

Ten Year Summary of the Arkansas Corn and Grain Sorghum Research Verification Program



UofA UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE

**U.S. Department of Agriculture and County Governments
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INTRODUCTION

The Corn and Grain Sorghum Research Verification Program (CGSRVP) was started in 2000 in Arkansas with the formation of the Arkansas Corn and Grain Sorghum Promotion Board. The CGSRVP is an interdisciplinary effort between growers, county Extension agents, Extension specialists, and researchers. The CGSRVP is an on-farm demonstration of all the research-based recommendations required to grow corn and grain sorghum profitably in Arkansas. The specific objectives of the program are:

1. To verify research-based recommendations for profitable corn and grain sorghum production in all corn and grain sorghum producing areas of Arkansas.
2. To develop a database for economic analysis of all aspects of corn and grain sorghum production.
3. To demonstrate that consistently high yields of corn and grain sorghum can be produced economically with the use of available technology and inputs.
4. To identify specific problems and opportunities in Arkansas corn and grain sorghum production for further investigation.
5. To promote timely implementation of cultural and management practices among corn and grain sorghum growers.
6. To provide training and assistance to county agents with limited expertise in corn and grain sorghum production.

Each CGSRVP field and cooperator was selected prior to planting. Cooperators agreed to pay production expenses, provide crop expense data for economic analysis and implement the recommended production practices in a timely manner from seedbed preparation to harvest.

The completion of the 2009 season was the tenth year for the program. In ten years there have been 107 total fields (84 corn and 23 grain sorghum) enrolled in the program. Fields have been enrolled in 43 different counties, with 57 different County Agents and 59 different producers. The ten year average yield for corn in the CGSRVP is 178.1 bu/ac compared to 143.7 bu/ac state average. The ten year average yield for grain sorghum in the CGSRVP is 106.4 bu/ac compared to 82.5 bu/ac state average. The CGSRVP is funded by the Corn and Grain Sorghum Checkoff monies and administered through the Arkansas Corn and Grain Sorghum Promotion Board.

CORN SUMMARY

Through the ten years of the Corn Research Verification Program (CRVP) there has been 84 corn fields enrolled in the program. There has been 32 different counties enrolled, involving 43 different County Agents and 45 different producers. Table 1 shows the different counties, County Agents and cooperators that enrolled in the program.

Yield, Planting Date and Seeding Rate

Table 2 shows the average planting date, average seeding rate, CRVP yield and state yield for 2000 – 2009. The average planting date varied throughout the years due to weather. Figure 3 shows the average planting dates and yield for the CRVP. The average planting date for the last ten years was April 6 but ranged from March 25 to April 22. Seeding rate has increased between 2000 and 2009. The average seeding rate is 31,294 seeds per acre with a range of 30,000 to 34,264. Figure 2 shows the seeding rates in the CRVP from 2000 – 2009. The average yield for the Corn Research Verification Program from 2000 – 2009 was 178.1 bushels per acre. The state average for that same 10 year period is 143.7 bushels per acre. Producers enrolled in the program averaged 34.4 more bushels per acre than the state average. Figure 1 shows the yield data.

Economic Analysis

The average total specified operating and ownership costs for the CRVP are \$412.41. Figure 6 shows the total costs for the CRVP. Seed, fertilizer and herbicide are direct expenses that have been reported in every year of verification. Since 2006 a more detailed list of direct expenses has been available. Table 3 lists the direct costs of fertilizer, seed and herbicide. Fertilizer has accounted for an average of 32% of the total costs at \$133.44. Seed has accounted for 14% of the total costs at \$58.95 and herbicide has accounted for 5% of total costs at \$20.59. Figure 5 shows the average of fertilizer, seed, herbicide and other direct and fixed costs. Average break even cost for the program after assuming 25% land rent is \$3.08 per bushel. Average price received for the program is \$2.85 per bushel. This data is shown in Figure 7. The fields averaged \$(16.46) per acre returns above total costs and land rent costs. Figure 8 shows the total returns above total costs and 25% land rent.

Table 1. Counties, County Agents, Cooperators and Number of Fields enrolled in the CRVP from 2000 – 2009.

| County | County Agent | Cooperator | # of Fields |
|---------------|--------------------------|-----------------------|--------------------|
| Ashley | Gus Wilson | Jack Shell | 1 |
| Chicot | Carl Hayden | Roger Hensley | 2 |
| Clay | Andy Vangiler | Terry Pollard | 2 |
| Conway | Tommy Thompson | Randy Pettingill | 2 |
| Craighead | Branon Thiesse | Wayne Wiggins | 2 |
| Crittenden | Jason Osborn | Bart Turner | 2 |
| Crittenden | Larry Stauber | Boyce Johnson | 2 |
| Cross | Rick Wimberley | Melvin Taylor | 2 |
| Desha | Wes Kirkpatrick | Larry Hundley | 1 |
| Desha | AJ Hood | Lee Walt | 1 |
| Desha | Steve Kelley | Lee Walt | 2 |
| Desha | Steve Kelley | Mike Brown | 1 |
| Drew | Don Wiley | Jerry Pamplin | 1 |
| Faulkner | Bill Dodgen | Bob & Chris Schaefers | 2 |
| Greene | Mark Brawner | Johnny Distretti | 2 |
| Independence | Nathan Reinhart | Steve Wyatt | 2 |
| Jackson | Randy Chlapecka | Young Brothers Farm | 3 |
| Jefferson | Brady Harmon | David Sites | 2 |
| Johnson | Blair Griffin | Steve Estep | 2 |
| Lafayette | Joe Vestal | Denny Peterson | 2 |
| Lawrence | Stewart Runsick | Danny Ellis | 1 |
| Lawrence | Herb Ginn | Hunter Burris | 2 |
| Lee | Mark Brawner | Terry Swiney | 2 |
| Lincoln | Chad Norton | Davey Farabough | 2 |
| Lincoln | Sunny Wilkerson | Davey Farabough | 1 |
| Little River | Joe Paul Stuart | Matteson Farms | 2 |
| Lonoke | Susan Scott/Jeff Welch | Brad Whitehead | 2 |
| Miller | Doug Petty | Queens Plantation | 2 |
| Mississippi | Jenny Stacks | Heath Donner | 1 |
| Mississippi | Jenny Stacks | Mike Eubanks | 1 |
| Monroe | Van Dawson/Van Banks | Bo Mason | 2 |
| Monroe | Reggie Talley | Gary Bock | 1 |
| Monroe | Van Dawson | Kevin Gerlach | 1 |
| Monroe | Mitch Crow/Reggie Talley | Mike Richardson | 3 |
| Poinsett | Craig Allen | Darin Walton | 2 |
| Poinsett | Rick Thompson | David Gairhan | 2 |
| Poinsett | Rick Thompson | Morrisett Farm | 2 |

| | | | |
|------------|--------------------------|----------------|-----------|
| Prairie | Hank Chaney | Davis Bell | 3 |
| Prairie | Tony Richards | Kevin Harvey | 1 |
| Pulaski | Allan Beuerman | Dudley Webb | 2 |
| Randolph | Mark Phillips | Rick Fort | 2 |
| Randolph | Mike Andrews | Sonny Throesch | 2 |
| St Francis | Mitch Crow | Nathan Brown | 1 |
| St Francis | Kevin Norton | Sid Fogg | 2 |
| White | Kevin Lawson | Keith Feather | 2 |
| Woodruff | Eugene Terhune | Mike Chappell | 2 |
| Yell | Ken Combs | Mark Thone | 2 |
| | Total Corn Fields | | 84 |

Table 2. Year, average planting date, average seeding rate, average CRVP yield and average state yield for 2000 – 2009.

| Year | Avg Planting Date | Avg Seeding Rate | CRVP Yield | State Yield |
|-------------|--------------------------|-------------------------|-------------------|--------------------|
| 2000 | April 3 | 30,239 | 173 | 130 |
| 2001 | April 2 | 30,389 | 194 | 145 |
| 2002 | April 12 | 30,380 | 159 | 134 |
| 2003 | April 4 | 30,688 | 180 | 140 |
| 2004 | March 25 | 30,000 | 158 | 140 |
| 2005 | April 1 | 30,167 | 173 | 131 |
| 2006 | April 2 | 31,950 | 167 | 146 |
| 2007 | April 6 | 31,167 | 200 | 168 |
| 2008 | April 22 | 33,691 | 205 | 157 |
| 2009 | April 13 | 34,264 | 172 | 152 |
| Avg | April 6 | 31,294 | 178.1 | 143.7 |

Figure 1. Yearly yield of CRVP compared to the State Average.

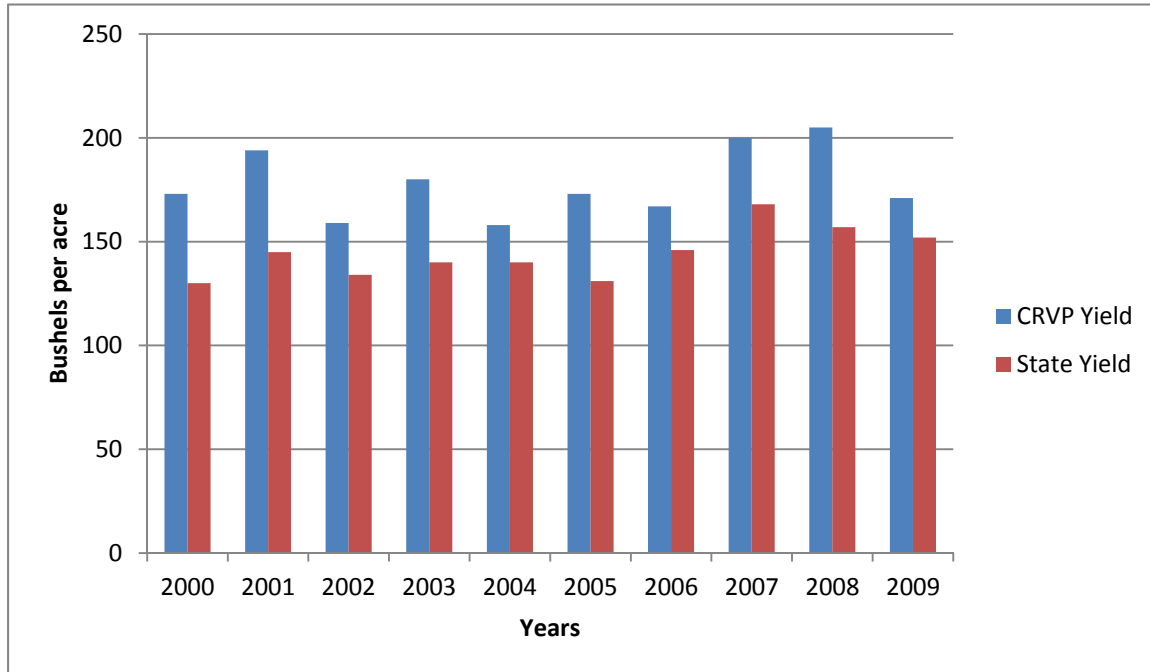


Figure 2. Seeding rate in the CRVP from 2000 – 2009.

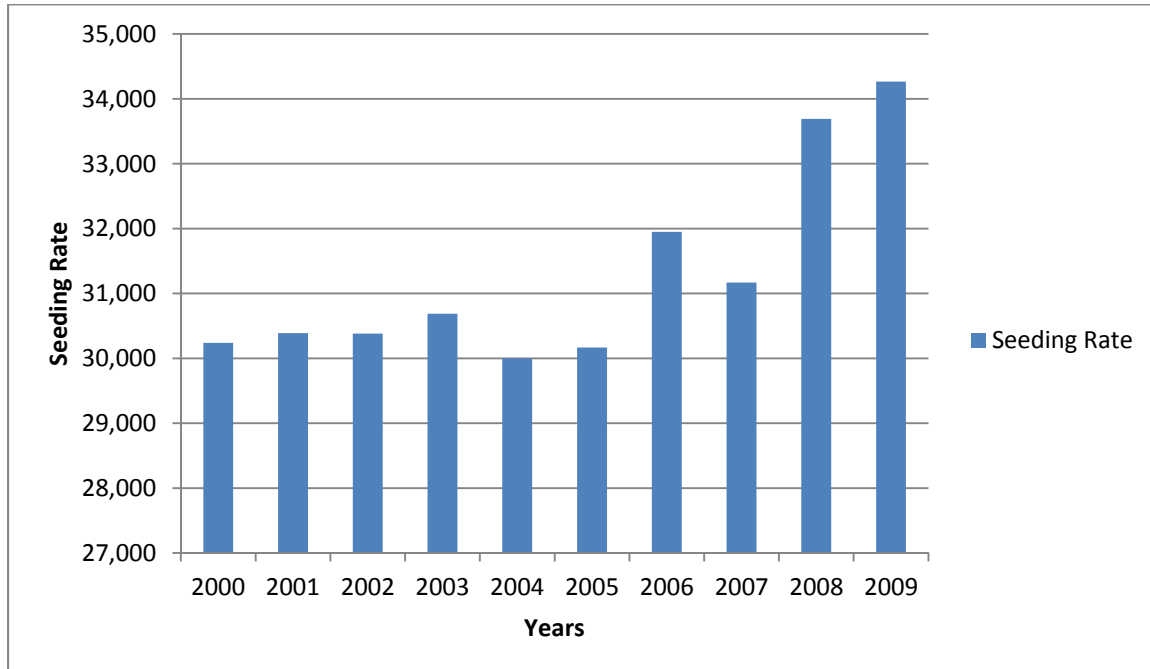


Figure 3. Yield from the average planting date from the CRVP.

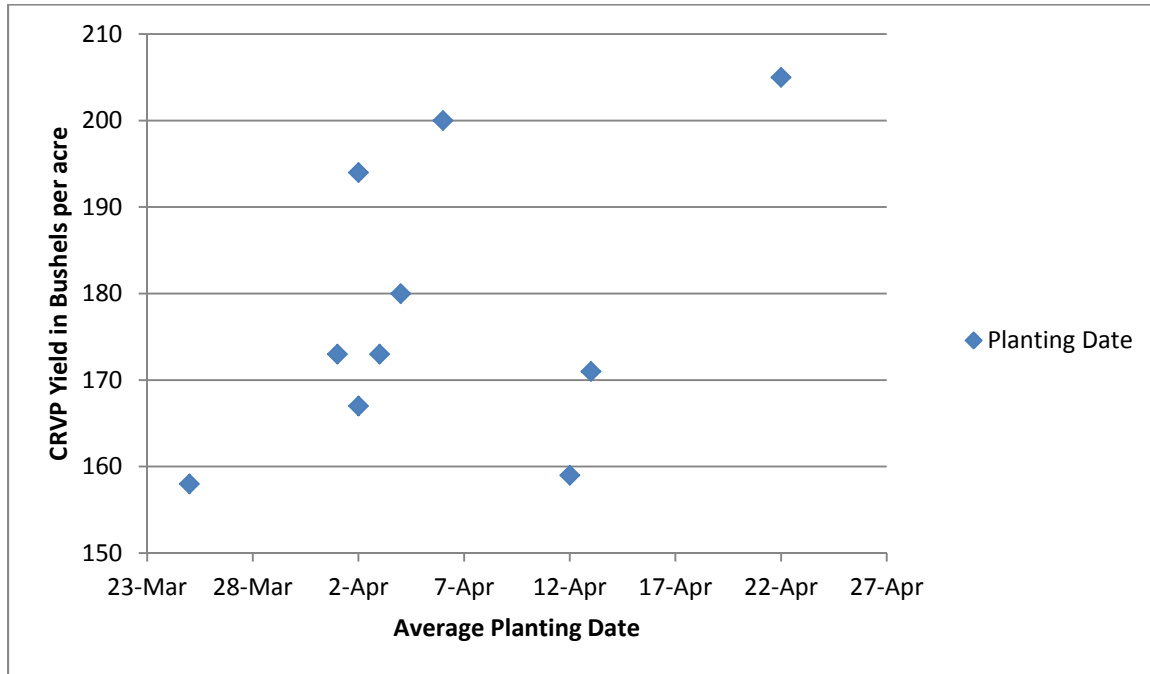


Table 3. Fertilizer, Seed and Herbicide direct costs for the CRVP.

| Year | Fertilizer | Seed | Herbicide |
|------------|-----------------|----------------|----------------|
| 2000 | \$94.34 | \$49.16 | \$19.29 |
| 2001 | \$87.47 | \$37.51 | \$16.27 |
| 2004 | \$100.66 | \$39.30 | \$20.90 |
| 2005 | \$108.37 | \$43.78 | \$19.45 |
| 2006 | \$141.71 | \$54.92 | \$14.50 |
| 2007 | \$141.59 | \$68.12 | \$17.53 |
| 2008 | \$209.20 | \$80.78 | \$23.97 |
| 2009 | \$184.14 | \$97.99 | \$32.84 |
| Avg | \$133.44 | \$58.95 | \$20.59 |

Figure 4. Fertilizer, Seed and Herbicide direct costs for the CRVP.

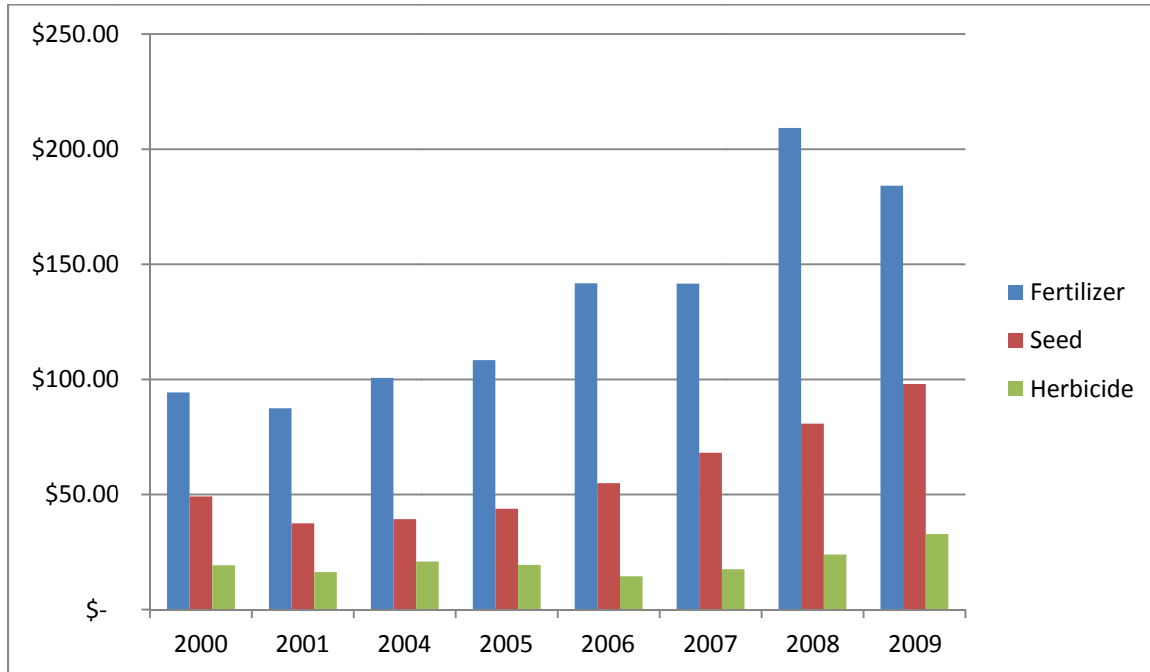


Figure 5. Average of Fertilizer, Seed, Herbicide and other direct and fixed costs for the CRVP.

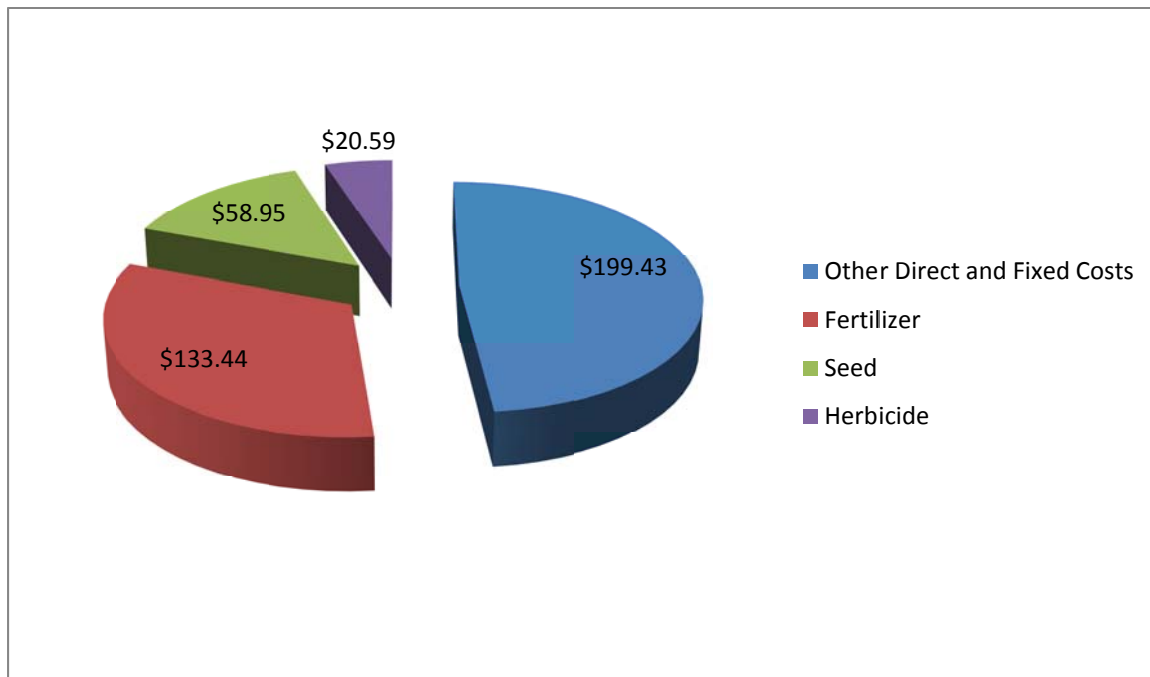


Figure 6. Total Direct and Fixed Costs for the CRVP.

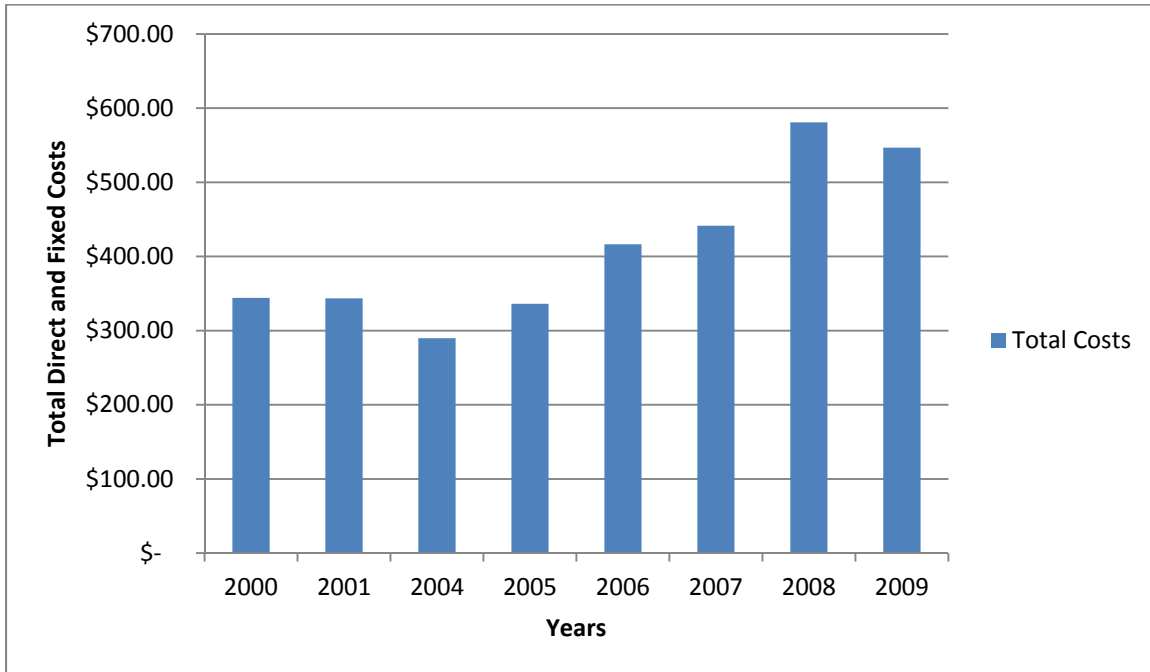


Figure 7. Break even price for the CRVP with 25% land cost compared to actual price received in the program.

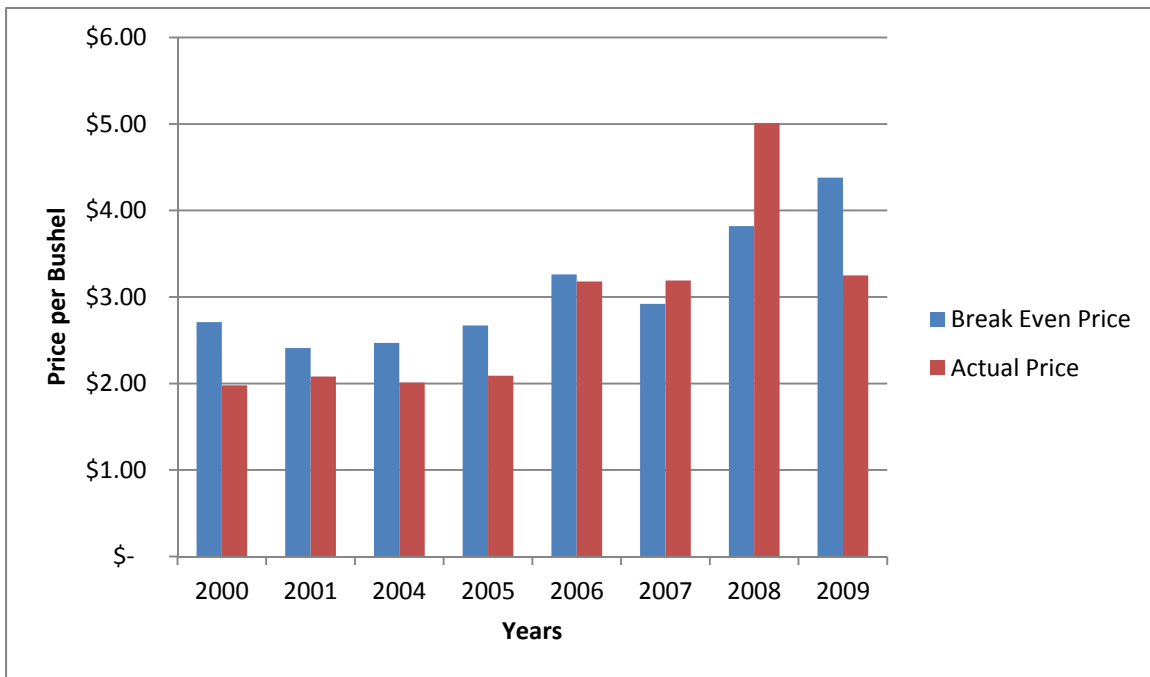
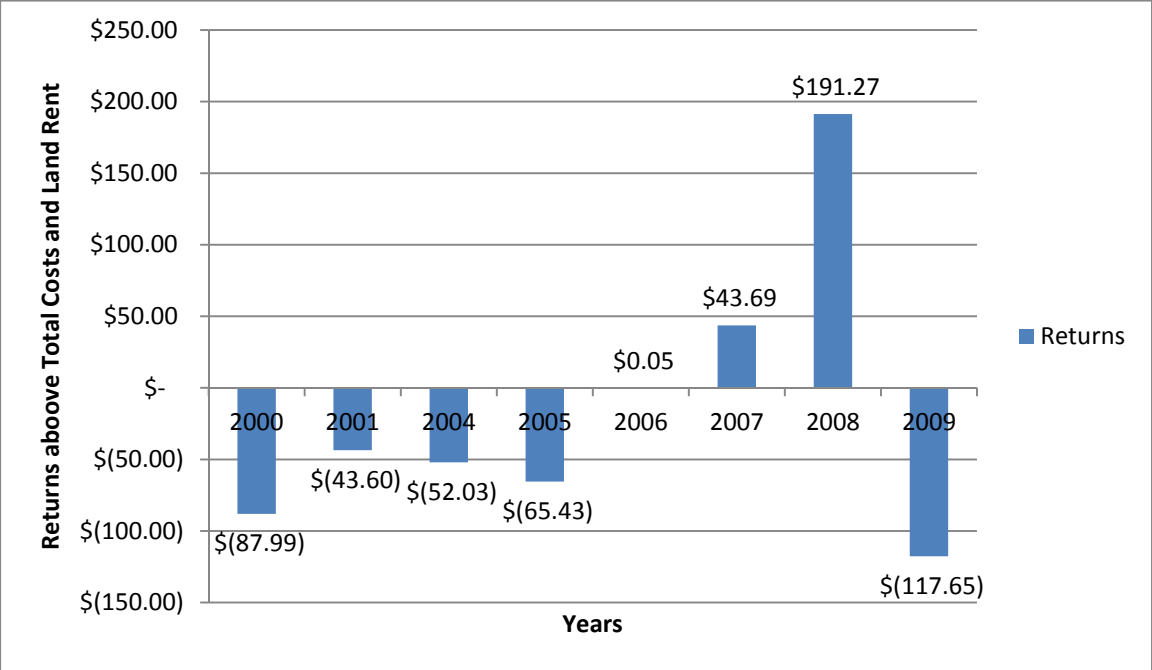


Figure 8. Total Returns above Total Costs and Land Rent.



GRAIN SORGHUM SUMMARY

Through the ten years of the Grain Sorghum Research Verification Program (GSRVP) there has been 23 grain sorghum fields enrolled in the program. There has been 11 different counties enrolled, involving 14 different County Agents and 14 different producers. Table 4 shows the different counties, County Agents and cooperators that enrolled in the program.

Yield and Planting Date

Table 5 shows the average planting date, GSRVP yield and state yield for 2000 – 2009. The average planting date for the GSRVP was April 21 with a range of April 11 to April 26. Figure 10 shows the average planting dates and yield for the GSRVP. The average yield for the Grain Sorghum Research Verification Program from 2000 – 2009 was 106.4 bushels per acre. The state average for that same 10 year period is 82.5 bushels per acre. Producers enrolled in the program averaged 23.9 more bushels per acre than the state average. Figure 9 shows this data.

Economic Analysis

The average total specified operating and ownership costs for the GSRVP are \$267.04. Figure 13 shows the total costs for the GRSVP. Seed, fertilizer and herbicide are direct expenses that have been reported in every year of verification. Table 6 lists the direct costs of fertilizer, seed and herbicides. Fertilizer has accounted for an average of 34% of total costs at \$90.46. Seed has accounted for 4% of total costs at \$9.87 and herbicide has accounted for 8% of total costs at \$22.56. Figure 12 shows the average of fertilizer, seed, herbicide and other direct and fixed costs. Average break even cost for the program after assuming 25% land rent is \$3.64 per bushel. Average price received for the program is \$2.75 per bushel. This data is shown in Figure 14. The fields averaged \$(55.64) per acre returns about total costs and land rent costs. Figure 15 shows the total returns above total costs and 25% land rent.

Table 4. Counties, County Agents, Cooperators and Number of Fields enrolled in the Grain Sorghum Research Verification Program from 2000 – 2009.

| County | Agent | Cooperator | # of Fields |
|---------------|-----------------------------------|-------------------|--------------------|
| Ashley | Gus Wilson/Kevin Norton | Shan Streeter | 1 |
| Clay | Andy Vangilder | Kenny Collier | 2 |
| Clay | Roger Gibson | Turner Farm | 2 |
| Cross | Rick Wimberly | Bill Carwell | 1 |
| Lawrence | Herb Ginn | JD Beary | 2 |
| Lincoln | Sunny Bottoms | John Freeman | 2 |
| Lonoke | Keith Perkins | Jimmy Wallace | 2 |
| Phillips | Shawn Payne | Earnest Larry | 2 |
| Poinsett | Rick Thompson | Brent Henderson | 1 |
| Poinsett | Rick Thompson | Terry Coots | 1 |
| Prairie | Tony Richards | Jason Holloway | 2 |
| Prairie | Hank Chaney | Kent Smith | 2 |
| Pulaski | Allen Beuerman | Mark Luebke | 2 |
| Woodruff | Eugene Turhune | Jeremy Knight | 1 |
| | Total Grain Sorghum Fields | | 23 |

Table 5. Year, average planting date, average seeding rate, average GSRVP yield and average state yield for 2000 – 2009.

| Year | Avg Planting Date | CRVP Yield | State Yield |
|-------------|--------------------------|-------------------|--------------------|
| 2000 | April 20 | 121 | 71 |
| 2001 | April 22 | 108 | 86 |
| 2002 | April 21 | 100 | 77 |
| 2003 | April 23 | 130 | 82 |
| 2004 | April 16 | 114 | 84 |
| 2005 | April 21 | 117 | 80 |
| 2006 | April 11 | 103 | 85 |
| 2007 | April 21 | 111 | 94 |
| 2008 | April 26 | 86 | 87 |
| 2009 | April 25 | 74 | 79 |
| Avg | April 21 | 106.4 | 82.5 |

Figure 9. Yearly yield of GSRVP compared to the State Average.

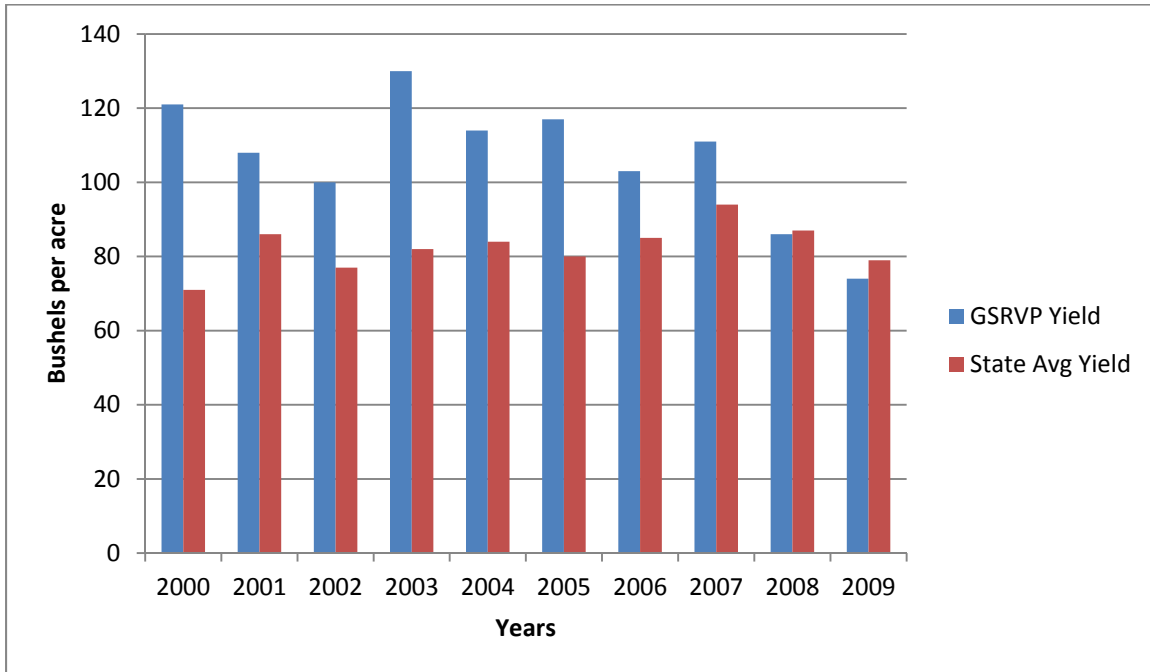


Figure 10. Yield from the average planting date from the GSRVP.

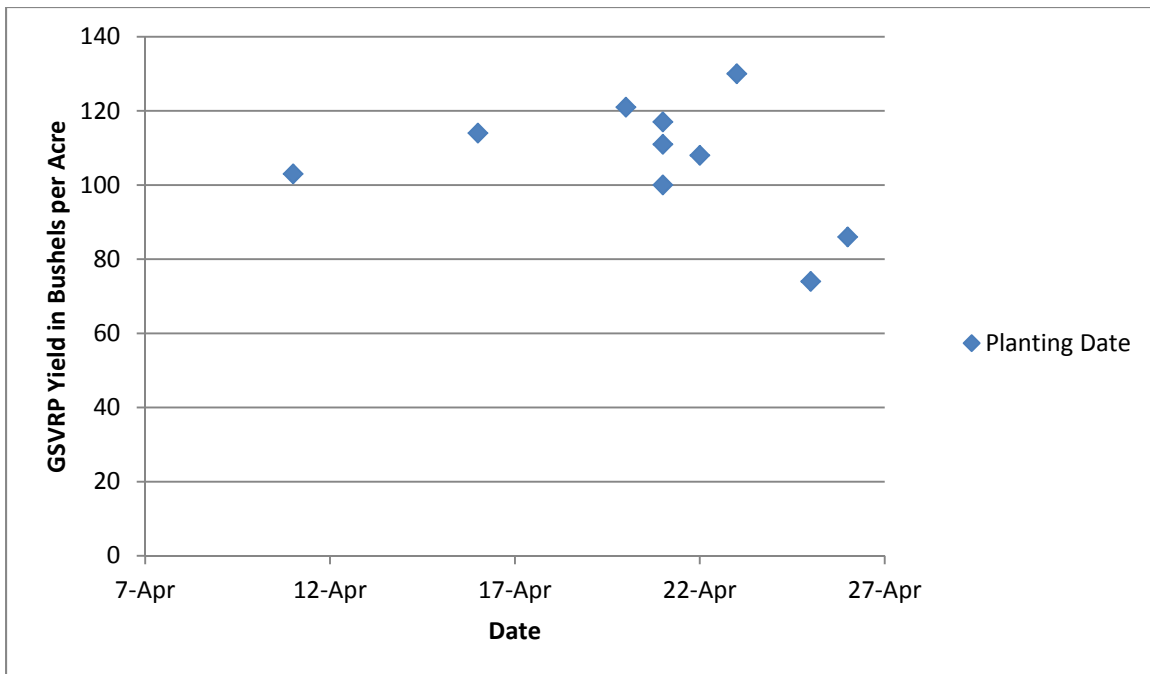


Table 6. Fertilizer, Seed and Herbicide direct costs for the GSRVP.

| Year | Fertilization | Seed | Herbicide |
|-------------|----------------------|---------------|------------------|
| 2000 | \$62.78 | \$7.13 | \$9.02 |
| 2001 | \$51.79 | \$8.16 | \$21.84 |
| 2004 | \$68.82 | \$9.26 | \$21.21 |
| 2005 | \$60.95 | \$11.39 | \$23.43 |
| 2006 | \$96.22 | \$10.26 | \$31.98 |
| 2007 | \$81.84 | \$10.17 | \$19.56 |
| 2008 | \$177.30 | \$11.39 | \$22.52 |
| 2009 | \$124.00 | \$11.20 | \$30.90 |
| Avg | \$90.46 | \$9.87 | \$22.56 |

Figure 11. Fertilizer, Seed and Herbicide direct costs for the GSRVP.

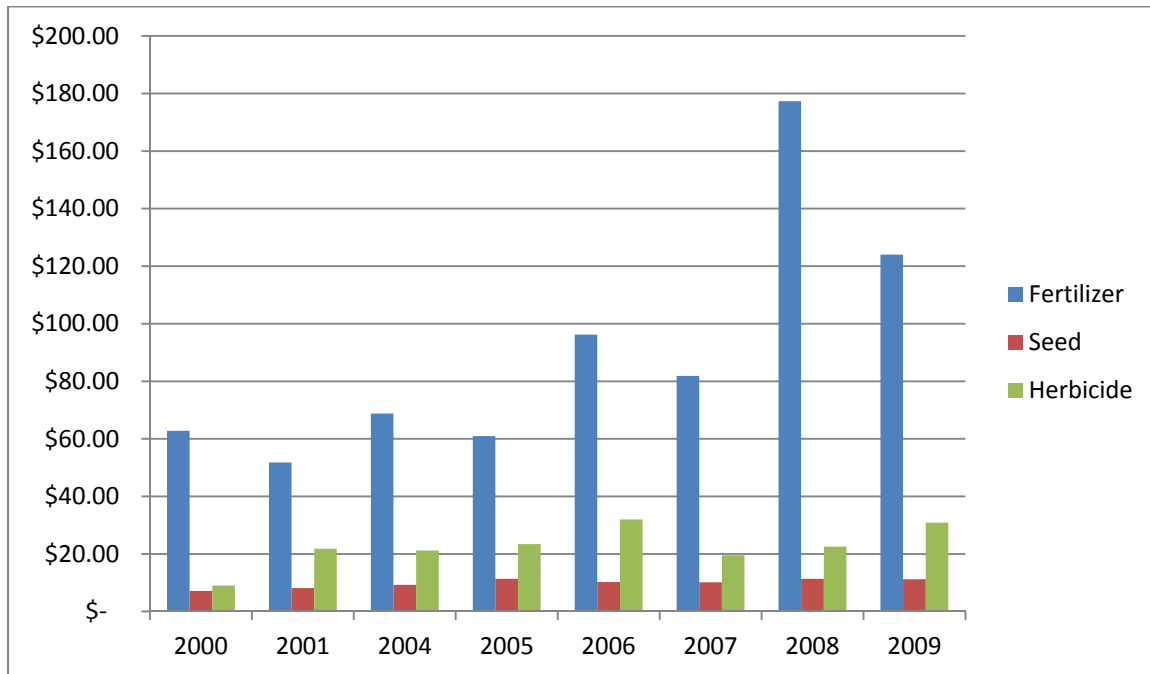


Figure 12. Average of Fertilizer, Seed, Herbicide and other direct and fixed costs for the GSRVP.

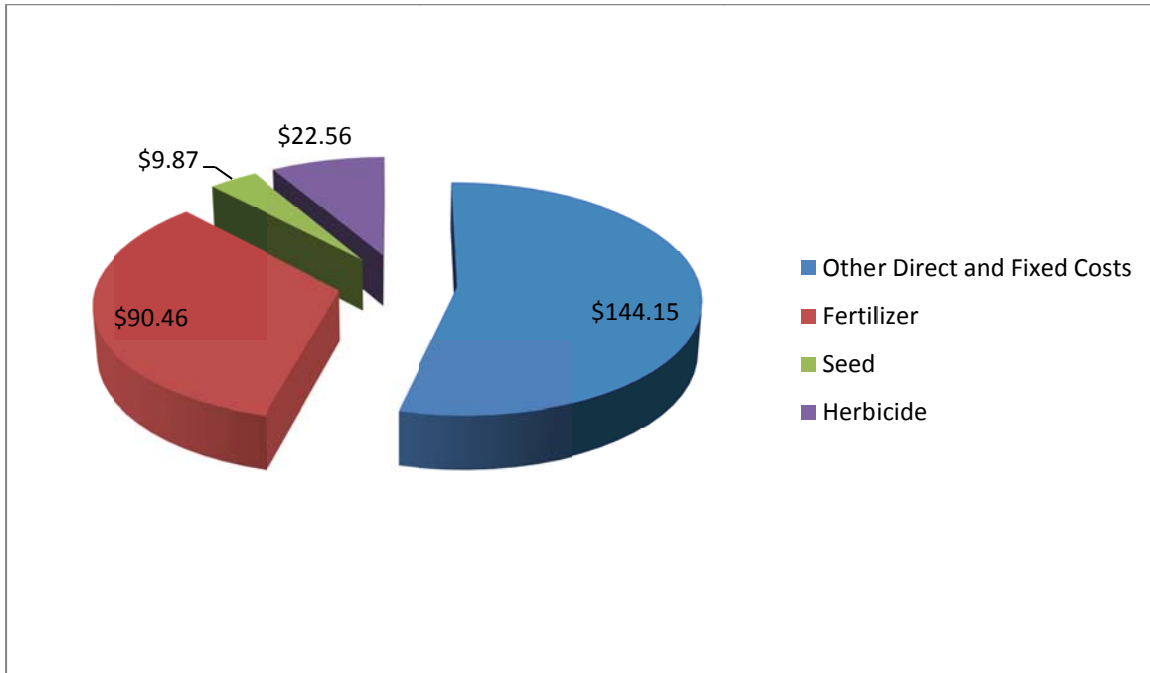


Figure 13. Total Direct and Fixed Costs for the GSRVP.

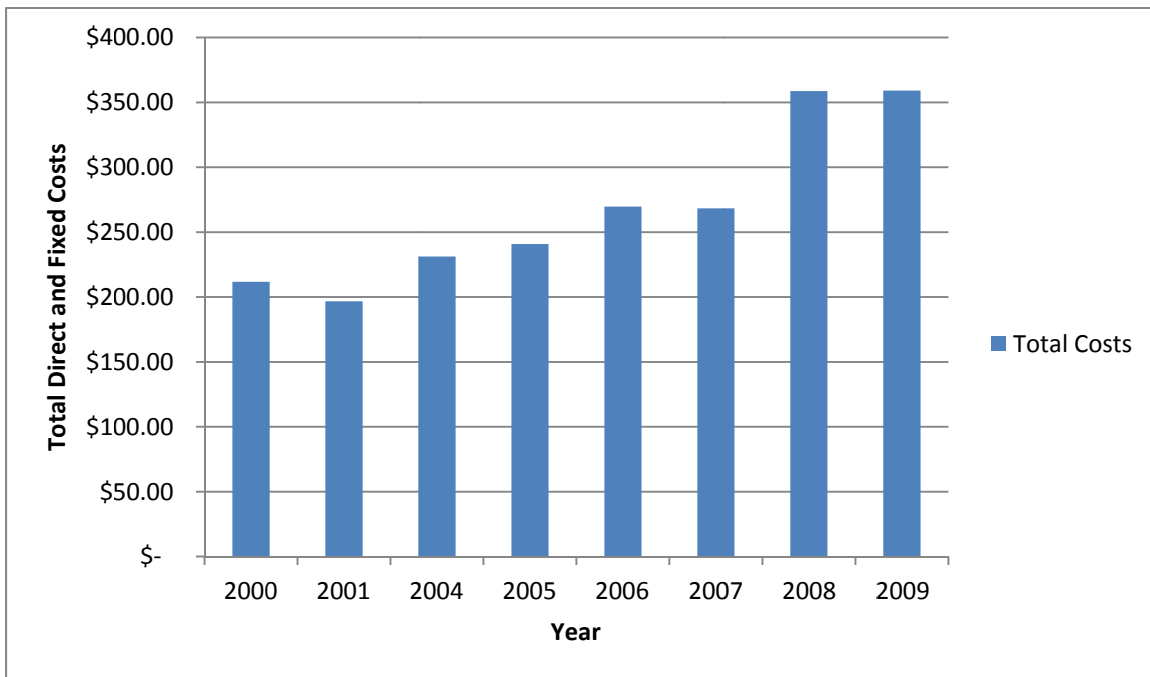


Figure 14. Break even price for the GSRVP with 25% land cost compared to actual price received in the program.

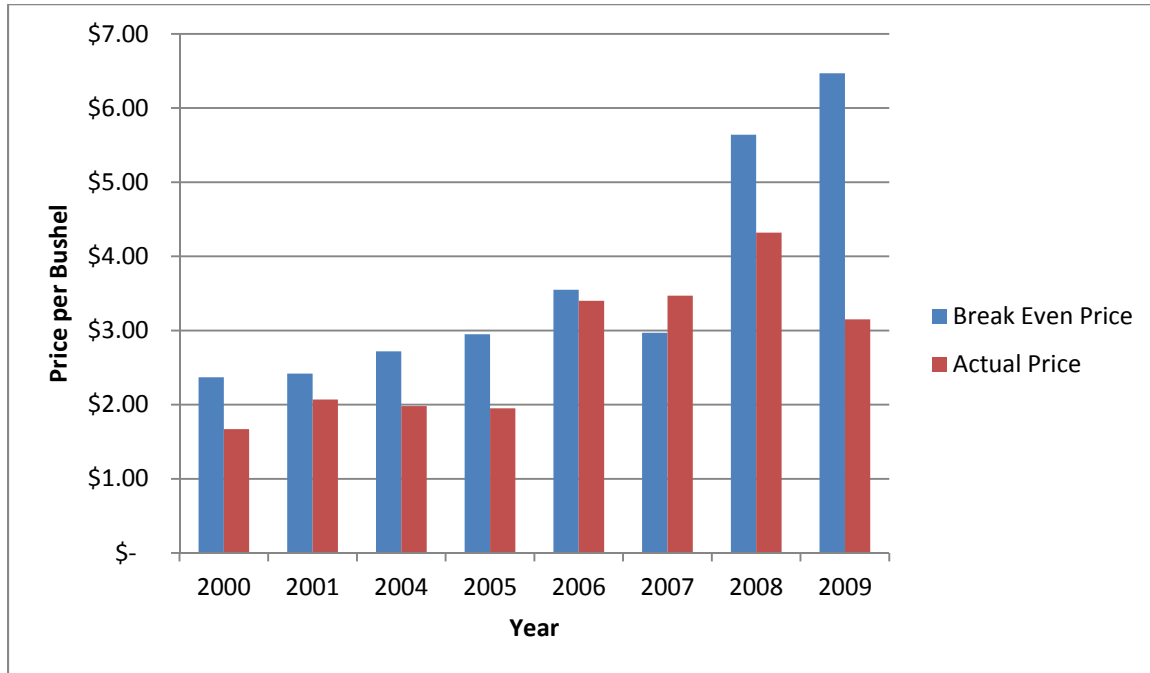
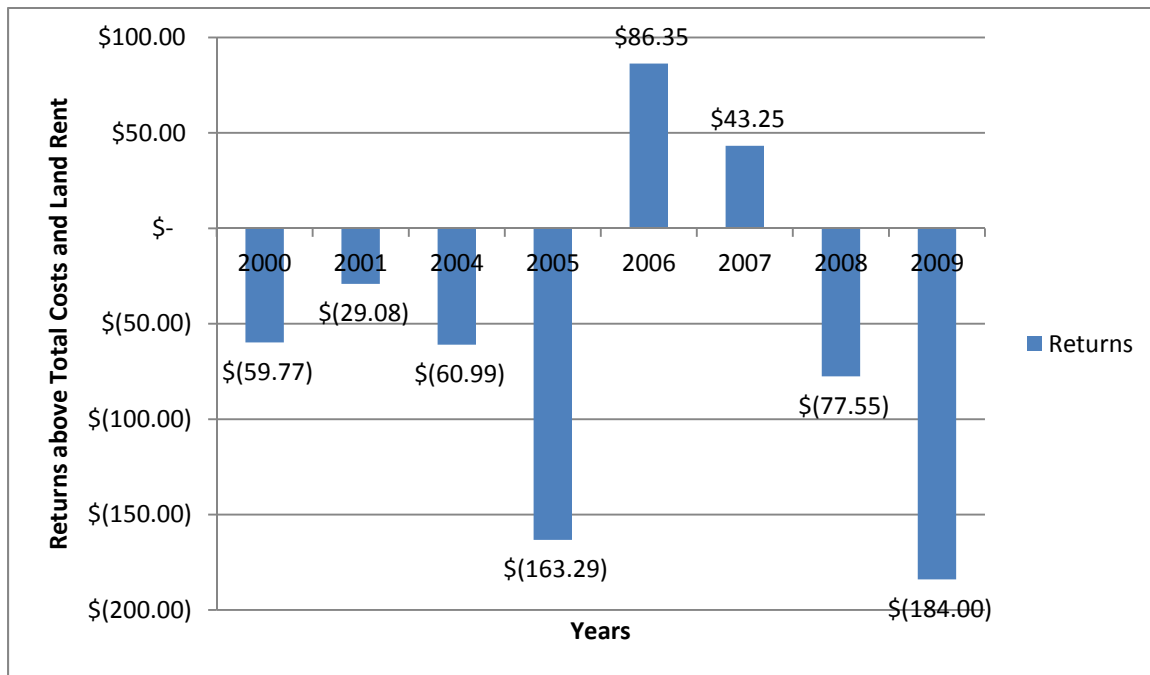


Figure 15. Total Returns above Total Costs and Land Rent.



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