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Input Costs Trends for Arkansas Field Crops, 2008-2014

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Table of Contents

Section	Page
Introduction	1
Input Costs for 2014 Field Crop Production	1
Trends in Prices for Primary Production Inputs	4
Changes in Costs per Acre due to Increasing Input Prices	5
Summary	7
References	7
Appendix 1	8
Appendix 2	9
Appendix 3	10
Appendix 4	11
Appendix 5	12
Appendix 6	13

Input Costs Trends for Arkansas Field Crops, 2008-2014

Relative prices among inputs are determinants of potential profitability for field crop production. Price increases for inputs with extensive application levels in a specified crop will decrease profits more for that crop than for crops with less extensive application levels. Input costs per unit of crop output is a useful measure for gauging profitability potential in relation to expected commodity prices for crops marketed. This report presents estimates of costs per acre for typical Arkansas methods of crop production, as well as trends in input prices for field crops.

Input Costs for 2014 Field Crop Production

Input prices applied to field rates of usage determine production costs. Crop enterprise budgets developed by the University of Arkansas include estimated costs per acre for field crops (University of Arkansas 2013). Budget costs represent the most generalized production practices for three irrigation scenarios: 1) surface, 2) center pivot, and 3) non-irrigated. For this report, aggregated 2014 production functions are developed for field crops as weighted averages of crop enterprise budgets. Weighted average crop enterprise budgets are presented in Table 1. Input price changes since December 2013 are applied so that costs are representative of the spring 2014 planting period (USDA-NASS 2014a). Irrigation energy costs are weighted by irrigation type, as well as diesel or electric power source (USDA-NASS 2010; USDA-NASS 2014b). Rice weights are percentages of seed type planted based on information from Extension specialists. Appendixes 1 through Appendix 6 are weighted budgets for each field crop during 2008-2014.

Value of cottonseed sold as a by-product is assumed at least equal to post-harvest costs. Thus, post-harvest costs are excluded from operating costs for cotton. Rice has the greatest operating costs of \$601.67/acre. With post-harvest costs excluded for cotton, corn has the second greatest operating costs of \$544.98. Wheat has the lowest operating costs of \$236.44/acre.

Fixed costs are greatest for cotton with \$142.89/acre and lowest for wheat with \$44.35/acre. Adding fixed costs and operating costs leads to rice having the greatest total costs of production of \$706.97/acre. Costs in Table 1 include levee construction for rice, but do not include any other activities related to land forming. Corn total production costs are \$15.30 greater than total costs for cotton. Among the four major crops planted in the spring season, soybeans have the lowest total costs of production at \$344.79/acre. Land costs are not included in Table 1.

Operating costs in Table 1 consists of production inputs, repairs and other fees, and post-harvest expenses. Table 2 summarizes total costs with the three categories for operating costs. Production inputs include seeds, fertilizers, chemicals, custom applications, diesel fuel, electricity, supplies, surveying levees, and labor. Rice has the greatest costs of production inputs with \$511.38/acre. Production inputs are lowest for wheat with \$223.64/acre.

Expected yields for 2014 are calculated as Olympic averages of Arkansas yields for 2009-2013 (USDA-NASS 2014c). Dividing total costs by expected yields estimates total costs per yield unit in Table 2. For example, corn prices received above \$3.95/bu. represent revenue greater than total production costs, excluding land costs.

Table 1. Weighted Average Crop Enterprise Budgets, per Acre, Arkansas Field Crops, 2014

Expense	Cotton	Corn	Soybean	Rice	Sorghum	Wheat
Seed, Includes All Fees	112.86	122.06	78.60	84.91	19.13	34.00
Nitrogen	49.68	109.56	0.00	63.36	44.82	52.20
Phosphate (P2O5)	14.82	31.30	20.80	20.80	31.20	10.43
Potash (K2O)	22.24	34.65	23.40	23.40	35.10	15.40
Other Nutrients	6.90	46.90	0.00	8.01	0.00	3.45
Herbicide	51.62	20.16	32.76	60.76	15.40	18.48
Insecticide	22.10	0.00	4.21	3.74	3.00	0.00
Other Chemicals	15.39	0.00	10.32	13.21	0.00	11.48
Custom Chemical & Fertilizer Applications	0.00	5.95	14.00	44.10	4.97	28.00
Diesel Fuel, Pre-Post Harvest	19.25	13.18	12.55	15.37	12.63	10.25
Repairs and Maintenance, Pre-Post Harvest	15.45	9.23	10.69	7.38	8.81	5.66
Diesel Fuel, Harvest	20.19	10.45	8.13	18.29	10.33	10.45
Repairs and Maintenance, Harvest	18.27	11.52	7.50	18.54	9.59	10.81
Irrigation Energy Cost	38.14	36.19	25.38	92.92	15.48	0.00
Irrigation System Repairs & Maintenance	4.11	3.47	2.33	5.80	1.54	0.00
Supplies (ex. polypipe, levee gates, other)	1.75	2.10	1.90	0.64	1.01	0.00
Other Inputs, Survey Levees	0.00	0.00	0.00	4.50	0.00	0.00
Labor, Field Activities	20.51	10.17	8.75	13.43	9.20	7.68
Scouting/Consultant Fee	10.00	0.00	0.00	0.00	0.00	0.00
Boll Weevil Eradication Fee	14.00	0.00	0.00	0.00	0.00	0.00
Interest, Annual Rate for 6 Months	11.19	11.43	6.40	12.22	5.44	5.34
Cotton: Hauling, Ginning; Grain: Drying	91.14	30.15	0.00	54.48	0.00	0.00
Cotton: Warehousing; Other: Hauling	21.27	34.91	8.73	34.25	17.60	12.25
Promotions, Boards, Classing	10.03	1.59	0.40	1.56	0.80	0.56
Operating Costs¹	468.48	544.98	276.84	601.67	246.05	236.44
Pre-Harvest and Harvest Machinery	88.71	44.46	39.90	59.93	41.24	35.48
Irrigation Equipment	25.68	21.42	14.63	28.96	9.75	0.00
Miscellaneous Overhead ²	28.50	15.82	13.42	16.42	12.85	8.87
Fixed Costs	142.89	81.70	67.95	105.30	63.85	44.35
Total Costs³	611.37	626.67	344.79	706.97	309.89	280.79

¹Value of cottonseed sold deducted from cotton post-harvest expenses.

²Estimate based on machinery and equipment.

³Does not include land cost.

Table 2. Summary of Weighted Average Crop Enterprise Budgets, per Acre, 2014

Expense Category	Cotton	Corn	Soybean	Rice	Sorghum	Wheat
Production Inputs	395.45	442.68	240.80	467.44	202.27	201.83
Repairs & Other Fees	73.03	35.65	26.91	43.94	25.38	21.81
Total Production Expenses	468.48	478.34	267.72	511.38	227.65	223.64
Post-Harvest Expenses ¹	0.00	66.64	9.12	90.29	18.40	12.80
Total Operating Expenses	468.48	544.98	276.84	601.67	246.05	236.44
Fixed Costs	142.89	81.70	67.95	105.30	63.85	44.35
Total Costs²	611.37	626.67	344.79	706.97	309.89	280.79
Unit Cost ³	0.60	3.95	8.69	4.54	3.87	4.53

¹Value of cottonseed sold deducted from cotton post-harvest expenses.

²Does not include land cost.

³Total costs per lb. for cotton, all other are total cost per bu.

Production inputs are presented by input type in Table 3. Seed is the greatest cost for cotton and soybeans. Seed cost for cotton is \$112.86/acre which is 29% of production inputs. Seed cost for soybean production is \$78.60/acre which is 33% of production inputs. Fertilizers are the greatest production input costs for corn, grain sorghum, and wheat. Fertilizers are 50% of production inputs for corn and 55% of production inputs for grain sorghum. The percentage of production inputs consisting of chemicals is greatest for cotton with 23% of production inputs. Diesel and electricity costs are greatest for rice due to energy requirements for irrigation. The capital intensive nature of crop production is indicated by the relatively low labor cost for all crops in Table 3.

Table 3. Production Input Costs Details, Percent of Total Production Inputs, per Acre, 2014

Input	Cotton	Corn	Soybean	Rice	Sorghum	Wheat
Seed	112.86	122.06	78.60	84.91	19.13	34.00
Percent	29	28	33	18	9	17
Fertilizers	93.64	222.41	44.20	115.57	111.12	81.48
Percent	24	50	18	25	55	40
Chemicals	89.10	20.16	47.29	77.71	18.40	29.96
Percent	23	5	20	17	9	15
Diesel & Electricity	77.58	59.82	46.06	126.58	38.44	20.70
Percent	20	14	19	27	19	10
Labor, Field Activities	20.51	10.17	8.75	13.43	9.20	7.68
Percent	5	2	4	3	5	4
Other	1.75	8.05	15.90	49.24	5.98	28.00
Percent	0	2	7	11	3	14
Total Production Inputs¹	395.45	442.68	240.80	467.44	202.27	201.83
Percent¹	100	100	100	100	100	100

¹Totals may not sum due to rounding.

Trends in Prices for Primary Production Inputs

Prices for the production inputs in Table 3 have moderated in recent years after reaching highs in 2012 (USDA-NASS 2014a). Price increases for nitrogen, potash and phosphate, as well as diesel follow similar trends in Figure 1. Fertilizers have their highest prices in 2012 before moderating. In 2014, nitrogen prices are 92% of the 2008 level, while potash and phosphate prices are 73% of the 2008 level. Diesel prices in 2012 were at the highest level since 2008 before declining in 2013. Chemical prices in Figure 2 for insecticides, fungicides, and other chemicals have steadily trended upward. Fungicides and other chemical prices in 2014 are 121% of the 2008 level. Insecticide prices in 2014 are 124% of the 2008 level and herbicide prices are 111% of the 2008 level. Seed prices have increased for all crops in Figure 3. Rice seed prices have the greatest increase and are 203% of 2008 prices. Corn seed prices are 172% of the 2008 level, and seed prices for cotton planting are 164% of 2008 prices.

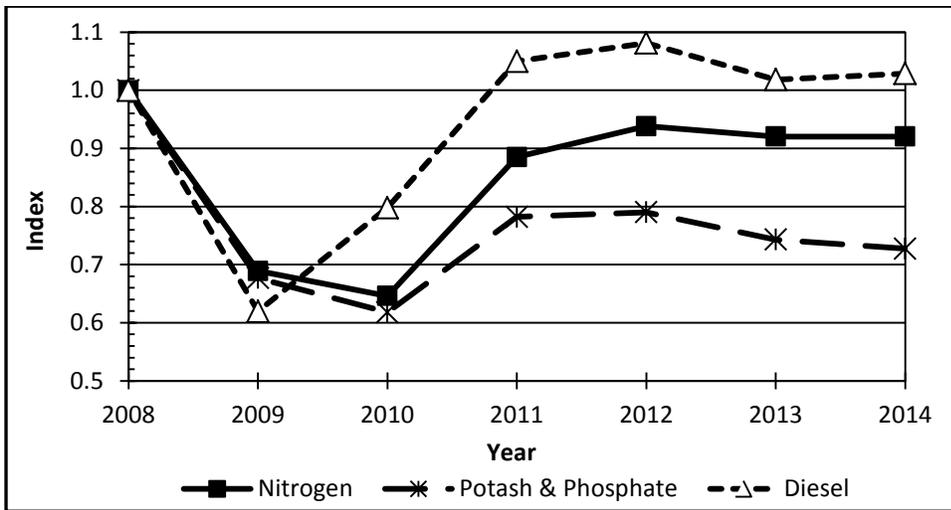


Figure 1. Price Indexes for Major Fertilizers and Diesel, U.S., 2008-2014, 2008=1.0

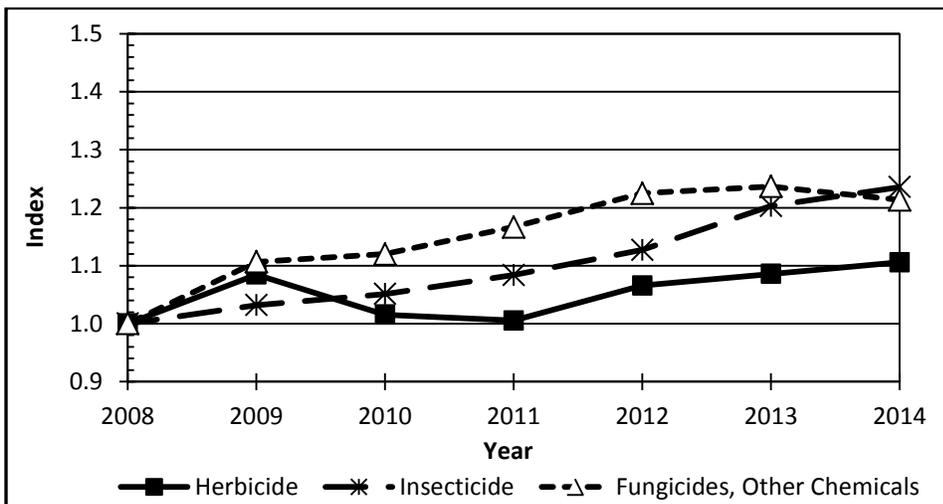


Figure 2. Price Indexes for Agricultural Chemicals, U.S., 2008-2014, 2008=1.0

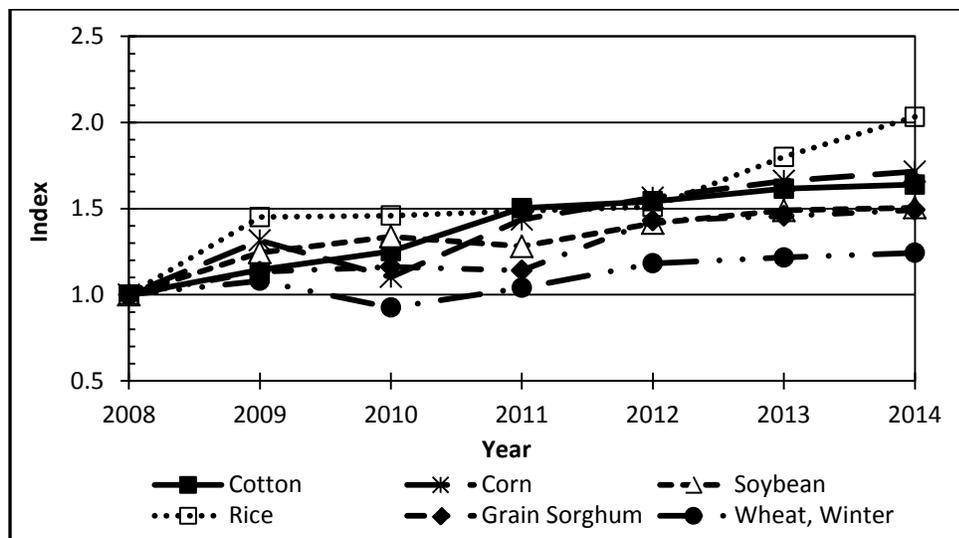


Figure 3. Price Indexes for Seeds, Major U.S. Field Crops, 2008-2014, 2008=1.0

Changes in Costs per Acre due to Increasing Input Prices

Price changes for all input items in crop enterprise budgets are available similarly to prices for primary production inputs presented in Figure 1 through Figure 3. Changes in annual costs per acre can be determined by applying price changes to input components that are 2014 costs in Table 1 (USDA-NASS 2014a). Figure 4 presents costs per acre indexes during 2008-2014 for production inputs in Table 3. Production costs reached high levels in 2008 and then declined sharply in 2009. Since 2009, production costs have increased for all crops. Production input costs increases in 2014 have moderated since having an upward trend from 2009-2012. Soybean, corn, and wheat production costs in 2014 are equal to costs in 2013. Rice production costs are 3.0% greater than the 2013 level, and cotton production costs are 1.0% greater than the 2013 level. Figure 5 presents costs per acre indexes during 2008-2014 for total costs in Table 2. Total costs for all cotton, rice, and soybeans are greatest in 2014. Total costs for wheat have not increased since 2012. Grain sorghum total costs per acre are lower than the 2008 level.

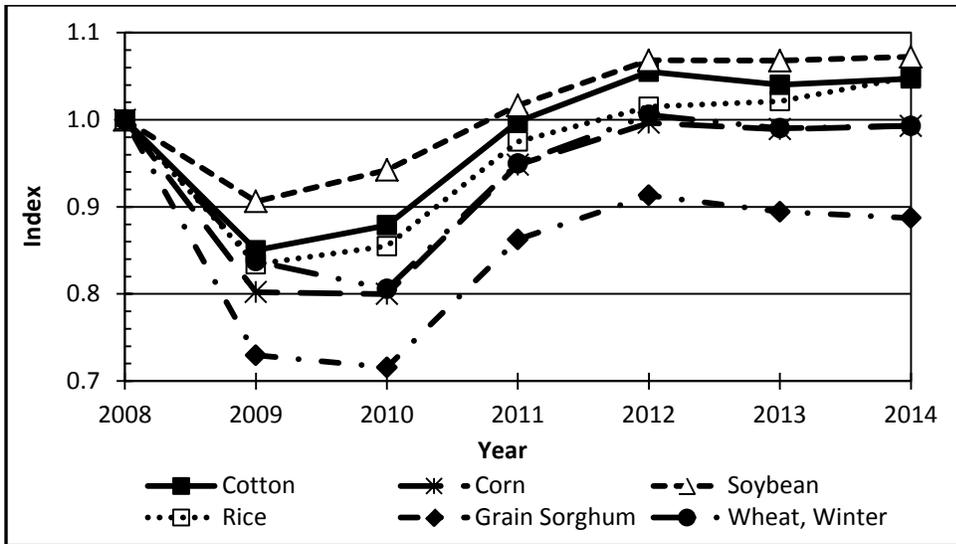


Figure 4. Indexes for Production Inputs, Costs per Acre, 2008-2014, 2008=1.0

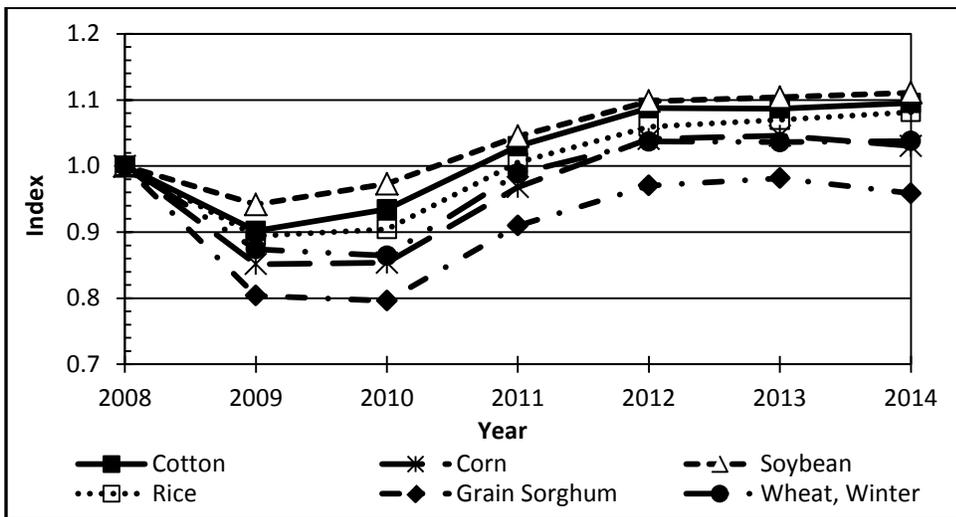


Figure 5. Indexes for Total Inputs, Costs per Acre, 2008-2014, 2008=1.0

Summary

Increasing input prices during 2008-2014 have challenged farm profitability even during a period of favorable commodity prices. Weighted average crop enterprise budgets with 2014 costs are developed for field crops produced in Arkansas. Rice has the greatest operating costs of \$601.675/acre, and wheat has the lowest operating costs of \$236.44/acre. Fixed costs are greatest for cotton with \$142.89/acre and lowest for wheat with \$44.35/acre. Adding fixed costs and operating costs leads to rice having the greatest total costs of production of \$706.97/acre. Production inputs include seeds, fertilizers, chemicals, custom applications, diesel fuel, electricity, supplies, surveying levees, and labor. Rice has the greatest costs of production inputs with \$511.38/acre. Production inputs are lowest for wheat with \$223.64/acre. Seed cost for corn production is \$122.06/acre which is 28% of production inputs. Soybeans have seed cost of \$78.60/acre, or 33% of production inputs. Fertilizers are the greatest production input costs for corn, grain sorghum, and wheat. Fertilizers are 50% of production inputs for corn and 55% of production inputs for grain sorghum. The percentage of production inputs for chemicals is greatest for cotton with 23% of production inputs. Diesel and electricity costs are greatest for rice due to energy requirements for irrigation. The capital intensive nature of crop production is indicated by the relatively low labor cost for all crops.

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Appendices

Appendix 1. Weighted Average Crop Enterprise Budgets, per Acre, Arkansas Cotton, 2008 - 2014

Expense	2014	2013	2012	2011	2010	2009	2008
Seed, Includes All Fees	112.86	111.65	113.92	106.06	97.90	92.01	79.32
Nitrogen	49.68	49.68	50.64	47.77	34.87	37.19	53.97
Phosphate (P2O5)	14.82	15.14	16.10	15.94	12.59	13.79	20.38
Potash (K2O)	22.24	22.71	24.15	23.91	18.89	20.69	30.57
Other Nutrients	6.90	6.97	7.26	7.19	5.53	6.04	8.61
Herbicide	51.62	50.68	49.74	46.93	47.39	50.63	46.68
Insecticide	22.10	21.52	20.16	19.39	18.80	18.46	17.89
Other Chemicals	15.39	15.68	15.53	14.79	14.20	14.03	12.68
Custom Chemical & Fertilizer Applications	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel Fuel, Pre-Post Harvest	19.25	19.06	20.24	19.65	14.93	11.60	18.71
Repairs and Maintenance, Pre-Post Harvest	15.45	15.45	15.30	14.86	14.26	14.00	13.74
Diesel Fuel, Harvest	20.19	19.72	19.59	15.64	13.77	11.02	28.32
Repairs and Maintenance, Harvest	18.27	20.73	19.01	16.27	18.10	14.49	17.92
Irrigation Energy Cost	38.14	37.87	39.47	38.69	32.36	25.14	40.56
Irrigation System Repairs & Maintenance	4.11	4.11	4.07	3.95	3.79	3.72	3.65
Supplies (ex. polypipe, levee gates, other)	1.75	1.72	1.69	1.66	1.59	1.57	1.53
Other Inputs, Survey Levees	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor, Field Activities	20.51	20.32	19.94	19.17	18.98	18.88	18.38
Scouting/Consultant Fee	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Boll Weevil Eradication Fee	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Interest, Annual Rate for 6 Months	11.19	10.53	11.28	10.25	8.56	9.23	11.29
Cotton: Hauling, Ginning; Grain: Drying	91.14	103.41	95.76	83.61	94.05	73.62	91.08
Cotton: Warehousing; Other: Hauling	21.27	24.13	22.34	19.51	21.95	17.18	21.25
Promotions, Boards, Classing	10.03	11.38	10.53	9.20	10.35	8.10	10.02
Operating Costs¹	468.48	467.56	472.09	446.11	400.55	386.48	448.19
Pre-Harvest and Harvest Machinery	88.71	86.31	83.92	79.92	75.12	72.51	68.27
Irrigation Equipment	25.68	24.98	24.29	23.13	21.74	20.99	19.76
Miscellaneous Overhead ²	28.50	27.73	26.96	25.68	24.14	23.30	21.93
Fixed Costs	142.89	139.03	135.17	128.73	121.01	116.80	109.96
Total Costs³	611.37	606.59	607.25	574.84	521.56	503.27	558.14

¹Value of cottonseed sold deducted from cotton post-harvest expenses.

²Estimate based on machinery and equipment.

³Does not include land cost.

Appendix 2. Weighted Average Crop Enterprise Budgets, per Acre, Arkansas Corn, 2008 - 2014

Expense	2014	2013	2012	2011	2010	2009	2008
Seed, Includes All Fees	122.06	118.73	111.65	103.73	102.90	97.90	76.65
Nitrogen	109.56	109.56	111.66	105.34	76.90	82.01	119.02
Phosphate (P2O5)	31.30	31.98	34.00	33.66	26.59	29.13	43.04
Potash (K2O)	34.65	35.40	37.63	37.26	29.43	32.24	47.64
Other Nutrients	46.90	47.39	49.34	48.85	37.62	41.05	58.52
Herbicide	20.16	19.79	19.43	18.33	18.51	19.77	18.23
Insecticide	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Chemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom Chemical & Fertilizer Applications	5.95	5.95	6.07	5.73	5.61	5.61	5.57
Diesel Fuel, Pre-Post Harvest	13.18	13.05	13.85	13.45	10.22	7.94	12.81
Repairs and Maintenance, Pre-Post Harvest	9.23	9.23	9.14	8.88	8.52	8.36	8.20
Diesel Fuel, Harvest	10.45	11.03	11.27	8.22	6.79	6.85	14.91
Repairs and Maintenance, Harvest	11.52	13.58	12.80	10.01	10.46	10.55	11.04
Irrigation Energy Cost	36.19	35.94	37.46	36.71	30.71	23.85	38.49
Irrigation System Repairs & Maintenance	3.47	3.47	3.44	3.34	3.21	3.15	3.09
Supplies (ex. polypipe, levee gates, other)	2.10	2.06	2.02	1.98	1.90	1.88	1.83
Other Inputs, Survey Levees	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor, Field Activities	10.17	10.07	9.88	9.50	9.41	9.36	9.11
Scouting/Consultant Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boll Weevil Eradication Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest, Annual Rate for 6 Months	11.43	10.77	11.50	10.46	8.28	9.29	12.09
Cotton: Hauling, Ginning; Grain: Drying	30.15	35.53	33.82	26.98	28.50	28.12	29.45
Cotton: Warehousing; Other: Hauling	34.91	41.14	39.16	31.24	33.00	32.56	34.10
Promotions, Boards, Classing	1.59	1.87	1.78	1.42	1.50	1.48	1.55
Operating Costs	544.98	556.54	555.89	515.09	450.06	451.09	545.34
Pre-Harvest and Harvest Machinery	44.46	43.26	42.05	40.05	37.65	36.34	34.21
Irrigation Equipment	21.42	20.84	20.26	19.30	18.14	17.51	16.48
Miscellaneous Overhead ¹	15.82	15.39	14.96	14.25	13.40	12.93	12.17
Fixed Costs	81.70	79.49	77.28	73.60	69.18	66.78	62.87
Total Costs²	626.67	636.03	633.17	588.69	519.25	517.87	608.21

¹Estimate based on machinery and equipment.

²Does not include land cost.

Appendix 3. Weighted Average Crop Enterprise Budgets, per Acre, Arkansas Soybean, 2008 - 2014

Expense	2014	2013	2012	2011	2010	2009	2008
Seed, Includes All Fees	78.60	77.68	73.47	67.03	70.32	65.19	52.58
Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phosphate (P2O5)	20.80	21.25	22.59	22.37	17.67	19.35	28.60
Potash (K2O)	23.40	23.90	25.41	25.16	19.88	21.77	32.17
Other Nutrients	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Herbicide	32.76	32.16	31.57	29.78	30.08	32.13	29.62
Insecticide	4.21	4.10	3.84	3.69	3.58	3.52	3.41
Other Chemicals	10.32	10.52	10.42	9.92	9.53	9.41	8.51
Custom Chemical & Fertilizer Applications	14.00	14.00	14.27	13.46	13.19	13.19	13.10
Diesel Fuel, Pre-Post Harvest	12.55	12.42	13.19	12.81	9.73	7.56	12.20
Repairs and Maintenance, Pre-Post Harvest	10.69	10.69	10.59	10.28	9.87	9.68	9.50
Diesel Fuel, Harvest	8.13	8.05	8.54	8.30	6.30	4.90	7.90
Repairs and Maintenance, Harvest	7.50	7.50	7.43	7.21	6.92	6.80	6.67
Irrigation Energy Cost	25.38	25.20	26.26	25.74	21.54	16.73	26.99
Irrigation System Repairs & Maintenance	2.33	2.33	2.31	2.24	2.15	2.11	2.07
Supplies (ex. polypipe, levee gates, other)	1.90	1.86	1.83	1.79	1.72	1.70	1.65
Other Inputs, Survey Levees	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor, Field Activities	8.75	8.67	8.51	8.18	8.10	8.06	7.84
Scouting/Consultant Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boll Weevil Eradication Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest, Annual Rate for 6 Months	6.40	6.21	6.40	6.33	5.83	6.00	6.53
Cotton: Hauling, Ginning; Grain: Drying	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cotton: Warehousing; Other: Hauling	8.73	9.57	9.46	8.47	7.70	8.25	8.36
Promotions, Boards, Classing	0.40	0.44	0.43	0.39	0.35	0.38	0.38
Operating Costs	276.84	276.55	276.52	263.16	244.46	236.73	258.07
Pre-Harvest and Harvest Machinery	39.90	38.82	37.74	35.94	33.79	32.61	30.70
Irrigation Equipment	14.63	14.24	13.84	13.18	12.39	11.96	11.26
Miscellaneous Overhead ¹	13.42	13.06	12.70	12.09	11.37	10.97	10.33
Fixed Costs	67.95	66.11	64.28	61.22	57.54	55.54	52.29
Total Costs²	344.79	342.66	340.79	324.37	302.00	292.27	310.36

¹Estimate based on machinery and equipment.

²Does not include land cost.

Appendix 4. Weighted Average Crop Enterprise Budgets, per Acre, Arkansas Rice, 2008 - 2014

Expense	2014	2013	2012	2011	2010	2009	2008
Seed, Includes All Fees	84.91	75.19	63.09	62.10	60.97	60.60	41.77
Nitrogen	63.36	63.36	64.58	60.92	44.47	47.43	68.83
Phosphate (P2O5)	20.80	21.25	22.59	22.37	17.67	19.35	28.60
Potash (K2O)	23.40	23.90	25.41	25.16	19.88	21.77	32.17
Other Nutrients	8.01	8.09	8.43	8.34	6.42	7.01	9.99
Herbicide	60.76	59.66	58.55	55.24	55.79	59.59	54.94
Insecticide	3.74	3.65	3.42	3.28	3.19	3.13	3.03
Other Chemicals	13.21	13.46	13.34	12.70	12.19	12.05	10.89
Custom Chemical & Fertilizer Applications	44.10	44.10	44.95	42.40	41.56	41.56	41.27
Diesel Fuel, Pre-Post Harvest	15.37	15.21	16.15	15.68	11.92	9.26	14.94
Repairs and Maintenance, Pre-Post Harvest	7.38	7.38	7.31	7.09	6.81	6.68	6.56
Diesel Fuel, Harvest	18.29	16.55	17.55	14.50	10.89	11.67	23.77
Repairs and Maintenance, Harvest	18.54	20.01	19.59	17.35	16.47	17.66	17.30
Irrigation Energy Cost	92.92	92.27	96.16	94.25	78.85	61.24	98.82
Irrigation System Repairs & Maintenance	5.80	5.80	5.74	5.57	5.35	5.25	5.15
Supplies (ex. polypipe, levee gates, other)	0.64	0.63	0.62	0.60	0.58	0.57	0.56
Other Inputs, Survey Levees	4.50	4.42	4.33	4.25	4.08	4.02	3.92
Labor, Field Activities	13.43	13.30	13.05	12.55	12.42	12.36	12.03
Scouting/Consultant Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boll Weevil Eradication Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest, Annual Rate for 6 Months	12.22	11.25	11.87	10.92	8.95	9.82	12.26
Cotton: Hauling, Ginning; Grain: Drying	54.48	58.80	58.10	52.50	50.40	52.85	51.80
Cotton: Warehousing; Other: Hauling	34.25	36.96	36.52	33.00	31.68	33.22	32.56
Promotions, Boards, Classing	1.56	1.68	1.66	1.50	1.44	1.51	1.48
Operating Costs	601.67	596.92	592.99	562.28	501.98	498.60	572.64
Pre-Harvest and Harvest Machinery	59.93	58.31	56.69	53.99	50.75	48.98	46.11
Irrigation Equipment	28.96	28.17	27.39	26.09	24.52	23.67	22.28
Miscellaneous Overhead ¹	16.42	15.97	15.53	14.79	13.90	13.42	12.63
Fixed Costs	105.30	102.45	99.61	94.86	89.17	86.07	81.03
Total Costs²	706.97	699.37	692.60	657.15	591.15	584.67	653.67

¹Estimate based on machinery and equipment.

²Does not include land cost.

Appendix 5. Weighted Average Crop Enterprise Budgets, per Acre, Arkansas Sorghum, 2008 - 2014

Expense	2014	2013	2012	2011	2010	2009	2008
Seed, Includes All Fees	19.13	18.68	18.32	14.62	14.89	14.53	12.82
Nitrogen	44.82	44.82	45.68	43.10	31.46	33.55	48.69
Phosphate (P2O5)	31.20	31.87	33.88	33.55	26.50	29.03	42.89
Potash (K2O)	35.10	35.85	38.12	37.74	29.82	32.66	48.26
Other Nutrients	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Herbicide	15.40	15.12	14.84	14.00	14.14	15.10	13.93
Insecticide	3.00	2.92	2.73	2.63	2.55	2.50	2.42
Other Chemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom Chemical & Fertilizer Applications	4.97	4.97	5.06	4.77	4.68	4.68	4.65
Diesel Fuel, Pre-Post Harvest	12.63	12.50	13.28	12.89	9.80	7.61	12.28
Repairs and Maintenance, Pre-Post Harvest	8.81	8.81	8.72	8.47	8.13	7.98	7.83
Diesel Fuel, Harvest	10.33	11.71	10.35	8.11	6.79	7.12	16.48
Repairs and Maintenance, Harvest	9.59	12.23	9.98	8.38	8.87	9.30	10.36
Irrigation Energy Cost	15.48	15.37	16.02	15.70	13.14	10.20	16.46
Irrigation System Repairs & Maintenance	1.54	1.54	1.53	1.48	1.42	1.40	1.37
Supplies (ex. polypipe, levee gates, other)	1.01	0.99	0.97	0.95	0.91	0.90	0.88
Other Inputs, Survey Levees	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor, Field Activities	9.20	9.11	8.94	8.60	8.51	8.47	8.24
Scouting/Consultant Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boll Weevil Eradication Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest, Annual Rate for 6 Months	5.44	5.22	5.59	5.06	3.97	4.53	6.39
Cotton: Hauling, Ginning; Grain: Drying	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cotton: Warehousing; Other: Hauling	17.60	22.44	18.48	15.84	16.94	17.38	19.36
Promotions, Boards, Classing	0.80	1.02	0.84	0.72	0.77	0.79	0.88
Operating Costs	246.05	255.19	253.34	236.61	203.28	207.73	274.18
Pre-Harvest and Harvest Machinery	41.24	40.13	39.01	37.16	34.93	33.71	31.74
Irrigation Equipment	9.75	9.49	9.22	8.78	8.26	7.97	7.50
Miscellaneous Overhead ¹	12.85	12.50	12.16	11.58	10.88	10.51	9.89
Fixed Costs	63.85	62.12	60.39	57.52	54.07	52.19	49.13
Total Costs²	309.89	317.31	313.73	294.13	257.35	259.91	323.31

¹Estimate based on machinery and equipment.

²Does not include land cost.

Appendix 6. Weighted Average Crop Enterprise Budgets, per Acre, Arkansas Wheat, 2008 - 2014

Expense	2014	2013	2012	2011	2010	2009	2008
Seed, Includes All Fees	34.00	33.26	32.34	28.46	25.32	29.57	27.35
Nitrogen	52.20	52.20	53.20	50.19	36.64	39.07	56.71
Phosphate (P2O5)	10.43	10.66	11.33	11.22	8.86	9.71	14.35
Potash (K2O)	15.40	15.73	16.72	16.56	13.08	14.33	21.17
Other Nutrients	3.45	3.49	3.63	3.59	2.77	3.02	4.30
Herbicide	18.48	18.15	17.81	16.80	16.97	18.13	16.71
Insecticide	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Chemicals	11.48	11.70	11.59	11.04	10.60	10.47	9.46
Custom Chemical & Fertilizer Applications	28.00	28.00	28.54	26.92	26.38	26.38	26.20
Diesel Fuel, Pre-Post Harvest	10.25	10.14	10.77	10.45	7.95	6.17	9.96
Repairs and Maintenance, Pre-Post Harvest	5.66	5.66	5.61	5.44	5.23	5.13	5.03
Diesel Fuel, Harvest	10.45	10.35	10.99	10.67	8.11	6.30	10.16
Repairs and Maintenance, Harvest	10.81	10.81	10.70	10.39	9.98	9.79	9.61
Irrigation Energy Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Irrigation System Repairs & Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Supplies (ex. polypipe, levee gates, other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Inputs, Survey Levees	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor, Field Activities	7.68	7.61	7.47	7.18	7.11	7.07	6.88
Scouting/Consultant Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boll Weevil Eradication Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest, Annual Rate for 6 Months	5.34	5.18	5.34	5.29	4.87	5.01	5.45
Cotton: Hauling, Ginning; Grain: Drying	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cotton: Warehousing; Other: Hauling	12.25	13.64	12.10	12.76	11.88	9.68	12.54
Promotions, Boards, Classing	0.56	0.62	0.55	0.58	0.54	0.44	0.57
Operating Costs	236.44	237.19	238.69	227.55	196.27	200.27	236.46
Pre-Harvest and Harvest Machinery	35.48	34.52	33.56	31.96	30.04	29.00	27.30
Irrigation Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Overhead ¹	8.87	8.63	8.39	7.99	7.51	7.25	6.83
Fixed Costs	44.35	43.15	41.95	39.95	37.55	36.25	34.13
Total Costs²	280.79	280.34	280.64	267.50	233.82	236.52	270.58

¹Estimate based on machinery and equipment.

²Does not include land cost.