	5.72	5.72	
2,4-D Amine 4	pt											2.0000	2.31	4.62	4.62	
Ditcher		2WD 130	0.020	1.00	Apr	0.39	0.40	0.05	0.07	0.02	0.21				1.12	
Plant & Pre Rigid	8R-38	MFWD 170	0.080	1.00	Apr	2.18	2.88	1.31	2.78	0.16	1.72				10.87	
Sorghum Concept	lb											6.0000	2.10	12.60	12.60	
Fert Appl (Liquid)	8R-38	MFWD 190	0.077	1.00	Apr	2.34	3.02	0.98	1.22	0.11	1.25				8.81	
LA Nitrogen	lb											110.0000	0.43	47.30	47.30	
LA Phosphate	lb											40.0000	0.55	22.00	22.00	
LA Potash	lb											40.0000	0.32	12.80	12.80	
Atrazine 4L	pt			1.00	Apr							4.0000	1.50	6.00	6.00	
Roundup WeatherMax	oz											22.0000	0.26	5.72	5.72	
Dual II Magnum	pt											1.0000	14.50	14.50	14.50	
App by Air (3 gal)	appl			1.00	Jun							1.0000	5.00	5.00	5.00	
Karate Z	oz											2.1300	1.02	2.17	2.17	
Quadris	oz											6.0000	1.56	9.36	9.36	
App by Air (3 gal)	appl			1.00	Jul							1.0000	5.00	5.00	5.00	
Belt	oz											2.5000	7.00	17.50	17.50	
Transform	oz											1.0000	7.81	7.81	7.81	
Sivanto	oz											4.0000	2.50	10.00	10.00	
App by Air (5 gal)	appl			0.50	Aug							0.5000	6.50	3.25	3.25	
Roundup WeatherMax	oz											11.0000	0.26	2.86	2.86	
Header Wheat/Sorghum	30' Rigid	275hp	0.085	1.00	Aug	5.80	12.02	0.50	0.83	0.08	1.14				20.29	
Haul Sorghum	bu			1.00	Aug							100.0000	0.25	25.00	25.00	
Stalk Shredder-Flail	20'	MFWD 150	0.082	1.00	Sep	1.97	2.55	2.11	1.41	0.08	0.89				8.93	
TOTALS						16.56	25.82	5.49	8.25	0.60	6.72			238.25		301.09
INTEREST ON OPERATING CAPITAL																8.57
UNALLOCATED LABOR																0.00
TOTAL SPECIFIED COST																309.66

Table 1.C Breakeven price above direct expenses and net returns for price/yield combinations, per Acre
Grain Sorghum, 8-row equipment, 38 inch rows, non-irrigated,
Northeast Louisiana, 2019.

Grain Sorghum			-----BREAKEVEN PRICE-----										
			1.92	2.04	2.17	2.33	2.52	2.75	3.03	3.38	3.82	4.42	5.25
PERCENT	YIELD	UNIT	-----dollars-----										
50	50.00	bu	-166	-160	-153	-145	-136	-125	-111	-93	-71	-41	0
			-200	-194	-187	-179	-170	-159	-145	-127	-105	-75	-34
60	60.00	bu	-150	-142	-134	-125	-113	-100	-83	-62	-35	0	50
			-184	-176	-168	-159	-147	-134	-117	-96	-69	-34	15
70	70.00	bu	-133	-125	-115	-104	-90	-75	-55	-31	0	41	100
			-167	-159	-149	-138	-125	-109	-89	-65	-34	7	65
80	80.00	bu	-116	-107	-96	-83	-68	-50	-27	0	35	83	150
			-150	-141	-130	-117	-102	-84	-61	-34	1	49	115
90	90.00	bu	-100	-89	-76	-62	-45	-25	0	31	71	125	200
			-134	-123	-111	-96	-79	-59	-34	-2	37	90	166
100	100.00	bu	-83	-71	-57	-41	-22	0	27	62	107	166	250
			-117	-105	-91	-75	-56	-34	-6	28	73	132	216
110	110.00	bu	-66	-53	-38	-20	0	25	55	93	142	208	300
			-100	-87	-72	-54	-34	-9	21	59	108	174	266
120	120.00	bu	-50	-35	-19	0	22	50	83	125	178	250	350
			-84	-69	-53	-34	-11	15	49	90	144	216	316
130	130.00	bu	-33	-17	0	20	45	75	111	156	214	291	400
			-67	-51	-34	-13	11	40	77	122	180	257	366
140	140.00	bu	-16	0	19	41	68	100	138	187	250	333	450
			-50	-34	-14	7	34	65	104	153	216	299	416
150	150.00	bu	0	17	38	62	90	125	166	218	285	375	500
			-34	-16	4	28	56	90	132	184	251	341	466

The top number in each cell is Returns Above Direct Expenses.
The bottom number in each cell is Returns Above Total Specified Expenses.
Only the product listed has been varied to calculate net returns.

Table 1.D Breakeven price above total expenses and net returns for price/yield combinations, per Acre
Grain Sorghum, 8-row equipment, 38 inch rows, non-irrigated,
Northeast Louisiana, 2019.

Grain Sorghum			-----BREAKEVEN PRICE-----										
			2.14	2.28	2.44	2.62	2.83	3.09	3.41	3.80	4.31	4.99	5.93
PERCENT	YIELD	UNIT	-----dollars-----										
50	50.00	bu	-155	-148	-140	-131	-120	-108	-92	-72	-47	-13	34
			-189	-182	-174	-165	-154	-142	-126	-106	-81	-47	0
60	60.00	bu	-136	-128	-118	-108	-95	-79	-60	-36	-6	34	90
			-170	-162	-153	-142	-129	-113	-94	-71	-40	0	56
70	70.00	bu	-117	-108	-97	-84	-69	-51	-29	-1	34	81	147
			-151	-142	-131	-118	-103	-85	-63	-35	0	47	113
80	80.00	bu	-98	-87	-75	-60	-43	-22	2	34	74	128	204
			-132	-121	-109	-94	-77	-56	-31	0	40	94	170
90	90.00	bu	-79	-67	-53	-36	-17	5	34	69	115	176	261
			-113	-101	-87	-71	-51	-28	0	35	81	142	227
100	100.00	bu	-60	-47	-31	-13	8	34	65	105	155	223	318
			-94	-81	-65	-47	-25	0	31	71	121	189	284
110	110.00	bu	-41	-26	-9	10	34	62	97	140	196	270	375
			-75	-60	-43	-23	0	28	63	106	162	236	340
120	120.00	bu	-22	-6	12	34	59	90	128	176	237	318	431
			-56	-40	-21	0	25	56	94	142	202	284	397
130	130.00	bu	-3	13	34	57	85	119	160	211	277	365	488
			-37	-20	0	23	51	85	126	177	243	331	454
140	140.00	bu	15	34	55	81	111	147	191	247	318	412	545
			-18	0	21	47	77	113	157	213	284	378	511
150	150.00	bu	34	54	77	105	137	176	223	282	358	460	602
			0	20	43	71	103	142	189	248	324	426	568

The top number in each cell is Returns Above Direct Expenses.
The bottom number in each cell is Returns Above Total Specified Expenses.
Only the product listed has been varied to calculate net returns.

Table 2.A Estimated costs per Acre
Grain Sorghum, drill planted, conventional tillage, non-irrigated,
Southwest Louisiana, 2019.

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
CUSTOM SPRAY					
App by Air (3 gal)	appl	5.00	1.0000	5.00	_____
LARice GPS Charge-SW	acre	0.35	2.0000	0.70	_____
App by Air (5 gal)	appl	6.50	1.0000	6.50	_____
FERTILIZERS					
LA Nitrogen	lb	0.43	104.0000	44.72	_____
LA Phosphate	lb	0.55	48.0000	26.40	_____
LA Potash	lb	0.32	48.0000	15.36	_____
FUNGICIDES					
Quadris	oz	1.13	6.0000	6.78	_____
HERBICIDES					
Londax 60DF	oz	18.08	2.4000	43.39	_____
INSECTICIDES					
Belt	oz	7.00	2.5000	17.50	_____
Sivanto	oz	2.50	4.0000	10.00	_____
Transform	oz	7.81	1.0000	7.81	_____
SEED/PLANTS					
Sorghum Concept	lb	2.10	9.0000	18.90	_____
CUSTOM FERT/LIME					
Custom Spread(Truc	appl	4.50	1.0000	4.50	_____
CUSTOM HARVEST/HAUL					
Haul Sorghum	bu	0.25	100.0000	25.00	_____
HAND LABOR					
Implements	hour	9.06	0.0942	0.85	_____
LA OPERATOR LABOR					
Self-Propelled	hour	15.30	0.2310	3.54	_____
LA Hired Labor					
Tractors	hour	10.73	0.3812	4.07	_____
DIESEL FUEL					
Tractors	gal	2.50	3.7828	9.44	_____
Self-Propelled	gal	2.50	1.4915	3.73	_____
REPAIR & MAINTENANCE					
Implements	acre	3.99	1.0000	3.99	_____
Tractors	acre	2.27	1.0000	2.27	_____
Self-Propelled	acre	8.40	1.0000	8.40	_____
INTEREST ON OP. CAP.	acre	5.24	1.0000	5.24	_____

TOTAL DIRECT EXPENSES				274.09	_____
FIXED EXPENSES					
Implements	acre	9.87	1.0000	9.87	_____
Tractors	acre	15.69	1.0000	15.69	_____
Self-Propelled	acre	13.83	1.0000	13.83	_____

TOTAL FIXED EXPENSES				39.39	_____

TOTAL SPECIFIED EXPENSES				313.48	_____

Table 2.B Estimated resource use and costs for field operations, per Acre
Grain Sorghum, drill planted, conventional tillage, non-irrigated,
Southwest Louisiana, 2019.

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST		EQUIPMENT COST		ALLOC LABOR		OPERATING/DURABLE INPUT			TOTAL COST
						DIRECT	FIXED	DIRECT	FIXED	HOURS	COST	AMOUNT	PRICE	COST	
						-----dollars-----				dollars		-----dollars-----			
Disk Harrow	28'	MFWD 225	0.070	1.00	Feb	2.53	3.45	0.97	2.27	0.07	0.75				9.97
Disk Harrow	28'	MFWD 225	0.070	1.00	Mar	2.53	3.45	0.97	2.27	0.07	0.75				9.97
Ditcher		MFWD 130	0.020	1.00	Mar	0.40	0.48	0.05	0.07	0.02	0.21				1.21
LA Boom Sprayer	30 ft	MFWD 170	0.059	1.00	Apr	1.62	2.15	0.13	0.16	0.05	0.64				4.70
Londax 60DF	oz											2.4000	18.08	43.39	43.39
Custom Spread(Truc	appl			1.00	Apr							1.0000	4.50	4.50	4.50
LA Nitrogen	lb											104.0000	0.43	44.72	44.72
LA Phosphate	lb											48.0000	0.55	26.40	26.40
LA Potash	lb											48.0000	0.32	15.36	15.36
Field Cultivate	32'	MFWD 225	0.046	1.00	Apr	1.68	2.30	0.46	2.13	0.04	0.50				7.07
Grain Drill	20'	MFWD 170	0.094	1.00	Apr	2.55	3.38	1.36	2.90	0.18	1.86				12.05
Sorghum Concept	lb											9.0000	2.10	18.90	18.90
Ditcher		MFWD 130	0.020	1.00	Apr	0.40	0.48	0.05	0.07	0.02	0.21				1.21
App by Air (3 gal)	appl			1.00	Jun							1.0000	5.00	5.00	5.00
Quadris	oz											6.0000	1.13	6.78	6.78
LARice GPS Charge-SW	acre											1.0000	0.35	0.35	0.35
App by Air (5 gal)	appl			1.00	Jul							1.0000	6.50	6.50	6.50
Belt	oz											2.5000	7.00	17.50	17.50
LARice GPS Charge-SW	acre											1.0000	0.35	0.35	0.35
Sivanto	oz											4.0000	2.50	10.00	10.00
Transform	oz											1.0000	7.81	7.81	7.81
LARice Combine Med		20 ft	0.210	1.00	Aug	12.13	13.83			0.23	3.54				29.50
Haul Sorghum	bu			1.00	Aug							100.0000	0.25	25.00	25.00
TOTALS						23.84	29.52	3.99	9.87	0.70	8.46			232.56	308.24
INTEREST ON OPERATING CAPITAL															5.24
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															313.48

Table 2.C Breakeven price above direct expenses and net returns for price/yield combinations, per Acre
Grain Sorghum, drill planted, conventional tillage, non-irrigated,
Southwest Louisiana, 2019.

LA Sorghum			-----BREAKEVEN PRICE-----										
			1.91	2.02	2.16	2.32	2.51	2.74	3.01	3.36	3.80	4.40	5.23
PERCENT	YIELD	UNIT	-----dollars-----										
50	50.00	bu.	-165	-160	-153	-145	-135	-124	-110	-93	-71	-41	0
			-205	-199	-192	-184	-175	-163	-150	-132	-110	-80	-39
60	60.00	bu.	-149	-142	-134	-124	-113	-99	-82	-62	-35	0	49
			-188	-181	-173	-163	-152	-138	-122	-101	-74	-39	10
70	70.00	bu.	-132	-124	-114	-103	-90	-74	-55	-31	0	41	99
			-172	-163	-154	-143	-129	-114	-94	-70	-39	2	60
80	80.00	bu.	-116	-106	-95	-82	-67	-49	-27	0	35	82	149
			-155	-146	-135	-122	-107	-89	-67	-39	-3	43	109
90	90.00	bu.	-99	-88	-76	-62	-45	-24	0	31	71	124	199
			-138	-128	-115	-101	-84	-64	-39	-8	31	85	159
100	100.00	bu.	-82	-71	-57	-41	-22	0	27	62	106	165	248
			-122	-110	-96	-80	-62	-39	-11	22	67	126	209
110	110.00	bu.	-66	-53	-38	-20	0	24	55	93	142	207	298
			-105	-92	-77	-60	-39	-14	15	53	102	168	259
120	120.00	bu.	-49	-35	-19	0	22	49	82	124	177	248	348
			-89	-74	-58	-39	-16	10	43	85	138	209	309
130	130.00	bu.	-33	-17	0	20	45	74	110	155	213	290	398
			-72	-57	-39	-18	5	35	71	116	174	251	358
140	140.00	bu.	-16	0	19	41	67	99	138	186	248	331	448
			-55	-39	-20	2	28	60	98	147	209	292	408
150	150.00	bu.	0	17	38	62	90	124	165	217	284	373	497
			-39	-21	-1	22	51	85	126	178	245	334	458

The top number in each cell is Returns Above Direct Expenses.
The bottom number in each cell is Returns Above Total Specified Expenses.
Only the product listed has been varied to calculate net returns.

Table 2.D Breakeven price above total expenses and net returns for price/yield combinations, per Acre
Grain Sorghum, drill planted, conventional tillage, non-irrigated,
Southwest Louisiana, 2019.

LA Sorghum			-----BREAKEVEN PRICE-----										
			2.17	2.31	2.46	2.65	2.87	3.13	3.45	3.85	4.37	5.05	6.01
PERCENT	YIELD	UNIT	-----dollars-----										
50	50.00	bu.	-152	-145	-138	-128	-117	-104	-88	-68	-42	-8	39
			-192	-185	-177	-168	-157	-144	-128	-108	-82	-48	0
60	60.00	bu.	-133	-125	-115	-104	-91	-75	-56	-32	-1	39	97
			-173	-164	-155	-144	-131	-115	-96	-72	-41	0	57
70	70.00	bu.	-114	-104	-93	-80	-65	-47	-24	3	39	87	154
			-153	-144	-133	-120	-104	-86	-64	-36	0	48	115
80	80.00	bu.	-95	-84	-71	-56	-39	-18	7	39	80	135	212
			-134	-123	-110	-96	-78	-57	-32	0	41	96	173
90	90.00	bu.	-75	-63	-49	-32	-13	10	39	75	121	183	270
			-115	-102	-88	-72	-52	-28	0	36	82	144	230
100	100.00	bu.	-56	-42	-27	-8	13	39	71	111	162	231	327
			-96	-82	-66	-48	-26	0	32	72	123	192	288
110	110.00	bu.	-37	-22	-4	15	39	68	103	147	204	279	385
			-76	-61	-44	-24	0	28	64	108	164	240	346
120	120.00	bu.	-18	-1	17	39	65	97	135	183	245	327	443
			-57	-41	-22	0	26	57	96	144	205	288	403
130	130.00	bu.	0	18	39	63	91	125	167	219	286	375	500
			-38	-20	0	24	52	86	128	180	247	336	461
140	140.00	bu.	20	39	61	87	118	154	199	255	327	423	558
			-19	0	22	48	78	115	160	216	288	384	519
150	150.00	bu.	39	59	83	111	144	183	231	291	368	471	616
			0	20	44	72	104	144	192	252	329	432	576

The top number in each cell is Returns Above Direct Expenses.
The bottom number in each cell is Returns Above Total Specified Expenses.
Only the product listed has been varied to calculate net returns.

Appendix Table 1. Operating Inputs: Estimated Prices for 2019.

ITEM NAME	UNIT	PRICE
		dollars
ADJUVANTS		
Surfactant	pt	1.75
CUSTOM FERT/LIME		
App Fert by Air	cwt	7.00
App Fert by Air(Min)	appl	7.00
Custom Apply Fert	acre	7.50
Custom Spread(Truc	appl	4.50
Lime (Spread)	ton	38.00
CUSTOM HARVEST/HAUL		
Custom Combine Rice	acre	0.00
Haul Corn	bu	0.23
Haul Cotton	lb	0.02
Haul Rice	bu	0.35
Haul Rice (cwt)	cwt	0.25
Haul Sorghum	bu	0.25
Haul Soybeans	bu	0.27
Haul Wheat	bu	0.26
LARice Haul	cwt	0.30
CUSTOM PLANT		
Custom Spread + Seed	appl	0.00
LARice Air Plant NE	cwt	5.50
LARice Air Plant SW	cwt	5.60
Plant by Air	cwt	7.00
CUSTOM SPRAY		
App 2,4-D Helicopter	appl	0.00
App by Air (1 gal)	appl	2.50
App by Air (2 gal)	appl	4.00
App by Air (3 gal)	appl	5.00
App by Air (5 gal)	appl	6.50
App by Air (10 gal)	appl	9.00
App Furadan by Air	appl	0.00
App Ordram by Air	appl	0.00
Custom Apply	acre	7.00
Custom Terragator	acre	5.00
LARice GPS Charge-SW	acre	0.35
LARice GPS Charge_NE	acre	0.25
Spray Levees, 4whlr	acre	0.00
FERTILIZERS		
Amm Nitrate (34% N)	cwt	22.50
Amm Sulfate (21% N)	cwt	13.43
Anhy Ammonia (82% N)	cwt	28.00
Boron (Solubor)	lb	0.75
Crop Oil (Seed Oil)	pt	4.60
DAP	cwt	23.76
Fert 0-20-20	cwt	0.00
Fert 10-10-10	cwt	0.00
Fert 10-34-0	cwt	22.25
Fert 10-34-0	gal	2.59
Fert 13-13-13	cwt	0.00
Fert 41-0-0-4	cwt	13.50
Fert 5-20-20	cwt	0.00
LA Nitrogen	lb	0.43
LA Phosphate	lb	0.55
LA Potash	lb	0.32
Phosphorus(46% P2O5)	cwt	23.75
Potash (60% K2O)	cwt	20.00
Sulfur	lb	0.34
UAN (32% N)	cwt	11.25
UAN + Sulfur (28% N)	cwt	12.40
Urea, Solid (46% N)	cwt	14.50
Zinc	lb	0.50
FUNGICIDES		
Apron Maxx RTA	oz	0.95
Apron XL	oz	6.98
Apron XL LS	oz	5.27
Benlate 50 WP	lb	15.95
Captan 4L	pt	2.83
Captan 50 WP	lb	4.28
Crop Oil (Petroleum)	pt	2.37
Cruiser 5FS	oz	17.38
Delta Coat AD	oz	3.75
Dithane F-45	qt	7.81

Appendix Table 1 Cont'd. Operating Inputs: Estimated Prices for 2019.

ITEM NAME	UNIT	PRICE
FUNGICIDES CONT'D		
Dithane Rainsheild	lb	4.08
Fungicide	lb	2.82
Gem 25 WG	oz	3.70
Manzate 75 DF	lb	4.86
Manzate Flowable	pt	4.60
Moncut 70 DF	lb	32.81
Orbit	oz	2.75
Prevail	lb	28.50
Quadris	oz	1.13
Ridomil GoldPC 10G	lb	2.08
Ridomil Gold PC	lb	5.30
Ridomil Gold PC Liq	oz	6.42
Rovral 4F	pt	14.90
Rovral WG	lb	0.00
Shelter	oz	8.50
Stiletto	oz	0.58
Stratego	pt	76.88
Terrachlor Flowable	pt	4.74
Terraclor 2EC	pt	1.87
Terraclor Super X EC	pt	3.95
Terraclor Super X G	lb	2.82
Tilt 3.6 EC	oz	0.75
Vitavax 200	oz	0.47
Vitavax M Flowable	oz	1.06
Vitavax RTU-Thiram	oz	0.40
Vitavax T-L	oz	0.29
GIN/DRY		
Dry Corn	bu	0.19
Dry Grain Sorghum	cwt	0.25
Dry Rice	bu	0.40
Dry Rice (cwt)	cwt	0.90
Gin	lb	0.11
LARice Dry	cwt	0.90
GROWTH REGULATORS		
Early Harvest PGR	oz	1.55
LA Polado	oz	0.18
Mepex	oz	0.08
PGR IV	oz	1.55
Pix Plus	oz	0.40
Pix Ultra	oz	0.39
HARVEST AIDS		
Accelerate	pt	2.59
Ammonium Sulfate	lb	0.24
Boll'd	pt	7.01
CottonQuik	pt	6.06
Def 6	pt	6.88
Def/Folex	pt	7.00
Dropp 50 WP	lb	45.45
Dropp SC	oz	1.09
Ethephon 6E	pt	3.53
Finish 6	pt	9.60
Folex 6EC	pt	10.90
Ginstar EC	pt	26.41
Gramoxone Extra	pt	4.86
Gramoxone Max	pt	4.16
Harvade 5F	oz	0.67
Leafless	pt	18.56
Prep	pt	3.00
Sodium Chlorate 3L	gal	3.50
Sodium Chlorate 6L	gal	5.57
Starfire	pt	0.00
HERBICIDES		
2,4-D Amine 4	pt	2.31
2,4-D Ester	pt	4.17
AAtrex 4L	pt	2.12
AAtrex NINE-O	lb	3.96
Accent Gold	oz	6.12
Accent SP	oz	36.25
Aim 2EC	oz	5.25
Aim DF	oz	9.65

Appendix Table 1 Cont'd. Operating Inputs: Estimated Prices for 2019.

ITEM NAME	UNIT	PRICE
HERBICIDES CONT'D		
Arrosolo	qt	7.88
Assure II	oz	0.74
Atrazine 4L	pt	1.50
Atrazine 90DF	lb	3.38
Authority 75DF	lb	26.95
Axiom 68DF	lb	25.74
Backdraft	pt	2.40
Banvel	pt	13.43
Basagran	pt	12.31
Basis Gold	lb	9.00
Beacon 75% WSP	oz	34.87
Beyond	oz	4.48
Bicep II Magnum	qt	11.01
Bicep II zmsgnum	qt	10.97
bladex 4L	qt	0.00
Bladex 90DF	lb	0.00
Blazer 2L	pt	0.00
Blazer Ultra	pt	9.79
Boa	pt	3.63
Bolero 8EC	pt	7.73
Boundary	pt	11.21
Buctril 4EC	pt	17.06
Butoxone 175(2,4-DB)	pt	3.24
Butoxone 200(2,4-DB)	pt	3.92
Butyrac 175 (2,4-DB)	pt	3.29
Butyrac 200 (2,4-DB)	pt	4.34
Canopy 75%	oz	2.74
Canopy XL	oz	2.23
Caparol 4L	pt	4.52
Caparol Accu-Pak	lb	0.00
Celebrity Plus	lb	84.50
Clarity	pt	11.51
Classic	oz	17.18
Clincher EC	oz	2.30
Cobra 2EC	oz	1.72
Command 3ME	pt	18.50
Command XTRA	pt	0.00
Conclude Ultra	pt	0.00
Conclude Ultra	pt	0.00
Conclude XACT	pt	11.32
Conclude XTRA	pt	8.32
Cornerstone	pt	2.50
Cotoran 4L	pt	6.42
Cotoran DF	lb	7.92
Cotton Pro Flowable	pt	3.52
Crossbow	pt	8.05
Cy-Pro 4L	qt	0.00
Cypro 90DF	lb	0.00
Delta Goal	pt	9.44
Denim 0.16 EC	pt	24.06
Detail	pt	7.99
Direx 4L	pt	3.99
Direx 80 DF	lb	6.20
Diuron 4L	pt	3.90
Diuron 80 DF	lb	5.09
Domain 60DF	lb	12.75
DSMA 4	pt	0.90
Dual 8E	pt	0.00
Dual II Magnum	pt	14.50
Dual Magnum	pt	13.81
Duet	pt	5.35
Evik DF 80W	lb	11.22
Exceed	oz	10.71
Exceed Custom Pak	oz	11.50
Expert	pt	4.39
Facet 75DF	lb	50.00
First Rate	oz	43.40
Flexstar HL	pt	4.50
FloMet 4L	pt	4.74
Freedom	qt	2.51
Front Row	oz	21.92
Frontier 6.0	oz	0.63

Appendix Table 1 Cont'd. Operating Inputs: Estimated Prices for 2019.

ITEM NAME	UNIT	PRICE
Fultime	pt	6.29
Fusilade DX	oz	1.00
Fusion	pt	29.86
Glyfos	pt	1.80
Glyphomax	pt	3.49
Glyphosate Plus 4L	pt	2.00
Glystar Plus	pt	2.17
Goal 2XL	pt	9.89
Gramoxone Extra	pt	0.00
Gramoxone Max	pt	4.16
Gramoxone Max	pt	4.16
Grandstand R	qt	17.15
Guardsman	pt	4.66
Guardsman Max	pt	7.22
Harmony Extra	oz	14.43
Hoelon 3EC	pt	11.03
Karmex DF	lb	5.93
LA Asulox/Asulam	gal	42.20
LA Weedmaster	qt	5.75
Lariat	qt	7.58
Lasso 4EC	qt	6.60
Lasso II 15G	lb	0.00
Layby Pro	qt	12.60
Lexone 75DF	lb	18.90
Liberty	pt	8.84
Lightning	oz	14.25
Lightning	oz	14.25
Linex 4L	pt	9.28
Londax 60DF	oz	18.08
Lorox 50DF	lb	24.12
Matador	pt	0.00
MSMA 6.6	pt	3.68
MSMA6 + Surfactant	pt	3.63
Newpath 2SL	oz	3.83
Ordram 15-G	lb	1.34
Ordram 8-E	pt	9.42
Outlook	pt	17.47
Pendimax 3.3	pt	2.47
Permit 75DF	oz	18.50
Poast 1.53	pt	12.77
Poast Plus	pt	9.69
Propanil 4E	qt	5.15
Prowl 3.3 EC	pt	5.44
Pursuit DG	oz	11.59
Pursuit Plus EC	pt	7.10
Python WDG	oz	15.58
Raptor	oz	4.38
Reflex 2LC	pt	6.52
Regiment 80WP	oz	4.38
Remedy	pt	8.45
Resource .86EC	pt	29.40
Ricestar	pt	24.35
Roundup Original	pt	6.00
Roundup Original Max	oz	0.38
Roundup Power Max	pt	2.94
Roundup Ultra MAX	pt	5.97
Roundup Ultra Dry	lb	6.14
Roundup WeatherMax	oz	0.26
Scepter 70 DG	oz	4.48
Select 2EC	oz	0.70
Sencor 4F	pt	14.74
Sencor DF	lb	12.75
Squadron CE	pt	12.50
Stam 4E	qt	5.12
Stam 80 EDF	lb	9.64
Staple 85%	oz	16.01
Staple Plus	oz	8.55
Steadfast	oz	12.26
Steel	pt	10.28
Storm	pt	11.41
Strongarm	oz	56.42
Superwham	qt	9.20
Suprend	lb	13.74

Appendix Table 1 Cont'd. Operating Inputs: Estimated Prices for 2019.

ITEM NAME	UNIT	PRICE
Surpass 20G	lb	2.36
Surpass EC	qt	26.36
Touchdown	qt	9.32
Touchdown 4 IQ	pt	3.33
Touchdown Total	qt	6.97
Treflan HFP	pt	3.52
Treflan TR-10	lb	1.10
Tri-Scept	pt	5.24
Trifluralin 4EC	pt	3.52
Trilin 10G	lb	0.79
Trilin 4EC	pt	2.12
Typhoon	qt	13.06
Valor WP	oz	4.38
Whip 360	pt	25.08
Zorial Rapid 80DF	lb	14.10
INSECTICIDES		
Acephate 80SP	lb	0.00
Acephate 90SP	lb	7.92
Admire 2 Flowable	oz	4.78
Ammo 2.5 EC	oz	0.92
Asana .66 XL	oz	0.58
Aztec 2.1% G	lb	3.88
Baythroid 2	oz	2.30
Bidrin 8L	oz	1.33
Capture 2EC	oz	2.28
Carbamate	oz	0.00
Centric 40WG	oz	5.37
Comite	pt	8.45
Condor XL	pt	0.00
Confirm 2F	oz	1.86
Counter 15G	lb	4.51
Counter CR	lb	2.65
Curacron 8E	pt	10.75
Decis 1.5EC	oz	2.84
Declare	pt	4.08
Denim 0.16EC	pt	32.63
Di-Syston 15G	lb	3.48
Di-Syston 8	pt	14.32
Dimethoate 4E	pt	5.35
Dimilin 2L	oz	2.13
Dipel DF	lb	13.13
Dipel ES	pt	4.89
Force 3G	lb	6.03
Furadan 3G	lb	0.00
Furadan 4F	pt	9.81
Fury 1.5 EC	oz	1.30
Gaucho 480	oz	5.80
Intrepid 2F	oz	1.80
Intruder 70WP	oz	9.71
Karate Z	oz	1.02
Lannate LV	pt	10.99
Lannate SP	oz	2.42
Larvin 3.2	oz	0.63
Leverage 2.7	oz	2.17
Lorsban 15G	lb	2.35
Lorsban 4E	pt	6.10
Malathion 57EC	pt	4.23
Malathion 8E	pt	5.50
Malathion ULV	pt	4.93
Mepichlor 4.2% Liq	pt	5.91
Methyl Parathion	pt	5.79
Monitor 4	pt	16.50
Monitor 4	pt	16.50
Mustang Max	oz	1.48
Organophosphate	oz	0.00
Orthene 90S	lb	6.00
Orthene 97	lb	10.90
Ovasyn	pt	0.00
Ovicide	oz	0.00
Penncap M	pt	6.71
Phaser 3E	qt	8.13
Pirate 3SC	oz	0.00
Pounce 25WP	lb	14.13
Pounce 3.2 EC	oz	0.34

Appendix Table 1 Cont'd. Operating Inputs: Estimated Prices for 2019.

ITEM NAME	UNIT	PRICE
INSECTICIDES CONT'D		
Provado 1.6F	oz	1.94
Scout X-TRA	oz	0.00
Sevin 80S	lb	7.40
Sevin XLR Plus	qt	13.23
Spintor 2SC	oz	4.93
Steward	pt	39.51
Synthetic Pyrethroid	oz	0.00
Temik 15G Grit	lb	4.00
Thimet 20-G	lb	3.65
Thionex 3EC	pt	4.17
Thionex 50W	lb	10.45
Tracer	oz	9.73
Trimax	oz	1.85
Vydate C-LV	oz	0.93
Warrior Z	oz	1.80
Warrior ZT	oz	1.88
IRRIGATION SUPPLIES		
Rice Gates	each	3.65
Roll-Out Pipe	ft	0.25
OVERHEAD		
Farmstead & Drainage	Dol	1.00
LARice Insurance	Dollar	1.00
LARice Misc. Overhd	dollar	1.00
LARice Property Tax	dollar	1.00
Shops Bldg & Equip.	Dol	6.55
SERVICE FEE		
Utilities	Dol	1.00
SEED/PLANTS		
Corn Seed Bt	thous	2.60
Corn Seed BtRR	thous	3.63
Corn Seed Conv.	thous	2.89
Corn Seed RR	thous	3.13
Cotton Seed Bt	thoud	0.28
Cotton Seed BtRR	thous	1.26
Cotton Seed Bxn	thous	0.00
Cotton Seed Conv.	thous	0.00
Cotton Seed Liberty	thous	1.05
Cotton Seed RR	thous	0.63
Cotton Seed RR	thous	0.63
LA Hybrid Rice Seed	acre	165.00
Rice Clearfield 161	lb	1.05
Rice Clearfield XL8	lb	6.12
Rice Seed (Levees)	lb	0.43
Rice Seed CF(Levees)	lb	0.90
Rice Seed Conv.	lb	0.30
Rice Seed Hybrid	lb	5.66
SC Cultured seedcane	acre	484.00
Sorghum Concept	lb	2.10
Sorghum NonConcept	lb	1.18
Soybean Seed Private	lb	0.38
Soybean Seed Public	lb	0.00
Soybean Seed RR	lb	1.30
Wheat Seed Private	lb	0.22
Wheat Seed Public	lb	0.00
SERVICE FEE		
Crop Consultant	acre	7.00
Insect Scouting	acre	7.00
Rice Consultant	acre	8.00
SC Treating Charge	acre	0.00
Survey & Mark Levees	acre	4.50
Survey & Mark Levees	acre	4.50
TECHNOLOGY FEE		
BG Cot Tech Fee	thous	0.28
BG Cot Tech Fee	cap/ac	19.50
BG II Cot Tech Fee	thous	0.76
BG II Cot Tech Fee	cap/ac	31.91
BG II/RR Tech Fee	thous	1.49
BG II/RR Tech Fee	cap/ac	62.69
BG/RR Cot Tech Fee	thous	1.49
BG/RR Cot Tech Fee	cap/ac	62.69
Eradication Fee	acre	6.00
Eradication Zone 1	acre	6.00
Eradication Zone 1A	acre	6.00

Appendix Table 1 Cont'd. Operating Inputs: Estimated Prices for 2019.

ITEM NAME	UNIT	PRICE
TECHNOLOGY FEE CONT'D		
Eradication Zone 1B	acre	6.00
Eradication Zone 2	acre	6.00
Eradication Zone 3	acre	6.00
Eradication Zone 4	acre	6.00
RR Cotton Tech Fee	thous	1.04
RR Cotton Tech Fee	cap/ac	43.66

Appendix Table 2. Tractors: estimated purchase price, annual use, useful life, fuel use, and direct and fixed cost per hour, Louisiana 2019.

Item Name	Size	Purchase Price	Annual Use	Useful Life	Fuel Use	Labor	Fuel	R&M	Total Direct	Fixed	Total Cost
		dollars	hours	years	gal/hr	-----\$/hour-----					
Combine (170-199 hp)	190hp	0	300	8	9.78	13.51	24.45	0.00	37.96	0.00	37.96
Combine (200-249 hp)	240hp	161,548	300	8	12.35	13.51	30.87	16.82	61.21	72.40	133.62
Combine (225-274 hp)	Track250hp	0	300	8	12.87	13.51	32.17	0.00	45.68	0.00	45.68
Combine (250-299 hp)	275hp	339,000	300	8	14.15	13.51	35.37	35.31	84.19	151.94	236.14
Combine (250-299hp)	Grass295hp	218,222	300	8	15.18	13.51	37.95	22.73	74.19	97.81	172.00
Combine (275-299 hp)	Track290hp	0	300	8	14.93	13.51	37.32	0.00	50.83	0.00	50.83
Combine (300-349 hp)	325hp	362,000	300	8	16.73	13.51	41.82	37.70	93.04	162.25	255.29
Combine (300-349hp)	Track320hp	0	300	8	16.47	13.51	41.17	0.00	54.68	0.00	54.68
Combine (350-379 hp)	370hp	354,000	300	8	19.04	13.51	47.60	36.87	97.98	158.67	256.65
Combine (350-379 hp)	Track365hp	0	300	8	18.79	13.51	46.97	0.00	60.48	0.00	60.48
Cotton Stripper	173hp	170,000	200	8	8.08	13.51	20.20	26.56	60.27	114.29	174.56
SC Tractor 93 MDR	93	46,683	600	10	4.79	10.73	11.97	2.72	25.42	8.74	34.17
SC Tractor 68 MDR	68	27,049	600	10	3.50	10.73	8.75	1.57	21.05	5.06	26.12
test-mes		0	0	0	0.00	13.51	0.00	0.00	0.00	0.00	0.00
Tractor(40-59hp)Cab	2WD 50	29,400	600	8	2.57	10.73	6.43	0.91	18.08	6.10	24.18
Tractor(40-59hp)Cab	MFWD 50	39,500	600	8	2.57	10.73	6.43	1.23	18.39	8.19	26.59
Tractor(40-59hp)RB	2WD 50	22,900	600	8	2.57	10.73	6.43	0.71	17.87	4.75	22.63
Tractor(40-59hp)RB	MFWD 50	27,800	600	8	2.57	10.73	6.43	0.86	18.03	5.77	23.80
Tractor(60-89hp)CAB	2WD 75	52,800	600	8	3.86	10.73	9.65	1.65	22.03	10.95	32.99
Tractor(60-89hp)CAB	MFWD 75	62,500	600	8	3.86	10.73	9.65	1.95	22.33	12.97	35.30
Tractor(60-89hp)RB	2WD 75	38,600	600	8	3.86	10.73	9.65	1.20	21.58	8.01	29.59
Tractor(60-89hp)RB	MFWD 75	40,100	600	8	3.86	10.73	9.65	1.25	21.63	8.32	29.95
Tractor(90-119hp)CB	2WD 105	69,200	600	8	5.40	10.73	13.51	2.16	26.40	14.36	40.76
Tractor(90-119hp)CB	MFWD 105	83,000	600	8	5.40	10.73	13.51	2.59	26.83	17.22	44.06
Tractor(90-119hp)RB	2WD 105	61,200	600	8	5.40	10.73	13.51	1.91	26.15	12.70	38.85
Tractor(90-119hp)RB	MFWD 105	67,500	600	8	5.40	10.73	13.51	2.10	26.35	14.01	40.36
Tractor(120-139hp)CB	2WD 130	103,000	600	8	6.69	10.73	16.72	3.21	30.67	21.37	52.05
Tractor(120-139hp)CB	MFWD 130	114,000	600	8	6.69	10.73	16.72	3.56	31.02	23.66	54.68
Tractor(140-159hp)CB	2WD 150	109,000	600	8	7.72	10.73	19.30	3.40	33.43	22.62	56.06
Tractor(140-159hp)CB	MFWD 150	130,000	600	8	7.72	10.73	19.30	4.06	34.09	26.98	61.07
Tractor(160-179hp)CB	2WD 170	156,000	600	8	8.75	10.73	21.87	4.87	37.48	33.67	71.15
Tractor(160-179hp)CB	MFWD 170	148,000	600	8	8.75	10.73	21.87	4.62	37.23	31.94	69.17
Tractor(160-199hp)CB	Track 180	142,710	600	8	9.26	10.73	23.16	4.45	38.35	30.80	69.15
Tractor(180-199hp)CB	2WD 190	143,000	600	8	9.77	10.73	24.44	4.46	39.64	30.86	70.51
Tractor(180-199hp)CB	MFWD 190	175,000	600	8	9.77	10.73	24.44	5.46	40.64	37.77	78.42
Tractor(200-249hp)CB	4WD 225	147,066	600	8	11.58	10.73	28.95	4.59	44.27	31.74	76.02
Tractor(200-249hp)CB	MFWD 225	191,000	600	8	11.58	10.73	28.95	5.96	45.65	41.22	86.87
Tractor(200-249hp)CB	Track 225	277,000	600	8	11.58	10.73	28.95	8.65	48.33	59.78	108.12
Tractor(250-349hp)CB	4WD 300	286,000	600	8	15.44	10.73	38.60	8.93	58.27	61.73	120.00
Tractor(250-349hp)CB	Track 300	317,000	600	8	15.44	10.73	38.60	9.90	59.24	68.42	127.66
Tractor(350-449hp)CB	4WD 400	328,000	600	8	20.58	10.73	51.47	10.25	72.45	70.79	143.24
Tractor(350-449hp)CB	Track 400	420,000	600	8	20.58	10.73	51.47	13.12	75.32	90.65	165.98
Tractor(450-uphp)CB	TRACK-475	279,879	600	8	24.44	10.73	61.12	8.74	80.59	60.40	141.00

Appendix Table 3. Self-propelled machines: estimated purchase price, annual use, useful life, fuel use, performance rate, and direct and fixed cost per acre, Louisiana 2019.

Item Name	Size	Purchase Price	Annual Use	Useful Life	Fuel Use	Perf Rate	Labor	Fuel	R&M	Total Direct	Fixed	Total Cost
		dollars	hours	years	gal/hr	hr/acre				\$/acre		
ATV - 4 Wheeler	12'	0	100	8	1.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
ATV - 4 Wheeler	20'	8,750	100	8	1.00	0.200	2.70	0.42	0.43	3.55	2.06	5.62
Butt Levee (Backhoe)	70 HP	73,000	150	8	5.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Cotton Picker-1st-BB	2R38"157hp	144,912	200	8	8.08	0.519	11.72	9.57	11.76	33.06	46.42	79.49
Cotton Picker-1st-BB	4R2X1260hp	317,399	200	8	13.33	0.172	3.88	5.23	8.54	17.67	33.71	51.38
Cotton Picker-1st-BB	4R30"250hp	262,000	200	8	12.86	0.327	7.38	9.60	13.40	30.39	52.88	83.27
Cotton Picker-1st-BB	4R30"325hp	350,000	200	8	18.01	0.327	7.38	13.44	17.90	38.73	70.64	109.37
Cotton Picker-1st-BB	4R30"255hp	268,000	200	8	13.12	0.257	5.81	7.71	10.79	24.32	42.59	66.91
Cotton Picker-1st-BB	4R38"325hp	351,000	200	8	18.01	0.257	5.81	10.58	14.13	30.54	55.78	86.32
Cotton Picker-1st-BB	5R30"255hp	285,000	200	8	12.86	0.261	5.91	7.67	11.66	25.25	46.01	71.27
Cotton Picker-1st-BB	5R38"250hp	284,601	200	8	12.86	0.207	4.67	6.07	9.21	19.96	36.35	56.32
Cotton Picker-1st-BB	6R30"325hp	465,000	200	8	18.27	0.218	4.92	9.09	15.85	29.87	62.56	92.44
Cotton Picker-1st-BB	6R38"330hp	465,000	200	8	18.27	0.172	3.88	7.17	12.51	23.58	49.39	72.98
Cotton Picker-1st-Tr	2R38"157hp	144,912	200	8	8.08	0.519	11.72	9.57	11.76	33.06	46.42	79.49
Cotton Picker-1st-Tr	4R2X1255hp	322,137	200	8	18.01	0.172	3.88	7.07	8.67	19.63	34.22	53.86
Cotton Picker-1st-Tr	4R30"325hp	261,825	200	8	12.86	0.327	7.38	9.60	13.39	30.38	52.84	83.23
Cotton Picker-1st-Tr	4R30"325hp	311,088	200	8	16.72	0.327	7.38	12.48	15.91	35.78	62.78	98.57
Cotton Picker-1st-Tr	4R38"255hp	268,000	200	8	13.12	0.257	5.81	7.71	10.79	24.32	42.59	66.91
Cotton Picker-1st-Tr	4R38"325hp	351,000	200	8	18.01	0.257	5.81	10.58	14.13	30.54	55.78	86.32
Cotton Picker-1st-Tr	5R30"255hp	285,303	200	8	13.12	0.261	5.91	7.83	11.67	25.42	46.06	71.49
Cotton Picker-1st-Tr	5R38"250hp	290,471	200	8	12.86	0.207	4.67	6.07	9.40	20.15	37.10	57.26
Cotton Picker-1st-Tr	6R30"325hp	465,000	200	8	16.72	0.218	4.92	8.32	15.85	29.10	62.56	91.67
Cotton Picker-1st-Tr	6R38"330hp	465,000	200	8	18.01	0.172	3.88	7.07	12.51	23.48	49.39	72.88
Cotton Picker-2nd-BB	2R30"157hp	144,912	200	8	8.08	0.440	9.93	8.89	9.96	28.79	42.88	71.67
Cotton Picker-2nd-BB	4R2x1260hp	322,187	200	8	18.01	0.145	3.29	6.57	7.34	17.21	31.61	48.82
Cotton Picker-2nd-BB	4R30"250hp	261,825	200	8	12.86	0.277	6.25	8.92	11.34	26.52	48.81	75.34
Cotton Picker-2nd-BB	4R30"325hp	311,088	200	8	16.72	0.277	6.25	11.59	13.47	31.33	58.00	89.33
Cotton Picker-2nd-BB	4R38"255hp	268,000	200	8	13.12	0.218	4.92	7.16	9.14	21.23	39.34	60.57
Cotton Picker-2nd-BB	4R38"325hp	351,000	200	8	18.01	0.218	4.92	9.83	11.97	26.73	51.52	78.26
Cotton Picker-2nd-BB	5R30"255hp	285,303	200	8	13.12	0.221	5.00	7.27	9.88	22.17	42.55	64.73
Cotton Picker-2nd-BB	5R38"250hp	284,601	200	8	12.86	0.175	3.96	5.64	7.80	17.41	33.58	50.99
Cotton Picker-2nd-BB	6R30"325hp	465,000	200	8	18.01	0.184	4.17	8.32	13.43	25.92	57.79	83.72
Cotton Picker-2nd-BB	6R38"330hp	465,000	200	8	18.01	0.145	3.29	6.57	10.60	20.46	45.62	66.09
Cotton Picker-2nd-Tr	2R38"157hp	144,912	200	8	8.08	0.440	9.93	8.89	9.96	28.79	42.88	71.67
Cotton Picker-2nd-Tr	4R2X1260hp	322,137	200	8	18.01	0.145	3.29	6.57	7.34	17.21	31.61	48.82
Cotton Picker-2nd-Tr	4R30"250hp	261,825	200	8	12.86	0.277	6.25	8.92	11.34	26.52	48.81	75.34
Cotton Picker-2nd-Tr	4R30"325hp	311,088	200	8	16.72	0.277	6.25	11.59	13.47	31.33	58.00	89.33
Cotton Picker-2nd-Tr	4R38"255hp	268,000	200	8	13.12	0.218	4.92	7.16	9.14	21.23	39.34	60.57
Cotton Picker-2nd-Tr	4R38"325hp	351,000	200	8	18.01	0.218	4.92	9.83	11.97	26.73	51.52	78.26
Cotton Picker-2nd-Tr	5R30"255hp	285,303	200	8	13.12	0.221	5.00	7.27	9.88	22.17	42.55	64.73
Cotton Picker-2nd-Tr	5R38"250hp	290,471	200	8	12.86	0.175	3.96	5.64	7.96	17.57	34.27	51.84
Cotton Picker-2nd-Tr	6R38"330hp	465,000	200	8	18.01	0.145	3.29	6.57	10.60	20.46	45.62	66.09
LA Pickup Truck	1/2 ton	27,500	800	5	2.50	1.000	10.73	6.25	3.09	20.07	7.66	27.74
LA Rice Combine	25 ft	181,500	300	10	8.60	0.300	5.05	6.45	14.53	26.04	23.92	49.97
LA Rice Combine-2	25 ft	181,500	300	10	8.60	0.300	5.05	6.45	14.53	26.04	23.92	49.97
LARice Combine Med	20 ft	165,000	300	10	7.10	0.210	3.53	3.72	9.24	16.50	15.21	31.72
Levee Sprayer	27'	30,768	350	8	2.57	0.038	0.69	0.24	0.06	1.00	0.45	1.45
SC Billet Harvester	6 ft	319,000	750	10	12.00	0.700	11.78	21.00	29.77	62.55	38.76	101.32
SC Harvester 1Rw	6 ft	126,500	400	12	6.80	0.875	14.72	14.87	23.05	52.66	32.32	84.98
SC Harvester 2Rw	12 ft	231,000	400	12	8.00	0.388	6.53	7.76	18.67	32.96	26.17	59.13
SC Loader 1Rw	6 ft	93,500	425	10	5.10	0.598	7.06	7.63	9.61	24.31	17.34	41.66
SC Loader 2Rw	12 ft	165,000	425	10	7.00	0.300	3.54	5.25	8.51	17.31	15.35	32.66
SC Transloader		33,000	120	12	4.70	0.250	2.95	2.93	4.12	10.01	8.03	18.04
SC Truck&Trailer	30 Ton	49,500	400	10	7.00	1.000	11.80	17.50	8.66	37.96	16.29	54.26
Sprayer(300-450Gal)	47'	0	350	8	5.40	0.022	0.40	0.30	0.00	0.70	0.00	0.70
Sprayer(300-450Gal)	60'	103,000	350	8	5.66	0.017	0.31	0.24	0.09	0.66	0.69	1.36
Sprayer(300-450Gal)	80'	103,000	350	8	5.66	0.013	0.23	0.18	0.07	0.49	0.52	1.02
Sprayer(600-750Gal)	60'	208,000	350	8	10.29	0.017	0.31	0.45	0.19	0.96	1.40	2.37
Sprayer(600-825Gal)	80'	210,000	350	8	10.29	0.013	0.23	0.34	0.14	0.72	1.06	1.79
Sprayer(600-825Gal)	90'	288,000	350	8	10.29	0.011	0.21	0.30	0.18	0.69	1.30	1.99
Sprayer(1000-1400Gal)	90'	328,000	350	8	14.15	0.014	0.25	0.49	0.24	1.00	1.77	2.77
Sprayer(1200PlusGal)	120'	332,000	350	8	15.44	0.008	0.15	0.34	0.15	0.65	1.12	1.78

Appendix Table 4. Implements: estimated purchase price, annual use, useful life, performance rate, and direct and fixed cost per acre, Louisiana 2019.

Item Name	Size	Power Unit	Purchase Price	Annual Use	Useful Life	Perf Rate	Labor	Fuel	---R&M--- Imp. P.U.	Total Direct	--Fixed-- Imp. P.U.	Total Cost
			dollars	hours	years	hr/acre				\$/acre		
Blade-Box	6'	2WD 130	1,221	200	20	0.020	0.21	0.33	0.01 0.06	0.62	0.01 0.42	1.06
Blade-Box	10'	2WD 50	3,700	200	20	0.000	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00
Blade-Box	14'	2WD 50	6,270	200	20	0.000	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00
Blade-Scraper	6'	2WD 50	1,213	200	20	1.176	12.62	7.56	0.67 0.84	21.71	0.62 5.59	27.92
Blade-Scraper	10'	2WD 50	3,550	200	20	1.176	12.62	7.56	1.98 0.84	23.01	1.81 5.59	30.42
Blade-Scraper	14'	2WD 50	6,860	200	20	0.000	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00
Chisel Plow(Folding)	16'	2WD 130	22,500	150	12	0.115	1.23	1.93	0.93 0.37	4.48	1.82 2.47	8.77
Chisel Plow(Folding)	24'	MFWD 190	39,900	150	12	0.076	0.82	1.86	1.10 0.41	4.20	2.14 2.88	9.23
Chisel Plow(Folding)	32'	MFWD 225	51,900	150	12	0.057	0.61	1.67	1.08 0.34	3.72	2.10 2.38	8.20
Chisel Plow(Folding)	42'	MFWD 225	62,500	150	12	0.044	0.47	1.27	0.99 0.26	3.00	1.93 1.81	6.74
Chisel Plow(Rigid)	15'	2WD 130	11,800	150	12	0.123	1.32	2.06	0.52 0.39	4.30	1.02 2.63	7.96
Chisel Plow(Rigid)	24'	MFWD 190	11,700	150	12	0.077	0.82	1.88	0.32 0.42	3.45	0.63 2.90	6.99
Chisel-Harrow	21 shank	2WD 190	6,750	150	12	0.088	0.94	2.15	0.21 0.39	3.70	0.41 2.71	6.83
Chisel-Harrow	27 shank	MFWD 225	14,100	150	12	0.068	0.73	1.98	0.34 0.40	3.47	0.67 2.82	6.97
Colter-Chisel-Harrow	21 shank	2WD 190	19,200	150	12	0.088	0.94	2.15	0.61 0.39	4.10	1.18 2.71	8.00
Colter-Chisel-Harrow	27 shank	MFWD 225	24,000	150	12	0.068	0.73	1.98	0.59 0.40	3.71	1.15 2.82	7.69
Corn Grain Cart 8R30	500 bu	MFWD 190	25,700	200	12	0.031	0.34	0.78	0.22 0.17	1.52	0.43 1.20	3.15
Corn Grain Cart 8R40	700bu	MFWD 190	37,300	200	12	0.025	0.26	0.61	0.25 0.13	1.26	0.49 0.94	2.70
Cult & Post	4R-38	2WD 105	19,500	150	10	0.173	2.64	2.34	0.90 0.33	6.21	2.63 2.20	11.04
Cult & Post	6R-30	MFWD 150	23,600	150	10	0.146	2.23	2.83	0.92 0.59	6.58	2.69 3.95	13.24
Cult & Post	6R-38	MFWD 150	24,500	150	10	0.115	1.76	2.23	0.75 0.47	5.22	2.21 3.12	10.56
Cult & Post	8R-30	MFWD 190	28,700	150	10	0.110	1.67	2.68	0.84 0.60	5.81	2.45 4.15	12.42
Cult & Post	8R-38	MFWD 190	29,800	150	10	0.086	1.32	2.12	0.69 0.47	4.61	2.01 3.28	9.92
Cult & Post	8R-38 2x1	MFWD 190	47,800	150	10	0.057	0.88	1.41	0.73 0.31	3.35	2.15 2.18	7.69
Cult & Post	10R-30	MFWD 225	32,000	150	10	0.088	1.34	2.54	0.75 0.52	5.16	2.19 3.62	10.98
Cult & Post	10R-38	MFWD 225	0	150	10	0.065	0.99	1.88	0.00 0.38	3.26	0.00 2.68	5.94
Cult & Post	12R-30	MFWD 225	47,200	150	10	0.073	1.11	2.12	0.92 0.43	4.60	2.69 3.02	10.32
Cult & Post	12R-38	MFWD 225	56,500	150	10	0.057	0.88	1.67	0.87 0.34	3.77	2.54 2.38	8.71
Cultipacker	12'	2WD 130	6,910	300	12	0.124	1.33	2.08	0.20 0.40	4.02	0.31 2.66	6.99
Cultipacker	20'	MFWD 150	17,000	300	12	0.074	0.80	1.44	0.29 0.30	2.84	0.45 2.01	5.31
Cultivate	4R-38	2WD 105	12,200	150	10	0.162	1.74	2.19	0.52 0.31	4.77	1.54 2.06	8.38
Cultivate	6R-30	MFWD 150	16,300	150	10	0.137	1.47	2.65	0.59 0.55	5.28	1.74 3.71	10.74
Cultivate	6R-38	MFWD 150	17,200	150	10	0.108	1.16	2.09	0.49 0.44	4.19	1.45 2.92	8.58
Cultivate	8R-30	MFWD 190	21,400	150	10	0.103	1.10	2.52	0.58 0.56	4.78	1.71 3.89	10.39
Cultivate	8R-38	MFWD 190	22,600	150	10	0.081	0.87	1.99	0.49 0.44	3.80	1.43 3.07	8.31
Cultivate	8R-38 2x1	MFWD 190	35,400	150	10	0.054	0.58	1.32	0.51 0.29	2.71	1.49 2.05	6.26
Cultivate	10R-30	MFWD 225	28,200	150	10	0.082	0.88	2.38	0.62 0.49	4.38	1.81 3.40	9.60
Cultivate	10R-38	MFWD 225	0	150	10	0.065	0.69	1.88	0.00 0.38	2.97	0.00 2.68	5.65
Cultivate	12R-30	MFWD 225	39,900	150	10	0.068	0.73	1.99	0.73 0.41	3.87	2.13 2.83	8.84
Cultivate	12R-38	MFWD 225	39,100	150	10	0.054	0.58	1.57	0.56 0.32	3.04	1.65 2.23	6.93
Disk & Incorporate	14'	2WD 130	31,900	200	10	0.149	2.28	2.50	1.43 0.48	6.70	2.78 3.19	12.69
Disk & Incorporate	24'	MFWD 190	50,000	200	10	0.087	1.33	2.13	1.30 0.47	5.25	2.55 3.29	11.10
Disk & Incorporate	32'	4WD 225	66,000	200	10	0.068	1.04	1.99	1.36 0.31	4.71	2.65 2.18	9.55
Disk & Incorporate	42'	MFWD 225	30,542	200	10	0.049	0.74	1.42	0.44 0.29	2.91	0.87 2.02	5.81
Disk Bed (Hipper)	4R-38	MFWD 150	9,200	160	10	0.147	1.58	2.84	0.33 0.59	5.37	0.99 3.98	10.34
Disk Bed (Hipper)	6R-30	MFWD 170	15,100	160	10	0.125	1.34	2.73	0.47 0.57	5.12	1.37 3.99	10.49
Disk Bed (Hipper)	6R-38	MFWD 170	13,000	160	10	0.098	1.05	2.15	0.32 0.45	3.99	0.93 3.15	8.08
Disk Bed (Hipper)	8R-30	MFWD 190	17,800	160	10	0.093	1.00	2.29	0.41 0.51	4.22	1.21 3.54	8.98
Disk Bed (Hipper)	8R-38 2x1	MFWD 190	29,200	160	10	0.049	0.52	1.20	0.36 0.26	2.36	1.05 1.86	5.28
Disk Bed (Hipper)	10R-30	MFWD 225	19,900	160	10	0.075	0.80	2.17	0.37 0.44	3.79	1.09 3.09	7.97
Disk Bed (Hipper)	10R-38	MFWD 225	23,100	160	10	0.059	0.63	1.71	0.34 0.35	3.04	0.99 2.43	6.47
Disk Bed (Hipper)	12R-30	MFWD 225	31,000	160	10	0.062	0.67	1.80	0.48 0.37	3.33	1.41 2.57	7.32
Disk Bed (Hipper)	12R-38	MFWD 225	29,200	160	10	0.049	0.52	1.42	0.36 0.29	2.61	1.05 2.03	5.69
Disk Bed (Hipper)Fld	8R-38	MFWD 190	20,000	160	10	0.074	0.79	1.81	0.37 0.40	3.38	1.08 2.79	7.26
Disk Bed (Hipper)Rdg	8R-38	MFWD 190	18,400	160	10	0.074	0.79	1.81	0.34 0.40	3.35	0.99 2.79	7.14
Disk Bed w/roller	8R-30	2WD 190	26,600	160	10	0.093	1.00	2.29	0.62 0.41	4.34	1.82 2.89	9.05
Disk Bed w/roller	12R-30	MFWD 225	47,000	160	10	0.062	0.67	1.80	0.73 0.37	3.58	2.14 2.57	8.30
Disk Harrow	14'	2WD 130	24,600	180	10	0.140	1.50	2.34	0.95 0.45	5.26	2.24 2.99	10.50
Disk Harrow	24'	MFWD 190	42,700	180	10	0.081	0.87	2.00	0.97 0.44	4.29	2.26 3.09	9.65
Disk Harrow	28'	MFWD 225	52,000	180	10	0.070	0.75	2.03	1.01 0.41	4.21	2.36 2.89	9.47
Disk Harrow	32'	MFWD 225	58,700	180	10	0.061	0.65	1.77	1.00 0.36	3.80	2.33 2.53	8.67
Disk Harrow	42'	MFWD 225	104,000	180	10	0.046	0.50	1.35	1.35 0.27	3.48	3.15 1.92	8.57
Ditcher		2WD 130	5,700	200	10	0.020	0.21	0.33	0.04 0.06	0.65	0.06 0.42	1.15
Ditcher (1m/160a)		2WD 130	5,700	200	10	0.009	0.10	0.15	0.02 0.03	0.30	0.03 0.20	0.54
Fert Appl (Liquid)	4R-38	MFWD 150	12,900	150	8	0.154	2.36	2.98	1.33 0.62	7.30	1.65 4.17	13.13
Fert Appl (Liquid)	6R-30	MFWD 170	16,700	150	8	0.130	1.99	2.86	1.45 0.60	6.92	1.81 4.18	12.92
Fert Appl (Liquid)	6R-38	MFWD 170	16,100	150	8	0.103	1.57	2.26	1.10 0.47	5.42	1.38 3.30	10.11
Fert Appl (Liquid)	8R-30	MFWD 190	16,900	150	8	0.098	1.49	2.40	1.10 0.53	5.54	1.37 3.70	10.63
Fert Appl (Liquid)	8R-38	MFWD 190	19,000	150	8	0.077	1.18	1.89	0.98 0.42	4.49	1.22 2.93	8.64
Fert Appl (Liquid)	8R-38 2x1	MFWD 190	20,300	150	8	0.051	0.78	1.26	0.69 0.28	3.03	0.87 1.95	5.85
Fert Appl (Liquid)	10R-30	MFWD 225	18,600	150	8	0.078	1.19	2.27	0.97 0.46	4.91	1.21 3.23	9.36
Fert Appl (Liquid)	10R-38	MFWD 225	20,300	150	8	0.061	0.94	1.79	0.83 0.36	3.94	1.04 2.55	7.54
Fert Appl (Liquid)	12R-30	MFWD 225	22,600	150	8	0.078	1.19	2.27	1.18 0.46	5.12	1.47 3.23	9.83
Fert Appl (Liquid)	12R-38	MFWD 225	19,900	150	8	0.051	0.78	1.49	0.68 0.30	3.27	0.85 2.13	6.26
Field Cult & Inc	12'	2WD 150	15,800	100	10	0.132	2.01	2.55	0.52 0.45	5.54	2.44 2.99	10.97
Field Cult & Inc	24'	MFWD 170	34,500	100	10	0.066	1.00	1.44	0.57 0.30	3.33	2.66 2.11	8.10

Appendix Table 4. Implements: estimated purchase price, annual use, useful life, performance rate,
(Continued) and direct and fixed cost per acre, Louisiana 2019.

Item Name	Size	Power Unit	Purchase Price	Annual Use	Useful Life	Perf Rate	Labor	Fuel	---R&M--- Imp. P.U.	Total Direct	--Fixed-- Imp. P.U.	Total Cost		
			dollars	hours	years	hr/ac	-----\$/acre-----							
Field Cult & Inc	32'	MFWD 190	43,800	100	10	0.049	0.75	1.21	0.54	0.27	2.78	2.53	1.87	7.19
Field Cult & Inc	42'	MFWD 225	69,400	100	10	0.037	0.57	1.09	0.65	0.22	2.55	3.06	1.55	7.17
Field Cultivate	50'	MFWD 225	65,900	100	10	0.029	0.32	0.86	0.49	0.17	1.85	2.29	1.23	5.38
Gate Installer		2WD 130	2,960	10	10	0.020	0.39	0.33	0.17	0.06	0.97	0.66	0.42	2.06
Grain Drill	12'	2WD 130	26,800	150	8	0.157	3.10	2.62	1.57	0.50	7.82	3.35	3.35	14.54
Grain Drill	15'	MFWD 150	32,600	150	8	0.125	2.48	2.42	1.53	0.51	6.96	3.26	3.39	13.62
Grain Drill	20'	MFWD 170	38,800	150	8	0.094	1.86	2.06	1.37	0.43	5.73	2.91	3.01	11.66
Grain Drill	24'	MFWD 190	65,600	150	8	0.078	1.55	1.92	1.93	0.42	5.83	4.10	2.96	12.91
Grain Drill	30'	MFWD 225	63,800	150	8	0.062	1.24	1.82	1.50	0.37	4.94	3.19	2.59	10.73
Grain Drill & Pre	12'	2WD 130	34,100	150	8	0.169	3.34	2.83	2.16	0.54	8.88	4.60	3.61	17.10
Grain Drill & Pre	15'	MFWD 150	39,900	150	8	0.135	2.67	2.61	2.02	0.55	7.86	4.30	3.65	15.82
Grain Drill & Pre	20'	MFWD 170	46,000	150	8	0.101	2.00	2.22	1.75	0.46	6.45	3.72	3.24	13.41
Grain Drill & Pre	24'	MFWD 190	71,000	150	8	0.084	1.67	2.06	2.25	0.46	6.45	4.78	3.19	14.44
Grain Drill & Pre	30'	MFWD 225	71,000	150	8	0.067	1.33	1.95	1.80	0.40	5.50	3.83	2.79	12.12
Harrow	13'	2WD 130	4,360	200	10	0.119	1.28	1.99	0.18	0.38	3.84	0.30	2.55	6.70
Harrow	21'	2WD 150	6,750	200	10	0.073	0.79	1.42	0.17	0.25	2.64	0.29	1.67	4.61
Harrow	40'	MFWD 190	20,200	200	10	0.038	0.41	0.94	0.27	0.21	1.85	0.45	1.46	3.77
Harrow	47'	MFWD 190	23,700	200	10	0.033	0.35	0.80	0.27	0.18	1.61	0.45	1.24	3.32
Header - Corn	4R-38	240hp	25,147	300	8	0.201	2.71	6.20	1.26	3.38	13.57	2.09	14.56	30.23
Header - Corn	6R30"	240hp	48,900	300	8	0.170	2.30	5.25	2.08	2.86	12.50	3.45	12.32	28.29
Header - Corn	6R38"	240hp	48,800	300	8	0.134	1.81	4.15	1.64	2.26	9.86	2.72	9.73	22.32
Header - Corn	8R-30	240hp	62,300	300	8	0.127	1.72	3.94	1.98	2.14	9.80	3.30	9.24	22.35
Header - Corn	8R-38	275hp	63,000	300	8	0.100	1.36	3.57	1.59	3.56	10.09	2.64	15.34	28.07
Header - Corn	12R-20	275hp	95,600	300	8	0.127	1.72	4.51	3.05	4.50	13.80	5.06	19.40	38.27
Header - Corn	12R-30	275hp	98,200	300	8	0.085	1.15	3.01	2.09	3.00	9.25	3.47	12.93	25.66
Header - Rice (CL)	22' Rigid	240hp	64,400	300	8	0.288	3.89	8.90	4.64	4.85	22.30	7.71	20.88	50.90
Header - Rice (CL)	25' Rigid	240hp	64,400	300	8	0.253	3.42	7.83	4.08	4.27	19.62	6.78	18.38	44.79
Header - Rice (CL)	30' Rigid	275hp	74,100	300	8	0.211	2.85	7.48	3.91	7.47	21.72	6.50	32.14	60.38
Header - Rice (SL)	22' Rigid	240hp	64,400	300	8	0.250	3.37	7.71	4.02	4.20	19.32	6.68	18.10	44.11
Header - Rice (SL)	25' Rigid	240hp	64,400	300	8	0.220	2.97	6.79	3.54	3.70	17.00	5.88	15.93	38.82
Header - Rice (SL)	30' Rigid	275hp	74,100	300	8	0.183	2.47	6.48	3.39	6.47	18.83	5.63	27.85	52.32
Header - Soybean	15' Flex	240hp	0	300	8	0.170	2.30	5.25	0.00	2.86	10.42	0.00	12.32	22.75
Header - Soybean	18' Flex	240hp	20,309	300	8	0.141	1.91	4.38	0.72	2.38	9.40	1.19	10.27	20.87
Header - Soybean	22' Flex	240hp	32,600	300	8	0.116	1.56	3.58	0.94	1.95	8.05	1.57	8.40	18.03
Header - Soybean	25' Flex	275hp	34,600	300	8	0.102	1.38	3.29	0.88	3.49	9.05	1.32	13.77	24.15
Header - Soybean	30' Flex	275hp	41,400	300	8	0.085	1.15	2.74	0.88	2.90	7.68	1.32	11.47	20.49
Header wheat/Sorghum	18' Rigid	240hp	19,069	300	8	0.141	1.91	3.99	0.67	2.38	8.97	1.01	9.42	19.41
Header wheat/Sorghum	22' Rigid	240hp	19,800	300	8	0.116	1.56	3.26	0.57	1.95	7.36	0.86	7.70	15.93
Header wheat/Sorghum	25' Rigid	240hp	21,000	300	8	0.102	1.38	3.15	0.53	1.71	6.79	0.89	7.39	15.07
Header wheat/Sorghum	30' Rigid	275hp	23,600	300	8	0.085	1.15	3.01	0.50	3.00	7.67	0.83	12.93	21.44
Header-Cotton Bcast	13'	173hp	21,300	200	8	0.251	5.68	5.08	1.00	6.68	18.46	3.34	28.78	50.58
Header-Cotton-Bcast	16'	173hp	23,800	200	8	0.204	4.61	4.13	0.91	5.43	15.09	3.03	23.38	41.51
Header-Cotton-Bcast	19'	173hp	26,200	200	8	0.172	3.88	3.48	0.84	4.57	12.79	2.81	19.69	35.29
Header-Cotton-Brush	4R30"	173hp	20,520	200	8	0.327	7.38	6.61	1.25	8.69	23.95	4.18	37.41	65.55
Header-Cotton-Brush	4R30"2X1	173hp	34,400	200	8	0.218	4.92	4.40	1.40	5.79	16.53	4.67	24.94	46.15
Header-Cotton-Brush	4R38"	173hp	34,000	200	8	0.257	5.81	5.20	1.64	6.84	19.51	5.45	29.46	54.43
Header-Cotton-Brush	4R38"2X1	173hp	36,000	200	8	0.172	3.88	3.48	1.16	4.57	13.10	3.86	19.69	36.66
Header-Cotton-Brush	5R-30	173hp	42,800	200	8	0.261	5.91	5.29	2.10	6.95	20.25	6.98	29.93	57.17
Header-Cotton-Brush	5R-38	173hp	44,300	200	8	0.207	4.67	4.18	1.72	5.50	16.08	5.71	23.68	45.48
Header-Cotton-Brush	6R-30	173hp	52,700	200	8	0.218	4.92	4.40	2.15	5.79	17.28	7.16	24.94	49.39
Heavy Disk	14'	MFWD 150	31,900	180	10	0.145	1.56	2.81	1.29	0.59	6.26	3.02	3.93	13.23
Heavy Disk	21'	MFWD 170	40,600	180	10	0.097	1.04	2.12	1.09	0.45	4.71	2.56	3.10	10.39
Heavy Disk	27'	MFWD 190	50,400	180	10	0.075	0.81	1.85	1.05	0.41	4.13	2.47	2.85	9.47
LA Boom Sprayer	30 ft	MFWD 150	3,000	150	10	0.059	0.64	1.15	0.13	0.24	2.17	0.15	1.61	3.95
Land Plane	40'x10'	MFWD 190	6,020	200	10	0.242	2.60	5.93	0.29	1.32	10.15	0.85	9.16	20.17
Land Plane	50'x16'	MFWD 190	14,300	200	10	0.151	1.62	3.70	0.43	0.82	6.59	1.26	5.72	13.59
LARice Backhoe-Rrmnt	2 ft	MFWD 150	6,000	100	10	0.500	5.36	9.65	2.64	2.03	19.68	3.95	13.49	37.13
LARice Land Level	13 ft	MFWD 150	7,500	200	15	0.190	2.03	3.66	0.15	0.77	6.63	0.72	5.13	12.49
LARice Levee Plow	8 ft	4WD 300	4,600	150	10	0.050	0.53	1.93	0.07	0.44	2.99	0.20	3.08	6.27
LARice Water Level	24 ft	4WD 300	3,500	100	15	0.149	1.60	5.78	0.23	1.33	8.96	0.53	9.25	18.75
Levee Splitter (1/80	2 blade	2WD 150	7,180	50	10	0.004	0.04	0.08	0.00	0.01	0.14	0.06	0.09	0.30
Lo-Till & Bed	4R-38	MFWD 190	5,100	150	12	0.145	1.56	3.55	0.26	0.79	6.18	0.53	5.49	12.21
Middle Buster	6R-38	MFWD 150	12,800	160	8	0.120	1.28	2.32	0.36	0.48	4.45	1.24	3.24	8.94
Middle Buster	8R-30	MFWD 190	20,800	160	8	0.114	1.22	2.79	0.55	0.62	5.19	1.92	4.31	11.43
Middle Buster	8R-38	MFWD 190	18,100	160	8	0.090	0.96	2.20	0.38	0.49	4.05	1.32	3.40	8.78
Middle Buster	8R-40 2x1	MFWD 190	29,200	160	8	0.060	0.64	1.46	0.41	0.32	2.85	1.42	2.27	6.54
Middle Buster	10R-30	MFWD 225	29,300	160	8	0.091	0.98	2.64	0.62	0.54	4.79	2.16	3.76	10.72
Middle Buster	10R-38	MFWD 225	32,100	160	8	0.072	0.77	2.08	0.54	0.42	3.83	1.87	2.96	8.67
Middle Buster	12R-38	MFWD 225	29,200	160	8	0.060	0.64	1.74	0.41	0.35	3.15	1.42	2.47	7.05
Module Builder-1st	2R-38(157)	MFWD 190	31,300	200	10	0.519	10.28	12.70	4.06	2.84	29.89	9.20	19.62	58.72
Module Builder-1st	4R-30(255)	MFWD 190	34,700	200	10	0.327	6.47	8.00	2.84	1.79	19.11	6.42	12.36	37.90
Module Builder-1st	4R-30(325)	MFWD 190	34,700	200	10	0.327	6.47	8.00	2.84	1.79	19.11	6.42	1	

Appendix Table 4. Implements: estimated purchase price, annual use, useful life, performance rate, (Continued) and direct and fixed cost per acre, Louisiana 2019.

Item Name	Size	Power Unit	Purchase Price	Annual Use	Useful Life	Perf Rate	Labor	Fuel	---R&M--- Imp. P.U.		Total Direct	--Fixed-- Imp. P.U.		Total Cost	
			dollars	hours	years	hr/ac	-----\$/acre-----								
Module Builder-2nd	5R-30(255)	MFWD 190	34,700	200	10	0.221	4.39	5.42	1.92	1.21	12.95	4.35	8.37	25.68	
Module Builder-2nd	5R-38(255)	MFWD 190	34,700	200	10	0.175	3.47	4.29	1.52	0.95	10.24	3.44	6.62	20.32	
Module Builder-2nd	6R-30(325)	MFWD 190	34,700	200	10	0.184	3.65	4.52	1.60	1.01	10.79	3.62	6.98	21.40	
Module Builder-2nd	6R-38(325)	MFWD 190	34,700	200	10	0.145	2.88	3.56	1.26	0.79	8.52	2.86	5.51	16.89	
Module Builder-Strip	13' Bcast	MFWD 150	34,700	200	10	0.251	4.98	4.86	2.18	1.02	13.05	4.94	6.79	24.79	
Module Builder-Strip	16' Bcast	MFWD 150	34,700	200	10	0.204	4.04	3.94	1.77	0.83	10.60	4.01	5.52	20.14	
Module Builder-Strip	19' Brush	MFWD 150	34,700	200	10	0.172	3.41	3.32	1.49	0.70	8.93	3.38	4.64	16.96	
Module Builder-Strip	4R-30	MFWD 150	34,700	200	10	0.327	6.47	6.31	2.84	1.32	16.96	6.42	8.83	32.23	
Module Builder-Strip	4R-30 2X1	MFWD 150	34,700	200	10	0.218	4.31	4.21	1.89	0.88	11.31	4.28	5.88	21.48	
Module Builder-Strip	4R-38	MFWD 150	34,700	200	10	0.257	5.10	4.97	2.23	1.04	13.36	5.06	6.95	25.37	
Module Builder-Strip	4R-38 2X1	MFWD 150	34,700	200	10	0.172	3.41	3.32	1.49	0.70	8.93	3.38	4.64	16.96	
Module Builder-Strip	5R-30	MFWD 150	34,700	200	10	0.261	5.18	5.05	2.27	1.06	13.57	5.14	7.06	25.78	
Module Builder-Strip	5R-38	MFWD 150	34,700	200	10	0.207	4.10	3.99	1.79	0.84	10.73	4.06	5.59	20.39	
Module Builder-Strip	6R-30	MFWD 150	34,700	200	10	0.218	4.31	4.21	1.89	0.88	11.31	4.28	5.88	21.48	
Mulcher Plow	30'	MFWD 225	0	100	10	0.068	0.73	1.97	0.00	0.40	3.10	0.00	2.80	5.91	
NT Grain Drill	12'	2WD 130	47,900	150	8	0.163	3.23	2.73	2.94	0.52	9.44	6.25	3.49	19.19	
NT Grain Drill & Pre	15'	MFWD 150	62,400	150	8	0.141	2.79	2.72	3.29	0.57	9.38	7.01	3.80	20.20	
NT Grain Drill & Pre	20'	MFWD 170	78,400	150	8	0.105	2.09	2.31	3.10	0.48	8.00	6.61	3.37	17.99	
NT Grain Drill & Pre	24'	MFWD 190	97,700	150	8	0.088	1.74	2.15	3.22	0.48	7.61	6.86	3.32	17.80	
NT Grain Drill & Pre	30'	MFWD 225	111,000	150	8	0.070	1.39	2.04	2.93	0.42	6.79	6.23	2.90	15.93	
NT Plant&Pre-Folding	8R-38	MFWD 170	65,000	150	8	0.083	1.65	1.82	2.03	0.38	5.90	4.33	2.67	12.91	
NT Plant&Pre-Folding	8R-38 2x1	MFWD 170	102,000	150	8	0.055	1.10	1.21	2.12	0.25	4.70	4.52	1.77	11.01	
NT Plant&Pre-Folding	10R-30	MFWD 190	57,555	150	8	0.084	1.67	2.06	1.82	0.46	6.03	3.88	3.19	13.11	
NT Plant&Pre-Folding	10R-38	MFWD 190	52,893	150	8	0.066	1.32	1.63	1.32	0.36	4.64	2.81	2.52	9.97	
NT Plant&Pre-Folding	12R-20	MFWD 190	78,700	150	8	0.105	2.09	2.58	3.12	0.57	8.37	6.63	3.99	19.01	
NT Plant&Pre-Folding	12R-30	MFWD 190	87,500	150	8	0.070	1.39	1.72	2.31	0.38	5.81	4.91	2.66	13.40	
NT Plant&Pre-Folding	12R-38	MFWD 190	102,000	150	8	0.055	1.10	1.36	2.12	0.30	4.89	4.52	2.10	11.52	
NT Plant&Pre-Folding	16R-30	MFWD 190	130,000	150	8	0.052	1.04	1.29	2.57	0.28	5.20	5.48	1.99	12.68	
NT Plant&Pre-Folding	23R-15	MFWD 190	163,000	150	8	0.073	1.45	1.79	4.48	0.40	8.14	9.54	2.77	20.45	
NT Plant&Pre-Folding	24R-20	MFWD 190	182,000	150	8	0.052	1.04	1.29	3.60	0.28	6.23	7.67	1.99	15.90	
NT Plant&Pre-Folding	24R-30	MFWD 190	200,000	150	8	0.035	0.69	0.86	2.64	0.19	4.39	5.62	1.33	11.34	
NT Plant&Pre-Rigid	4R-30	2WD 130	29,300	150	8	0.211	4.18	3.53	2.32	0.68	10.73	4.94	4.52	20.19	
NT Plant&Pre-Rigid	4R-38	2WD 130	35,200	150	8	0.166	3.29	2.78	2.19	0.53	8.81	4.67	3.56	17.05	
NT Plant&Pre-Rigid	6R-30	MFWD 150	43,100	150	8	0.141	2.79	2.72	2.27	0.57	8.36	4.84	3.80	17.01	
NT Plant&Pre-Rigid	6R-38	MFWD 150	41,800	150	8	0.111	2.20	2.14	1.74	0.45	6.54	3.71	3.00	13.26	
NT Plant&Pre-Rigid	8R-22	MFWD 170	26,219	150	8	0.143	2.84	3.14	1.41	0.66	8.07	3.00	4.59	15.68	
NT Plant&Pre-Rigid	8R-30	MFWD 170	53,100	150	8	0.105	2.09	2.31	2.10	0.48	7.00	4.47	3.37	14.85	
NT Plant&Pre-Rigid	8R-38	MFWD 170	50,600	150	8	0.077	1.52	1.68	1.46	0.35	5.03	3.11	2.46	10.61	
NT Plant&Pre-Rigid	10R-30	MFWD 190	51,900	150	8	0.084	1.67	2.06	1.64	0.46	5.85	3.50	3.19	12.54	
NT Plant&Pre-Rigid	12R-20	MFWD 190	65,000	150	8	0.105	2.09	2.58	2.57	0.57	7.83	5.48	3.99	17.31	
NT Plant&Pre-Rigid	12R-30	MFWD 190	79,300	150	8	0.070	1.39	1.72	2.09	0.38	5.60	4.45	2.66	12.72	
NT Plant-Folding	8R-38	MFWD 170	57,800	150	8	0.077	1.53	1.69	1.68	0.35	5.27	3.57	2.48	11.33	
NT Plant-Folding	8R-38 2x1	MFWD 170	93,000	150	8	0.051	1.02	1.13	1.80	0.23	4.19	3.83	1.65	9.67	
NT Plant-Folding	10R-30	MFWD 190	52,061	150	8	0.078	1.55	1.92	1.53	0.42	5.43	3.26	2.96	11.66	
NT Plant-Folding	10R-38	MFWD 190	47,646	150	8	0.061	1.22	1.51	1.10	0.33	4.18	2.35	2.34	8.88	
NT Plant-Folding	12R-20	MFWD 190	71,100	150	8	0.098	1.94	2.40	2.61	0.53	7.50	5.56	3.70	16.77	
NT Plant-Folding	12R-30	MFWD 190	78,900	150	8	0.065	1.29	1.60	1.93	0.35	5.19	4.11	2.47	11.78	
NT Plant-Folding	12R-38	MFWD 190	93,000	150	8	0.051	1.02	1.26	1.80	0.28	4.37	3.83	1.95	10.15	
NT Plant-Folding	16R-30	MFWD 190	122,000	150	8	0.049	0.97	1.20	2.24	0.26	4.68	4.77	1.85	11.31	
NT Plant-Folding	23R-15	MFWD 190	155,000	150	8	0.068	1.34	1.66	3.96	0.37	7.35	8.42	2.57	18.35	
NT Plant-Folding	24R-20	MFWD 190	174,000	150	8	0.049	0.97	1.20	3.20	0.26	5.64	6.81	1.85	14.31	
NT Plant-Folding	24R-30	MFWD 190	184,000	150	8	0.032	0.64	0.80	2.25	0.17	3.88	4.80	1.23	9.92	
NT Plant-Rigid	4R-30	2WD 130	22,100	150	8	0.196	3.88	3.28	1.62	0.63	9.43	3.46	4.19	17.09	
NT Plant-Rigid	4R-38	2WD 130	27,900	150	8	0.154	3.06	2.58	1.61	0.49	7.76	3.44	3.30	14.51	
NT Plant-Rigid	6R-30	MFWD 150	35,800	150	8	0.130	2.59	2.52	1.75	0.53	7.40	3.73	3.53	14.68	
NT Plant-Rigid	6R-38	MFWD 150	34,500	150	8	0.103	2.04	1.99	1.33	0.41	5.79	2.84	2.78	11.43	
NT Plant-Rigid	8R-22	MFWD 170	21,142	150	8	0.133	2.64	2.92	1.05	0.61	7.24	2.25	4.26	13.76	
NT Plant-Rigid	8R-30	MFWD 170	45,800	150	8	0.098	1.94	2.14	1.68	0.45	6.23	3.58	3.13	12.95	
NT Plant-Rigid	8R-38	MFWD 170	43,300	150	8	0.077	1.53	1.69	1.26	0.35	4.85	2.68	2.48	10.01	
NT Plant-Rigid	10R-30	MFWD 190	46,500	150	8	0.078	1.55	1.92	1.37	0.42	5.27	2.91	2.96	11.15	
NT Plant-Rigid	12R-20	MFWD 190	57,800	150	8	0.098	1.94	2.40	2.12	0.53	7.01	4.52	3.70	15.24	
NT Plant-Rigid	12R-30	MFWD 190	70,700	150	8	0.065	1.29	1.60	1.73	0.35	4.99	3.69	2.47	11.15	
Paratill & Bed	4R-30	MFWD 225	12,300	150	12	0.204	2.19	5.91	0.90	1.21	10.23	1.76	8.42	20.42	
Paratill & Bed	4R-38	MFWD 225	12,300	150	12	0.160	1.72	4.65	0.71	0.96	8.05	1.38	6.63	16.08	
Paratill & Bed	6R-30	MFWD 225	17,300	150	12	0.136	1.46	3.94	0.85	0.81	7.06	1.65	5.61	14.33	
Paratill & Bed	6R-38	MFWD 225	17,200	150	12	0.107	1.15	3.11	0.66	0.64	5.57	1.29	4.43	11.30	
Paratill & Bed	8R-30	MFWD 225	22,600	150	12	0.102	1.09	2.95	0.83	0.60	5.49	1.62	4.21	11.33	
Paratill & Bed	8R382X1	MFWD 225	69,100	150	12	0.053	0.57	1.55	1.34	0.32	3.79	2.60	2.21	8.62	
Paratill & Bed Fold.	8R-38	MFWD 225	54,400	150	12	0.080	0.86	2.33	1.58	0.48	5.27	3.08	3.32	11.68	
Paratill & Bed Fold.	12R-38	MFWD 225	69,100	150	12	0.053	0.57	1.55	1.34	0					

Appendix Table 4. Implements: estimated purchase price, annual use, useful life, performance rate,
(Continued) and direct and fixed cost per acre, Louisiana 2019.

Item Name	Size	Power Unit	Purchase Price	Annual Use	Useful Life	Perf Rate	Labor	Fuel	---R&M--- Imp. P.U.	Total Direct	--Fixed-- Imp. P.U.	Total Cost
			dollars	hours	years	hr/ac				\$/acre		
lant & Pre Folding	12R-38	MFWD 190	91,000	150	8	0.053	1.05	1.30	1.82 0.29	4.48	3.87 2.01	10.37
Plant & Pre Folding	16R-30	MFWD 190	116,000	150	8	0.050	1.00	1.24	2.20 0.27	4.73	4.69 1.91	11.34
Plant & Pre Folding	23R-15	MFWD 190	143,000	150	8	0.070	1.39	1.72	3.78 0.38	7.28	8.03 2.66	17.98
Plant & Pre Folding	24R-20	MFWD 190	161,000	150	8	0.050	1.00	1.24	3.06 0.27	5.58	6.51 1.91	14.02
Plant & Pre Folding	24R-30	MFWD 190	178,000	150	8	0.033	0.66	0.82	2.25 0.18	3.94	4.80 1.27	10.02
Plant & Pre Rigid	4R-30	2WD 130	25,800	150	8	0.203	4.01	3.39	1.96 0.65	10.03	4.17 4.34	18.55
Plant & Pre Rigid	4R-38	2WD 130	31,600	150	8	0.159	3.16	2.67	1.89 0.51	8.24	4.02 3.41	15.69
Plant & Pre Rigid	6R-30	MFWD 150	25,900	150	8	0.135	2.67	2.61	1.31 0.55	7.15	2.79 3.65	13.60
Plant & Pre Rigid	6R-38	MFWD 150	36,400	150	8	0.106	2.11	2.06	1.45 0.43	6.07	3.10 2.88	12.05
Plant & Pre Rigid	8R-22	MFWD 170	23,550	150	8	0.138	2.73	3.02	1.22 0.63	7.61	2.59 4.41	14.62
Plant & Pre Rigid	8R-30	MFWD 170	46,000	150	8	0.101	2.00	2.22	1.75 0.46	6.45	3.72 3.24	13.41
Plant & Pre Rigid	8R-38	MFWD 170	43,400	150	8	0.080	1.58	1.75	1.30 0.37	5.02	2.72 2.56	10.36
Plant & Pre Rigid	10R-30	MFWD 190	46,000	150	8	0.081	1.60	1.98	1.40 0.44	5.43	2.97 3.06	11.48
Plant & Pre Rigid	12R-20	MFWD 190	54,300	150	8	0.101	2.00	2.48	2.06 0.55	7.11	4.39 3.83	15.34
Plant & Pre Rigid	12R-30	MFWD 190	68,600	150	8	0.067	1.33	1.65	1.74 0.37	5.10	3.70 2.55	11.36
Plant - Folding	8R-38	MFWD 170	50,600	150	8	0.074	1.47	1.63	1.41 0.34	4.86	3.00 2.38	10.25
Plant - Folding	8R-38 2x1	MFWD 170	82,300	150	8	0.049	0.98	1.08	1.53 0.22	3.82	3.25 1.58	8.66
Plant - Folding	10R-30	MFWD 190	47,426	150	8	0.075	1.49	1.84	1.34 0.41	5.09	2.85 2.84	10.79
Plant - Folding	10R-38	MFWD 190	43,011	150	8	0.059	1.17	1.45	0.95 0.32	3.91	2.03 2.24	8.20
Plant - Folding	12R-20	MFWD 190	60,400	150	8	0.094	1.86	2.30	2.13 0.51	6.82	4.53 3.56	14.92
Plant - Folding	12R-30	MFWD 190	68,200	150	8	0.062	1.24	1.53	1.60 0.34	4.73	3.41 2.37	10.52
Plant - Folding	12R-38	MFWD 190	82,300	150	8	0.049	0.98	1.21	1.53 0.27	3.99	3.25 1.87	9.12
Plant - Folding	16R-30	MFWD 190	97,900	150	8	0.047	0.93	1.15	1.73 0.25	4.07	3.67 1.78	9.53
Plant - Folding	23R-15	MFWD 190	134,000	150	8	0.065	1.29	1.60	3.29 0.35	6.54	6.99 2.47	16.01
Plant - Folding	24R-20	MFWD 190	152,000	150	8	0.047	0.93	1.15	2.68 0.25	5.03	5.71 1.78	12.52
Plant - Folding	24R-30	MFWD 190	178,000	150	8	0.031	0.62	0.76	2.09 0.17	3.66	4.45 1.18	9.30
Plant - Rigid	4R-30	2WD 130	18,500	150	8	0.188	3.73	3.15	1.30 0.60	8.80	2.78 4.03	15.61
Plant - Rigid	4R-38	2WD 130	24,300	150	8	0.148	2.93	2.48	1.35 0.47	7.25	2.87 3.17	13.30
Plant - Rigid	6R-30	MFWD 150	30,500	150	8	0.125	2.48	2.42	1.43 0.51	6.86	3.05 3.39	13.31
Plant - Rigid	6R-38	MFWD 150	29,200	150	8	0.099	1.96	1.91	1.08 0.40	5.36	2.31 2.67	10.35
Plant - Rigid	8R-22	MFWD 170	18,473	150	8	0.127	2.53	2.79	0.88 0.59	6.80	1.88 4.08	12.77
Plant - Rigid	8R-30	MFWD 170	38,700	150	8	0.094	1.86	2.06	1.36 0.43	5.73	2.90 3.01	11.65
Plant - Rigid	8R-38	MFWD 170	36,200	150	8	0.074	1.47	1.63	1.01 0.34	4.46	2.15 2.38	8.99
Plant - Rigid	10R-30	MFWD 190	40,700	150	8	0.075	1.49	1.84	1.15 0.41	4.90	2.44 2.84	10.19
Plant - Rigid	12R-20	MFWD 190	47,100	150	8	0.094	1.86	2.30	1.66 0.51	6.35	3.54 3.56	13.45
Plant - Rigid	12R-30	MFWD 190	59,900	150	8	0.062	1.24	1.53	1.41 0.34	4.53	3.00 2.37	9.91
Plant - Rigid	15R-15	2WD 150	58,900	150	8	0.094	1.86	1.81	2.08 0.32	6.08	4.42 2.13	12.64
Pull Levee (1m/80a))	4 blade	2WD 50	3,180	100	10	0.003	0.03	0.02	0.00 0.00	0.06	0.01 0.01	0.09
Rice Grain Cart	500 Bu	MFWD 190	25,700	200	12	0.057	0.61	1.39	0.39 0.31	2.71	0.77 2.15	5.64
Rice Grain Cart	700 Bu	MFWD 190	37,300	200	12	0.063	0.68	1.55	0.64 0.34	3.22	1.24 2.39	6.86
Roller	32'	MFWD 170	22,800	100	12	0.046	0.50	1.02	0.17 0.21	1.91	1.12 1.49	4.52
Rotary Cutter	7'	MFWD 130	4,760	185	10	0.168	1.80	2.81	0.64 0.59	5.87	0.50 3.98	10.36
Rotary Cutter	12'	2WD 150	11,600	185	10	0.098	1.05	1.89	0.92 0.33	4.20	0.71 2.22	7.14
Rotary Cutter	15'	MFWD 150	22,800	185	10	0.078	0.84	1.51	1.45 0.31	4.13	1.13 2.12	7.38
Row Cond & Inc	13'	2WD 130	14,600	100	10	0.137	2.10	2.30	0.50 0.44	5.36	2.35 2.94	10.66
Row Cond & Inc	21'	2WD 170	20,700	100	10	0.085	1.30	1.86	0.44 0.41	4.02	2.06 2.87	8.97
Row Cond & Inc	26'	MFWD 190	26,600	100	10	0.063	0.96	1.55	0.42 0.34	3.28	1.97 2.39	7.65
Row Cond & Inc	38'	MFWD 225	33,800	100	10	0.047	0.72	1.36	0.39 0.28	2.76	1.86 1.94	6.57
Row Cond & Inc	42'	MFWD 225	20,400	100	10	0.040	0.61	1.16	0.20 0.23	2.22	0.95 1.65	4.83
Row Cond (Harrow)	13'	2WD 130	7,300	100	10	0.114	1.23	1.92	0.20 0.36	3.73	0.97 2.45	7.16
Row Cond (Harrow)	21'	2WD 170	12,000	100	10	0.071	0.76	1.55	0.21 0.34	2.87	0.99 2.39	6.27
Row Cond (Harrow)	27'	MFWD 190	12,400	100	10	0.057	0.61	1.40	0.17 0.31	2.51	0.83 2.16	5.51
Row Cond (Harrow)	38'	MFWD 225	22,200	100	10	0.039	0.42	1.13	0.21 0.23	2.01	1.01 1.62	4.65
Row Cond (Harrow)	42'	MFWD 225	15,582	100	10	0.035	0.38	1.02	0.13 0.21	1.76	0.64 1.46	3.87
Row Cond (Plant)	13'	2WD 130	7,120	100	10	0.157	1.68	2.62	0.27 0.50	5.10	1.30 3.36	9.77
Row Cond (Plant)	21'	2WD 170	11,700	100	10	0.097	1.04	2.12	0.28 0.47	3.93	1.33 3.27	8.53
Row Cond (Plant)	27'	MFWD 190	12,400	100	10	0.078	0.84	1.92	0.24 0.42	3.43	1.13 2.96	7.54
Row Cond (Plant)	38'	MFWD 225	16,587	100	10	0.053	0.57	1.55	0.22 0.32	2.67	1.04 2.21	5.93
Row Cond (Plant)	42'	MFWD 225	15,582	100	10	0.048	0.52	1.40	0.18 0.29	2.41	0.88 2.00	5.30
RT Cult (Early)	8R-30	2WD 170	20,774	200	12	0.103	1.10	2.25	1.02 0.50	4.89	1.15 3.47	9.52
RT Cult (Early)	12R-30	2WD 190	29,998	200	12	0.068	0.73	1.68	0.98 0.30	3.71	1.11 2.12	6.95
RT Cult (Late)	8R-30	2WD 170	20,774	200	12	0.128	1.38	2.82	1.28 0.62	6.11	1.44 4.34	11.90
RT Cult (Late)	12R-30	2WD 190	29,998	200	12	0.085	0.92	2.10	1.23 0.38	4.64	1.39 2.65	8.68
RT Cult + PD (Early)	8R-30	2WD 150	20,774	200	12	0.110	1.67	2.12	1.09 0.37	5.27	1.23 2.48	8.99
RT Cult + PD (Early)	12R-30	MFWD 225	29,998	200	12	0.073	1.11	2.12	1.05 0.43	4.73	1.18 3.02	8.94
RT Cult + PD (Late)	8R-30	2WD 170	26,264	200	12	0.137	2.09	3.00	1.73 0.67	7.50	1.95 4.62	14.08
RT Cult + PD (Late)	12R-30	2WD 190	35,493	200	12	0.091	1.39	2.24	1.55 0.40	5.60	1.75 2.82	10.19
Spin Spreader	5 ton	MFWD 190	12,400	100	8	0.042	0.83	1.02	0.29 0.23	2.38	0.65 1.58	4.62
Spin Spreader	5 ton	MFWD 190	12,400	100	8	0.042	0.83	1.02	0.29 0.23	2.38	0.65 1.58	4.62
Spray (Band)	27'	MFWD 170	7,270	200	8	0.062	0.95	1.37	0.21 0.28	2.83	0.28 2.00	5.11
Spray (Band)	40'	MFWD 170	8,630	200	8	0.042	0.64	0.92	0.17 0.19	1.93	0.22 1.35	3.51
Spray (Band)	50'	MFWD 170	13,700	200	8	0.033	0.51	0.74	0.21 0.15	1.63	0.28 1.08	3.00
Spray (Band)	53'	MFWD 170	9,940	200	8	0.031	0.48	0.69	0.14 0.14	1.48	0.19 1.01	2.69
Spray (Band)	60'	MFWD 170	15,600	200	8	0.028	0.43	0.61	0.20 0.13	1.38	0.27 0.90	2.55
Spray (Bcast/HB)	13' Rigid	MFWD 150	6,760	200	8	0.130	1.98	2.51	0.41 0.52	5.44	0.54 3.51	9.50
Spray (Bcast/HB)	20' Rigid	2WD 50	7,920	200	8	0.084	1.29	0.54	0.31 0.06	2.21	0.41 0.40	3.03
Spray (Bcast/HB)	27' Fold	MFWD 170	15,100	200	8	0.062	0.95	1.37	0.44 0.28	3.06	0.58 2.00	5.65

Appendix Table 4. Implements: estimated purchase price, annual use, useful life, performance rate, and direct and fixed cost per acre, Louisiana 2019.

Item Name	Size		Power Unit		Purchase Price	Annual Use	Useful Life	Perf Rate	Labor	Fuel	---R&M--- Imp. P.U.		Total Direct	--Fixed-- Imp. P.U.		Total Cost
					dollars	hours	years	hr/ac	-----\$/acre-----							
Spray (Bcast/HB)	27'	Fold	MFWD	170	15,100	200	8	0.062	0.95	1.37	0.44	0.28	3.06	0.58	2.00	5.65
Spray (Bcast/HB)	27'	Rigid	MFWD	170	9,570	200	8	0.062	0.95	1.37	0.28	0.28	2.89	0.37	2.00	5.27
Spray (Bcast/HB)	30'	Fold	MFWD	170	18,600	200	8	0.056	0.86	1.23	0.49	0.26	2.84	0.65	1.80	5.30
Spray (Bcast/HB)	40'	Fold	MFWD	170	21,800	200	8	0.042	0.64	0.92	0.43	0.19	2.19	0.57	1.35	4.12
Spray (Bcast/HB/HD)	27'		MFWD	170	22,400	200	8	0.062	0.95	1.37	0.65	0.28	3.27	0.87	2.00	6.15
Spray (Bcast/HB/HD)	40'		MFWD	170	32,200	200	8	0.042	0.64	0.92	0.63	0.19	2.40	0.84	1.35	4.60
Spray (Broadcast)	27'		MFWD	170	7,270	200	8	0.062	0.95	1.37	0.21	0.28	2.83	0.28	2.00	5.11
Spray (Broadcast)	40'		MFWD	170	8,630	200	8	0.042	0.64	0.92	0.17	0.19	1.93	0.22	1.35	3.51
Spray (Broadcast)	50'		MFWD	170	13,700	200	8	0.033	0.51	0.74	0.21	0.15	1.63	0.28	1.08	3.00
Spray (Broadcast)	53'		MFWD	170	9,940	200	8	0.031	0.48	0.69	0.14	0.14	1.48	0.19	1.01	2.69
Spray (Broadcast)	60'		MFWD	170	15,600	200	8	0.028	0.43	0.61	0.20	0.13	1.38	0.27	0.90	2.55
Spray (Direct/Hood)	8R-30		MFWD	170	20,000	200	8	0.084	1.29	1.85	0.79	0.39	4.32	1.05	2.70	8.08
Spray (Direct/Hood)	8R-38		MFWD	170	21,500	200	8	0.066	1.02	1.46	0.67	0.30	3.46	0.89	2.13	6.49
Spray (Direct/Hood)	12R-30		MFWD	170	24,800	200	8	0.056	0.86	1.23	0.65	0.26	3.01	0.87	1.80	5.68
Spray (Direct/Hood)	12R-38		MFWD	170	26,600	200	8	0.044	0.67	0.97	0.55	0.20	2.41	0.73	1.42	4.57
Spray (Direct/Layby)	8R-30		MFWD	170	11,300	200	8	0.084	1.29	1.85	0.44	0.39	3.98	0.59	2.70	7.28
Spray (Direct/Layby)	8R-38		MFWD	170	11,300	200	8	0.066	1.02	1.46	0.35	0.30	3.14	0.47	2.13	5.75
Spray (Direct/Layby)	8R-38 2x1		MFWD	170	14,900	200	8	0.044	0.67	0.97	0.31	0.20	2.17	0.41	1.42	4.00
Spray (Direct/Layby)	10R-30		MFWD	170	12,200	200	8	0.067	1.03	1.48	0.38	0.31	3.21	0.51	2.16	5.89
Spray (Direct/Layby)	12R-30		MFWD	170	14,900	200	8	0.056	0.86	1.23	0.39	0.26	2.74	0.52	1.80	5.07
Spray (Direct/Layby)	12R-38		MFWD	170	14,900	200	8	0.044	0.67	0.97	0.31	0.20	2.17	0.41	1.42	4.00
Spray (Direct/Layby)	16R-20		MFWD	170	17,100	200	8	0.063	0.96	1.38	0.50	0.29	3.15	0.67	2.02	5.85
Spray (Spot)	27'		MFWD	170	7,270	200	8	0.062	0.95	1.37	0.21	0.28	2.83	0.28	2.00	5.11
Spray (Spot)	40'		MFWD	170	8,630	200	8	0.042	0.64	0.92	0.17	0.19	1.93	0.22	1.35	3.51
Spray (Spot)	50'		MFWD	170	13,700	200	8	0.033	0.51	0.74	0.21	0.15	1.63	0.28	1.08	3.00
Spray (Spot)	53'		MFWD	170	9,940	200	8	0.031	0.48	0.69	0.14	0.14	1.48	0.19	1.01	2.69
Spray (Spot)	60'		MFWD	170	15,600	200	8	0.028	0.43	0.61	0.20	0.13	1.38	0.27	0.90	2.55
Stalk Shredder	14'		MFWD	150	21,100	200	10	0.117	1.26	2.27	2.17	0.47	6.19	1.45	3.18	10.82
Stalk Shredder	20'		MFWD	150	29,300	200	10	0.082	0.88	1.59	2.11	0.33	4.92	1.41	2.22	8.56
Stalk Shredder-Flail	12'		MFWD	150	17,400	200	10	0.137	1.47	2.65	2.09	0.55	6.78	1.39	3.71	11.88
Stalk Shredder-Flail	20'		MFWD	150	29,300	200	10	0.082	0.88	1.59	2.11	0.33	4.92	1.41	2.22	8.56
Subsoiler	3 shank		MFWD	190	5,860	100	15	0.204	2.19	4.99	0.39	1.11	8.70	1.12	7.71	17.54
Subsoiler	4 shank		MFWD	225	9,200	100	15	0.153	1.64	4.44	0.47	0.91	7.48	1.32	6.33	15.14
Subsoiler	5 shank		MFWD	225	12,600	100	15	0.122	1.31	3.54	0.51	0.73	6.09	1.44	5.04	12.59
Subsoiler low-till	4 shank		MFWD	225	10,800	100	15	0.153	1.64	4.44	0.55	0.91	7.56	1.55	6.33	15.45
Subsoiler low-till	6 shank		MFWD	225	14,600	100	15	0.102	1.09	2.95	0.49	0.60	5.16	1.40	4.21	10.77
Subsoiler low-till	8 shank		MFWD	225	20,000	100	15	0.076	0.82	2.21	0.51	0.45	4.00	1.43	3.15	8.59
TerraTill Bed w/roll	4R-38		MFWD	225	14,300	150	12	0.160	1.72	4.65	0.83	0.96	8.17	1.61	6.63	16.42
TerraTill Bed w/roll	6R-38		MFWD	225	19,400	150	12	0.107	1.15	3.11	0.75	0.64	5.66	1.46	4.43	11.56
TerraTill Bed w/roll	4R-30		MFWD	225	14,300	150	12	0.204	2.19	5.91	1.05	1.21	10.38	2.05	8.42	20.85
TerraTill Bed w/roll	6R-30		MFWD	225	15,310	150	12	0.136	1.46	3.94	0.75	0.81	6.97	1.46	5.61	14.05
Boll Buggy-1st Pick	2R38"157hp		MFWD	190	30,500	200	10	0.519	5.57	12.70	3.96	2.84	25.08	8.96	19.62	53.68
Boll Buggy-1st pick	4R2x1260hp		MFWD	190	30,500	200	10	0.172	1.84	4.21	1.31	0.94	8.31	2.97	6.50	17.80
Boll Buggy-1st pick	4R30"255hp		MFWD	190	30,500	200	10	0.327	3.51	8.00	2.49	1.79	15.80	5.64	12.36	33.81
Boll Buggy-1st pick	4R30"325hp		MFWD	190	30,500	200	10	0.327	3.51	8.00	2.49	1.79	15.80	5.64	12.36	33.81
Boll Buggy-1st pick	4R38"255hp		MFWD	190	30,500	200	10	0.257	2.76	6.30	1.96	1.40	12.44	4.44	9.73	26.62
Boll Buggy-1st pick	4R38"325hp		MFWD	190	30,500	200	10	0.257	2.76	6.30	1.96	1.40	12.44	4.44	9.73	26.62
Boll Buggy-1st pick	5R30"255hp		MFWD	190	30,500	200	10	0.261	2.81	6.40	1.99	1.43	12.64	4.51	9.89	27.05
Boll Buggy-1st pick	5R38"255hp		MFWD	190	30,500	200	10	0.207	2.22	5.06	1.57	1.13	10.00	3.57	7.82	21.40
Boll Buggy-1st pick	6R30"325hp		MFWD	190	30,500	200	10	0.218	2.34	5.33	1.66	1.19	10.53	3.76	8.24	22.54
Boll Buggy-1st pick	6R38"325hp		MFWD	190	30,500	200	10	0.172	1.84	4.21	1.31	0.94	8.31	2.97	6.50	17.80
Boll Buggy-2nd pick	2R38"157hp		MFWD	190	30,500	200	10	0.440	4.72	10.76	3.35	2.40	21.24	7.59	16.62	45.47
Boll Buggy-2nd pick	4R2x1260hp		MFWD	190	30,500	200	10	0.145	1.56	3.56	1.11	0.79	7.04	2.51	5.51	15.07
Boll Buggy-2nd pick	4R30"255hp		MFWD	190	30,500	200	10	0.277	2.97	6.78	2.11	1.51	13.38	4.78	10.47	28.64
Boll Buggy-2nd pick	4R30"325hp		MFWD	190	30,500	200	10	0.277	2.97	6.78	2.11	1.51	13.38	4.78	10.47	28.64
Boll Buggy-2nd pick	4R38 255hp		MFWD	190	30,500	200	10	0.218	2.34	5.33	1.66	1.19	10.54	3.76	8.24	22.55
Boll Buggy-2nd pick	4R38 325hp		MFWD	190	30,500	200	10	0.218	2.34	5.33	1.66	1.19	10.54	3.76	8.24	22.55
Boll Buggy-2nd pick	5R30"255hp		MFWD	190	30,500	200	10	0.221	2.38	5.42	1.69	1.21	10.70	3.82	8.37	22.91
Boll Buggy-2nd pick	5R38"255hp		MFWD	190	30,500	200	10	0.175	1.88	4.29	1.33	0.95	8.47	3.02	6.62	18.13
Boll Buggy-2nd pick	6R30"325hp		MFWD	190	30,500	200	10	0.184	1.98	4.51	1.40	1.01	8.92	3.19	6.98	19.09
Boll Buggy-2nd pick	6R38"325hp		MFWD	190	30,500	200	10	0.145	1.56	3.56	1.11	0.79	7.04	2.51	5.51	15.07
Boll Buggy-Stripper	13' Bcast		MFWD	150	30,500	200	10	0.251	2.70	4.86	1.92	1.02	10.50	4.34	6.79	21.64
Boll Buggy-Stripper	16' Bcast		MFWD	150	30,500	200	10	0.204	2.19	3.94	1.56	0.83	8.53	3.53	5.52	17.58
Boll Buggy-Stripper	19' Bcast		MFWD	150	30,500	200	10	0.172	1.84	3.32	1.31	0.70	7.18	2.97	4.64	14.81
Boll Buggy-Stripper	4R30"2X1Br		MFWD	150	30,500	200	10	0.218	2.34	4.21	1.66	0.88	9.10	3.76	5.88	18.76
Boll Buggy-Stripper	4R30"Brush		MFWD	150	30,500	200	10	0.327	3.51	6.31	2.49	1.32	13.65	5.64	8.83	28.14
Boll Buggy-Stripper	4R38"2X1Br		MFWD	150	30,500	200	10	0.172	1.84	3.32	1.31	0.70	7.18	2.97	4.64	14.81
Boll Buggy-Stripper	4R38"Brush		MFWD	150	30,500	200	10	0.257	2.76	4.97	1.96	1.04	10.75	4.44	6.95	22.15
Boll Buggy-Stripper	5R30"Brush		MFWD	150	30,500	200	10	0.261	2.81	5.05	1.99	1.06	10.92	4.51	7.06	22.51
Boll Buggy-Stripper	5R38"Brush		MFWD	150	30,500	200	10	0.207	2.22	3.99	1.57	0.84	8.64	3.57	5.59	17.81
Boll Buggy-Stripper	6R30"Brush		MFWD	150	30,500	200	10	0.218	2.34	4.21	1.66	0.88	9.10	3.76	5.88	18.76