

**2009 ARKANSAS CORN AND GRAIN SORGHUM
PROMOTION BOARD *FINAL REPORT***

Title: Economic Analysis of Corn and Grain Sorghum Production Practices

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Objectives:

- 1. Conduct an economic analysis of production practices used in the Corn and Grain Sorghum Research Verification Program that impact profitability and verifies Extension recommendations.**
 - a. 2009 corn research verification program returns above total expenses and land rent ranged from -\$303/A to \$10/A and averaged -\$117/A across fields (Table 1).
 - b. 2009 grain sorghum verification program returns above total expenses and land rent for the one program field were -\$184/A. (Table 1)
 - c. Fertilizer accounted for the largest direct expense item for both corn (38% of direct expenses) and grain sorghum (43% of direct expenses) in the 2009 CGSRVP (Figures 1 and 2).

- 2. Standardize the economic analysis by integrating the 2009 verification data with data from previous years. This will document the long-term benefits of the Verification program.**
 - a. The average corn yield and corn price for the 2009 CGSRVP were similar to those observed for 2006. However, average corn direct expenses for the 2009 CGSRVP were larger than those for 2006. Thus, corn returns were negative for 2009, while the corn research verification program essentially broke even in 2006 (Table 3).
 - b. Since 2002, The 2008 corn research verification program produced the largest returns above land rent despite having the highest direct expenses of any year due to a combination of both a high corn price (\$5.01/bu) and an exceptional corn yield (205 bu/A) in 2008 (Table 3).
 - c. Corn research verification program returns have been positive in 2 of 8 years, approached breakeven in 3 of 8 years, and been negative in 3 of 8 years (Table 3)

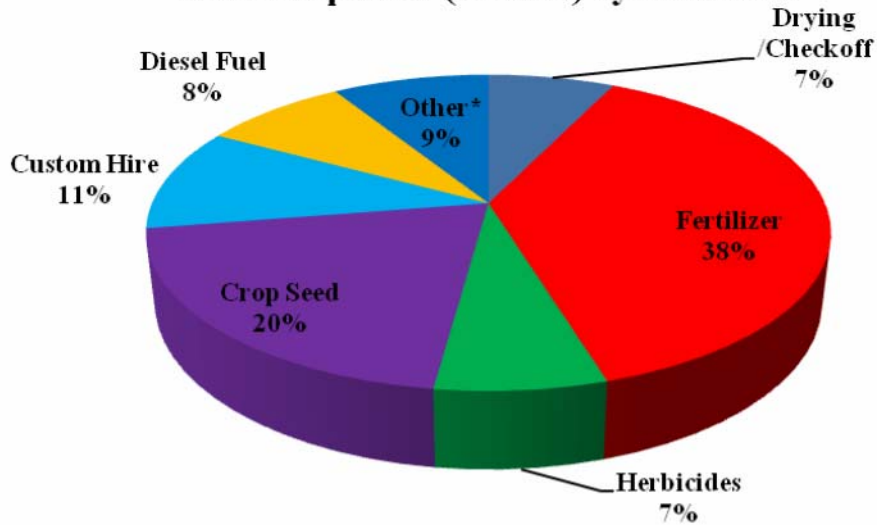
- 3. Establish and maintain a new crop and three-year average corn basis history on the University of Arkansas Extension website. This information would be available to Arkansas producers to help them make more informed decisions regarding forward contracting and hedging of their corn crops.**
 - a. New crop corn basis data has been obtained from the USDA AMS database bi-weekly during 2009.
 - b. This data is used to develop graphics for web-based information, posters and other meeting materials to compare the current year's crop basis to historic basis levels.
 - c. Due to current website upgrades, this information will be available on the University of Arkansas Extension website in January 2010.
 - d. Availability of this information has been publicized in a number of outlets to promote to producers. Examples include the *Farm Management and Marketing Newsletter*, *Delta Farm Press*, local marketing clubs and individual producers.

Table 1. Selected Economic Information for the 2009 Corn and Grain Sorghum Research Verification Program

<i>County</i>	<i>Yield (bu/A)</i>	<i>Total Direct Expenses (\$/A)</i>	<i>Total Fixed Expenses (\$/A)</i>	<i>Total Direct and Fixed Expenses (\$/A)</i>	<i>Returns Above Total Expenses and Land Rent (\$/A)¹</i>
Corn					
Conway	184	\$519.70	\$111.35	\$631.05	-\$174.19
Cross	97	\$487.38	\$56.49	\$543.87	-\$302.56
Desha	214	\$489.02	\$65.31	\$554.33	-\$21.41
Independence	169	\$365.65	\$65.61	\$431.26	-\$11.05
Lawrence	224	\$543.14	\$52.42	\$595.56	-\$38.36
Lee	186	\$464.15	\$62.40	\$526.55	-\$64.94
Lonoke	185	\$548.34	\$63.79	\$612.13	-\$151.94
Mississippi	132	\$401.77	\$52.95	\$454.72	-\$126.97
Monroe	133	\$470.59	\$68.14	\$538.73	-\$208.97
Poinsett	203	\$441.93	\$52.70	\$494.63	\$10.33
St. Francis	176	\$462.66	\$50.06	\$512.72	-\$75.00
Average	172	\$482.27	\$64.44	\$546.71	-\$117.65
Grain Sorghum					
Woodruff	74	\$290.46	\$68.55	\$359.01	-\$184.00

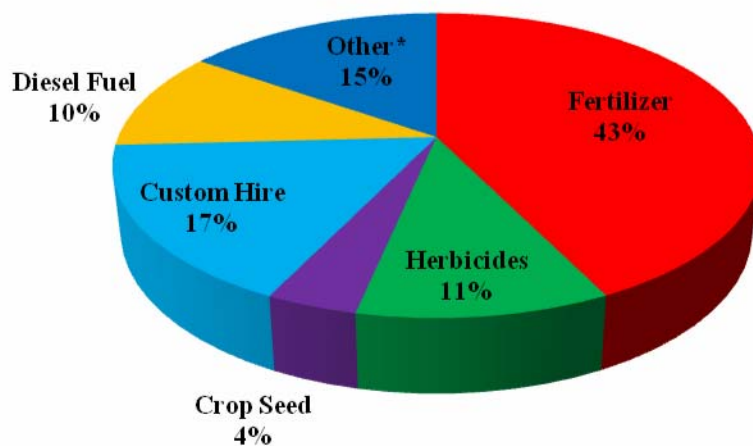
¹ Returns are calculated using a \$3.25/bu corn price, a \$3.15/bu grain sorghum price and assuming a 25 percent crop share arrangement.

Figure 1. 2009 Corn Research Verification Program Average Direct Expenses (\$482/A) by Cost Item



*Other includes fungicides, irrigation supplies, labor, repairs and maintenance, and interest on operating capital.

Figure 2. 2009 Grain Sorghum Research Verification Program Average Direct Expenses (\$290/A) by Cost Item



*Other includes check-off, insecticides, irrigation supplies, labor, repairs and maintenance, and interest on operating capital.

Table 2. Estimated Returns Per Acre: 2002-2009 Corn Research Verification Program

<i>Item</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>
Per Acre Yield (bu)	159	180	158	174	175	203	205	172
Estimated Price (\$/bu)	\$2.46	\$2.18	\$2.01	\$2.09	\$3.18	\$3.19	\$5.01	\$3.25
Sales	\$391.14	\$392.40	\$317.58	\$363.66	\$555.27	\$647.57	\$1,029.42	\$560.59
Total Direct Exp.	\$246.26	\$242.92	\$249.63	\$294.11	\$349.24	\$360.00	\$526.38	\$482.27
Returns over Dir. Exp.	\$144.88	\$149.48	\$67.95	\$69.55	\$206.03	\$287.57	\$503.04	\$78.32
Total Specified Exp.	\$298.81	\$293.23	\$289.79	\$334.00	\$416.40	\$441.47	\$580.80	\$546.71
Returns over Total Exp.	\$92.33	\$99.17	\$27.79	\$29.66	\$138.87	\$206.10	\$448.62	\$13.88
Rent (25% share)	\$97.79	\$98.10	\$79.40	\$90.92	\$138.82	\$161.89	\$257.36	\$140.15
Returns over Total Exp. and Rent	-\$5.46	\$1.07	-\$51.61	-\$61.26	\$0.05	\$44.21	\$191.27	-\$117.65

Table 3. Estimated Returns Per Acre: 2002-2009 Grain Sorghum Research Verification Program

<i>Item</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>
Per Acre Yield (bu)	100	131	114	114	102	120	87	74
Estimated Price (\$/bu)	\$2.58	\$2.30	\$1.98	\$1.95	\$3.40	\$3.47	\$4.32	\$3.15
Sales	\$258.00	\$301.30	\$225.72	\$222.30	\$345.39	\$416.40	\$374.95	\$233.10
Total Direct Exp.	\$144.96	\$159.24	\$172.35	\$184.35	\$207.94	\$188.51	\$318.48	\$290.46
Returns over Dir. Exp.	\$113.04	\$142.06	\$53.37	\$37.95	\$137.45	\$227.89	\$56.47	-\$57.36
Total Specified Exp.	\$188.60	\$216.98	\$231.20	\$242.38	\$269.70	\$268.35	\$358.76	\$359.01
Returns over Total Exp.	\$69.40	\$84.32	-\$5.48	-\$20.08	\$75.70	\$148.05	\$16.19	-\$125.91
Rent (25% share)	\$64.50	\$75.33	\$56.43	\$55.58	\$86.35	\$104.10	\$93.74	\$58.28
Returns over Total Exp. and Rent	\$4.90	\$8.99	-\$61.91	-\$75.66	-\$10.65	\$43.95	-\$77.55	-\$184.00