



Evaluating Rice Rental Arrangements Under the Price Loss Coverage Program as Specified in the 2018 Farm Bill

A Farm Planning/Decision Tool for Louisiana Rice Producers

Michael A. Deliberto and Brian M. Hilbun

Department of Agricultural Economics and Agribusiness
Louisiana State University Agricultural Center
Baton Rouge, Louisiana

The Rice Rental Arrangement Net Return Evaluation Model is a spreadsheet-based decision tool developed to assist Louisiana rice producers in evaluating the impacts of alternative crop land rental arrangements on projected net returns above specified rice production costs from the perspective of both the rice producer and the landowner. This decision aid model includes the Price Loss Coverage (PLC) Program option of the Agricultural Act of 2018 (2018 Farm Bill). The PLC Program is expected to be the farm income support option selected by a majority of rice producers and landowners in the state. With the major changes which have been implemented in the 2018 Farm Bill, crop land rental arrangements would be expected to adjust to reflect this change in rice income expectation. This purpose of this decision aid is to assist rice producers and landowners in evaluating alternative rice rental arrangements and to estimate the impact on expected net returns above specified rice production expenses for both the tenant rice producer and the landowner.

The Price Loss Coverage (PLC) Program provides for market price protection only and operates similar to a target price type of program. The PLC rice reference price is \$14.00 per cwt., entered in cell G22. A value for an updated rice program yield (90% of the 2008-2012 farm rice yield) is entered in cell G23 in pounds per acre. This spreadsheet decision tool calculates net returns on a per-planted acre of rice basis. Therefore, the number of acres of rice planted on this tract (cell G24) and the number of total rice base acres on this tract (cell G25) are entered to estimate any PLC payments per planted rice acre. The PLC program pays on 85% of rice base acres.

This decision aid can evaluate cash and crop share leases for rice production. Rice crop share percentage paid to the landlord (for land and/or water) can be entered as a percentage value in cell F12. Alternatively, a rice cash lease amount can be entered in cell F13 in dollars per acre. An expected farm level rice market price is entered in cell F8 (in dollars per cwt.) and an expected farm level rough rice yield is entered in cell F9 (in pounds per acre, dry yield basis). For purposes of calculating a PLC Program payment, an expected national Marketing Year Average (MYA) rough rice price is entered in cell F10. These price and yield values are then used as the midpoints of a rice price and yield range over which net returns above specified production expenses are calculated.

There is an option to enter per unit values for rice drying and hauling charges (in dollars per cwt.), in cells F18 and F19, which would be charged to the producer and landowner in the same share percentages as the crop share. Alternatively, zeros can be entered in cells F18 and F19 and a per acre charge for drying and/or hauling costs can be entered in the production cost table along with a value for the percent of this cost paid by the landowner, in a similar fashion as the other rice production costs are entered.

This Excel spreadsheet decision tool can be downloaded from the LSU AgCenter Rice Economics web page and can be saved and used on any desktop or laptop personal computer. The web address for the LSU AgCenter is: www.lsuagcenter.com. A copy of this user's guide along with the spreadsheet decision aid Excel file can also be obtained by contacting the authors by email at mdeliberto@agcenter.lsu.edu.



Complete Rice Rental Arrangement Net Return Evaluation Model Spreadsheet

Estimated Rice Net Returns With the "Price Loss Coverage (PLC) Program" in the 2018 Farm Bill

Cell values in blue for price, yield, costs, and other factors can be changed by the user.

Values in the table represent net returns above specified costs per planted rice acre. Positive net return values are highlighted in yellow.

Estimation of Rice Grower and Landlord Net Returns Above Specified Costs per Planted Rice Acre

Land Tract Name/Number = Rice Land Tract No. 1			Projected Rice Production		Percent of Costs Paid By:	
			Costs Per Planted Acre		Landlord	Grower
Expected Rice Price (MYA) =	\$14.25 per cwt.	\$23.09 per barrel	Custom	\$116	0%	100%
Expected Rice Yield =	7,000 lbs./acre	43.2 barrels/acre	Fertilizer	\$122	0%	100%
	(dry yield basis)		Herbicides	\$48	0%	100%
Rice Share Rent =	30% crop share		Fungicides, Insecticides	\$23	0%	100%
Rice Cash Rent =	\$0 per acre		Seed	\$101	0%	100%
Drying and hauling rates entered below will be charged to the grower and the landlord for their proportionate crop shares.			Labor	\$20	0%	100%
Rice Drying Charge	\$0.90 \$/cwt. (dry yield basis)		Fuel & Repairs	\$58	0%	100%
Rice Hauling Charge	\$0.30 \$/cwt. (dry yield basis)		Irrigation Pumping	\$99	100%	0%
To enter alternate charges for drying and/or hauling, enter zero values in the cells above and enter a cost per acre in the cost table to the right			Other Variable Costs	\$108	0%	100%
			Other Variable Costs	\$0	0%	100%
			Fixed Costs	\$3	0%	100%
			Overhead Costs	\$0	0%	100%
			Other Costs	\$0	0%	100%
			Other Costs	\$0	0%	100%
			Other Costs	\$0	0%	100%

Price Loss Coverage (PLC) Reference Price = **\$14.00** per cwt.

Updated Rice Program Yield = **5,700** lbs./program acre

Rice Acres Planted on this tract = **85** planted acres

Total Rice Base Acres on this tract = **100** rice base acres

(Farm program payments are shared with landlord only for crop share lease arrangements; no payment share under cash leases)

Total Specified Costs **\$698** per planted rice acre

Proportionate total specified costs => **\$99** **\$599**

Estimated Grower Net Returns Above Specified Costs Per Planted Rice Acre

Rice Market Price		Rice Yield (lbs/acre)									PLC Program	
(\$/bbl)	(\$/cwt)	6,000	6,250	6,500	6,750	7,000	7,250	7,500	7,750	8,000	(\$/cwt)	(\$/bbl)
\$20.25	\$12.50	-\$65	-\$45	-\$25	-\$5	\$15	\$34	\$54	\$74	\$94	\$1.50	\$2.43
\$20.66	\$12.75	-\$64	-\$44	-\$24	-\$3	\$17	\$37	\$57	\$77	\$98	\$1.25	\$2.03
\$21.06	\$13.00	-\$64	-\$43	-\$22	-\$2	\$19	\$40	\$60	\$81	\$102	\$1.00	\$1.62
\$21.47	\$13.25	-\$63	-\$42	-\$21	\$0	\$21	\$42	\$64	\$85	\$106	\$0.75	\$1.22
\$21.87	\$13.50	-\$62	-\$41	-\$19	\$2	\$24	\$45	\$67	\$88	\$110	\$0.50	\$0.81
\$22.28	\$13.75	-\$62	-\$40	-\$18	\$4	\$26	\$48	\$70	\$92	\$114	\$0.25	\$0.41
\$22.68	\$14.00	-\$61	-\$39	-\$17	\$6	\$28	\$51	\$73	\$95	\$118	\$0.00	\$0.00
\$23.09	\$14.25	-\$51	-\$28	-\$5	\$18	\$40	\$63	\$86	\$109	\$132	\$0.00	\$0.00
\$23.49	\$14.50	-\$40	-\$17	\$6	\$29	\$53	\$76	\$99	\$123	\$146	\$0.00	\$0.00
\$23.90	\$14.75	-\$30	-\$6	\$18	\$41	\$65	\$89	\$112	\$136	\$160	\$0.00	\$0.00
\$24.30	\$15.00	-\$19	\$5	\$29	\$53	\$77	\$101	\$126	\$150	\$174	\$0.00	\$0.00
\$24.71	\$15.25	-\$9	\$16	\$40	\$65	\$89	\$114	\$139	\$163	\$188	\$0.00	\$0.00
\$25.11	\$15.50	\$2	\$27	\$52	\$77	\$102	\$127	\$152	\$177	\$202	\$0.00	\$0.00
\$25.52	\$15.75	\$12	\$38	\$63	\$88	\$114	\$139	\$165	\$190	\$216	\$0.00	\$0.00
\$25.92	\$16.00	\$23	\$49	\$74	\$100	\$126	\$152	\$178	\$204	\$230	\$0.00	\$0.00

Net return estimates include Price Loss Coverage Program payments on 85% of rice base acres

Estimated Landlord Net Returns Above Specified Costs Per Planted Rice Acre

Rice Market Price		Rice Yield (lbs/acre)									PLC Program	
(\$/bbl)	(\$/cwt)	6,000	6,250	6,500	6,750	7,000	7,250	7,500	7,750	8,000	(\$/cwt)	(\$/bbl)
\$20.25	\$12.50	\$130	\$138	\$147	\$155	\$164	\$172	\$181	\$189	\$198	\$1.50	\$2.43
\$20.66	\$12.75	\$134	\$143	\$152	\$160	\$169	\$178	\$186	\$195	\$204	\$1.25	\$2.03
\$21.06	\$13.00	\$139	\$148	\$157	\$165	\$174	\$183	\$192	\$201	\$210	\$1.00	\$1.62
\$21.47	\$13.25	\$143	\$152	\$161	\$171	\$180	\$189	\$198	\$207	\$216	\$0.75	\$1.22
\$21.87	\$13.50	\$148	\$157	\$166	\$176	\$185	\$194	\$203	\$212	\$222	\$0.50	\$0.81
\$22.28	\$13.75	\$152	\$162	\$171	\$181	\$190	\$199	\$209	\$218	\$228	\$0.25	\$0.41
\$22.68	\$14.00	\$157	\$167	\$176	\$186	\$195	\$205	\$215	\$224	\$234	\$0.00	\$0.00
\$23.09	\$14.25	\$161	\$171	\$181	\$191	\$201	\$210	\$220	\$230	\$240	\$0.00	\$0.00
\$23.49	\$14.50	\$166	\$176	\$186	\$196	\$206	\$216	\$226	\$236	\$246	\$0.00	\$0.00
\$23.90	\$14.75	\$170	\$181	\$191	\$201	\$211	\$221	\$231	\$242	\$252	\$0.00	\$0.00
\$24.30	\$15.00	\$175	\$185	\$196	\$206	\$216	\$227	\$237	\$247	\$258	\$0.00	\$0.00
\$24.71	\$15.25	\$179	\$190	\$200	\$211	\$222	\$232	\$243	\$253	\$264	\$0.00	\$0.00
\$25.11	\$15.50	\$184	\$195	\$205	\$216	\$227	\$238	\$248	\$259	\$270	\$0.00	\$0.00
\$25.52	\$15.75	\$188	\$199	\$210	\$221	\$232	\$243	\$254	\$265	\$276	\$0.00	\$0.00
\$25.92	\$16.00	\$193	\$204	\$215	\$226	\$237	\$248	\$260	\$271	\$282	\$0.00	\$0.00

Data Input Section

Estimation of Rice Grower and Landlord Net Returns Above Specified Costs per Planted Rice Acre				
Land Tract Name/Number = Rice Land Tract No. 1		Projected Rice Production Costs Per Planted Acre		Percent of Costs Paid By:
				Landlord Grower
Expected Rice Price (MYA) =	\$14.25 per cwt. \$23.09 per barrel	Custom	\$116	0% 100%
Expected Rice Yield =	7,000 lbs./acre 43.2 barrels/acre	Fertilizer	\$122	0% 100%
	(dry yield basis)	Herbicides	\$48	0% 100%
Rice Share Rent =	30% crop share	Fungicides, Insecticides	\$23	0% 100%
Rice Cash Rent =	\$0 per acre	Seed	\$101	0% 100%
Drying and hauling rates entered below will be charged to the grower		Labor	\$20	0% 100%
and the landlord for their proportionate crop shares.		Fuel & Repairs	\$58	0% 100%
Rice Drying Charge	\$0.90 \$/cwt. (dry yield basis)	Irrigation Pumping	\$99	100% 0%
Rice Hauling Charge	\$0.30 \$/cwt. (dry yield basis)	Other Variable Costs	\$108	0% 100%
To enter alternate charges for drying and/or hauling, enter zero values		Other Variable Costs	\$0	0% 100%
in the cells above and enter a cost per acre in the cost table to the right		Fixed Costs	\$3	0% 100%
Price Loss Coverage (PLC) Reference Price = \$14.00 per cwt.		Overhead Costs	\$0	0% 100%
Updated Rice Program Yield = 5,700 lbs./program acre		Other Costs	\$0	0% 100%
Rice Acres Planted on this tract = 85 planted acres		Other Costs	\$0	0% 100%
Total Rice Base Acres on this tract = 100 rice base acres		Other Costs	\$0	0% 100%
(Farm program payments are shared with landlord only for crop share		Total Specified Costs \$698 per planted rice acre		
lease arrangements; no payment share under cash leases)		Proportionate total specified costs => \$99 \$599		

Data to be Entered: (cell values highlighted in blue can be changed by the user)

Cell F7	Land tract reference name or number
Cell F8	Expected farm level rough rice price (in dollars per cwt.)
Cell F9	Expected farm level rough rice yield (in pounds per acre, dry yield basis)
Cell F10	Expected national marketing year average (MYA) rough rice price (in dollars per cwt.) (these price and yield values will be used as the midpoints of a range of market prices and rice yields used to calculate net return values in the tables below)
Cell F12	Landlord crop share percentage under a rice share lease arrangement (percent)
Cell F13	Cash rent paid under a rice cash lease arrangement (dollars per planted acre) (only one of these two cells should contain a nonzero value; for owned land, enter a zero value in both cells)
Cell F18	Rice drying charge (in dollars per cwt., dry yield basis)
Cell F19	Rice hauling charge (in dollars per cwt., dry yield basis)
Cell G22	Price Loss Coverage (PLC) rice reference price (\$14.00 per cwt.)
Cell G23	Updated rice program yield (in pounds per program acre)
Cell G24	Number of rice acres planted on this tract (acres)
Cell G25	Number of total rice base acre on this tract (acres)
Cells K9-K25	Specified rice production cost category names
Cells L9-L25	Projected rice production cost per planted acre (dollars per acre)
Cells M9-M25	Percent of rice production cost paid by the landlord (percent)

Based on the information entered for percent of production costs paid by the landlord, the percentage of specified production costs paid by the rice grower will be automatically calculated and shown in cells N9-N25. Total specified rice production costs entered will be summed in cell L26, with the specific proportionate share dollar amounts of that total cost paid by the rice grower and landlord shown in cells M27 and N27, respectively.

Rice Grower Estimated Net Return Section

Estimated Grower Net Returns Above Specified Costs Per Planted Rice Acre												PLC Program	
Rice Market Price		Rice Yield (lbs/acre)										Payment Rate	
(\$/bbl)	(\$/cwt)	6,000	6,250	6,500	6,750	7,000	7,250	7,500	7,750	8,000		(\$/cwt)	(\$/bbl)
\$20.25	\$12.50	-\$65	-\$45	-\$25	-\$5	\$15	\$34	\$54	\$74	\$94		\$1.50	\$2.43
\$20.66	\$12.75	-\$64	-\$44	-\$24	-\$3	\$17	\$37	\$57	\$77	\$98		\$1.25	\$2.03
\$21.06	\$13.00	-\$64	-\$43	-\$22	-\$2	\$19	\$40	\$60	\$81	\$102		\$1.00	\$1.62
\$21.47	\$13.25	-\$63	-\$42	-\$21		\$21	\$42	\$64	\$85	\$106		\$0.75	\$1.22
\$21.87	\$13.50	-\$62	-\$41	-\$19		\$24	\$45	\$67	\$88	\$110		\$0.50	\$0.81
\$22.28	\$13.75	-\$62	-\$40	-\$18		\$26	\$48	\$70	\$92	\$114		\$0.25	\$0.41
\$22.68	\$14.00	-\$61	-\$39	-\$17		\$28	\$51	\$73	\$95	\$118		\$0.00	\$0.00
\$23.09	\$14.25	-\$51	-\$28	-\$5	\$18	\$40	\$63	\$86	\$109	\$132		\$0.00	\$0.00
\$23.49	\$14.50	-\$40	-\$17	\$6	\$29	\$53	\$76	\$99	\$123	\$146		\$0.00	\$0.00
\$23.90	\$14.75	-\$30	-\$6	\$18	\$41	\$65	\$89	\$112	\$136	\$160		\$0.00	\$0.00
\$24.30	\$15.00	-\$19	\$5	\$29	\$53	\$77	\$101	\$126	\$150	\$174		\$0.00	\$0.00
\$24.71	\$15.25	-\$9	\$16	\$40	\$65	\$89	\$114	\$139	\$163	\$188		\$0.00	\$0.00
\$25.11	\$15.50	\$2	\$27	\$52	\$77	\$102	\$127	\$152	\$177	\$202		\$0.00	\$0.00
\$25.52	\$15.75	\$12	\$38	\$63	\$88	\$114	\$139	\$165	\$190	\$216		\$0.00	\$0.00
\$25.92	\$16.00	\$23	\$49	\$74	\$100	\$126	\$152	\$178	\$204	\$230		\$0.00	\$0.00

The first table presents estimates of net returns above specified costs for the rice grower on a per planted rice acre basis. Expected rough rice market price and yield values, entered in cells F8, F9 and F10 are listed in this net return table as the midpoints in cells I31, C39 and D39. The specific estimated net return above specified costs value per planted acre for the rice grower based on these specific expected values of price and yield entered is shown in the box in cell I39. Estimated Price Loss Coverage (PLC) Program payment rates for specified rice national MYA prices are listed in cells O32-O46. Over the range of rough rice market prices and yields shown in the table, net return values which are positive for the rice grower are highlighted in yellow.

Rice Landowner Estimated Net Return Section

Estimated Landlord Net Returns Above Specified Costs Per Planted Rice Acre												PLC Program	
Rice Market Price		Rice Yield (lbs/acre)										Payment Rate	
(\$/bbl)	(\$/cwt)	6,000	6,250	6,500	6,750	7,000	7,250	7,500	7,750	8,000		(\$/cwt)	(\$/bbl)
\$20.25	\$12.50	\$130	\$138	\$147	\$155	\$164	\$172	\$181	\$189	\$198		\$1.50	\$2.43
\$20.66	\$12.75	\$134	\$143	\$152	\$160	\$169	\$178	\$186	\$195	\$204		\$1.25	\$2.03
\$21.06	\$13.00	\$139	\$148	\$157	\$165	\$174	\$183	\$192	\$201	\$210		\$1.00	\$1.62
\$21.47	\$13.25	\$143	\$152	\$161	\$171	\$180	\$189	\$198	\$207	\$216		\$0.75	\$1.22
\$21.87	\$13.50	\$148	\$157	\$166	\$176	\$185	\$194	\$203	\$212	\$222		\$0.50	\$0.81
\$22.28	\$13.75	\$152	\$162	\$171	\$181	\$190	\$199	\$209	\$218	\$228		\$0.25	\$0.41
\$22.68	\$14.00	\$157	\$167	\$176	\$186	\$195	\$205	\$215	\$224	\$234		\$0.00	\$0.00
\$23.09	\$14.25	\$161	\$171	\$181	\$191	\$201	\$210	\$220	\$230	\$240		\$0.00	\$0.00
\$23.49	\$14.50	\$166	\$176	\$186	\$196	\$206	\$216	\$226	\$236	\$246		\$0.00	\$0.00
\$23.90	\$14.75	\$170	\$181	\$191	\$201	\$211	\$221	\$231	\$242	\$252		\$0.00	\$0.00
\$24.30	\$15.00	\$175	\$185	\$196	\$206	\$216	\$227	\$237	\$247	\$258		\$0.00	\$0.00
\$24.71	\$15.25	\$179	\$190	\$200	\$211	\$222	\$232	\$243	\$253	\$264		\$0.00	\$0.00
\$25.11	\$15.50	\$184	\$195	\$205	\$216	\$227	\$238	\$248	\$259	\$270		\$0.00	\$0.00
\$25.52	\$15.75	\$188	\$199	\$210	\$221	\$232	\$243	\$254	\$265	\$276		\$0.00	\$0.00
\$25.92	\$16.00	\$193	\$204	\$215	\$226	\$237	\$248	\$260	\$271	\$282		\$0.00	\$0.00

The second table presents estimates of net returns above specified costs for the rice landowner on a per planted rice acre basis. Expected rough rice market price and yield values, entered in cells F8-F10 are listed in this net return table as the midpoints in cells I52, C60 and D60. The specific estimated net return above specified costs value per planted acre for the landowner that is based on these specific expected values of price and yield entered is shown in the box in cell I60. Estimated Price Loss Coverage (PLC) Program payment rates for specified rice national MYA prices are listed in column in cells O53-O67. Over the range of rough rice market prices and yields shown in the table, net return values which are positive for the landowner are highlighted in yellow.