

Crop Production Costs, Yields, and Returns for South-Central North Dakota for the Years 2004-2008

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As producers look to maximize farm cash flows, they are encouraged to take a real look at what the various major crops have provided over the past years in terms of yield, total costs, and net return per acre. As all crops have a place in the area, producers will be challenged to find the right mix of crops and acres that will provide them with the maximum opportunity for increased profits while maintaining the production, expenses and marketing risks at manageable levels.

Data for this study was gathered directly from producers enrolled in the North Dakota Farm Business Management Program in Region 3 at Bismarck, Casselton, Carrington, Enderlin, Jamestown, Napoleon and Wahpeton. Each of these sites collected and summarized the data for its own area, after which the data was combined into an annual regional report. Farms located within the Red River Valley or west of Bismarck were typically deleted from the regional report and included with other regional reports that were more reflective of the area where the producers were located.

The data for this study included the crops of barley, oil sunflowers, soybeans, hard red spring wheat (HRSW), corn and hard red winter wheat (HRWW). These crops covered a total of 409,370 acres (Table 1) during the years 2004 through 2008. The crops included within the regional report were not separated for such characteristics as conventional or Roundup Ready®, by tillage practices or by similar items. Irrigated crops were not included in the report. This study summarizes the production, direct and overhead costs and net returns for each of the six major crops included. Due to an earlier lack of 2004 production data, the HRWW data is calculated from only the 2005-2008 harvest years and is limited to 45 fields containing a total of 10,308 acres.

The highest 5-year average gross return, excluding direct and counter-cyclical payments, was claimed by corn at \$306.17 per acre. The average price for corn was calculated to be \$2.93 per bushel. The crop with the smallest annual average gross return was soybeans which averaged \$232.13 per acre and included a 5-year average price received of \$7.23 per bushel. The gross return per acre included the value of the raised crop plus any additional insurance or miscellaneous crop income.

In the area of direct expenses, corn was once again the leader with an average total of \$217.05 in direct costs. Barley, including both feed and malting types, had the lowest average direct costs at \$133.40 per acre. Excluding corn, total overhead costs per acre were quite similar for the remaining five crops with a range of \$28.90 to \$31.99 per acre. With increased storage and machinery costs, additional chattel interest, and higher labor costs, corn accounted for the highest overhead costs of the six crops at \$41.85 per acre. With all costs considered, barley had the lowest average total costs at \$165.04 per acre while corn was the highest with a 5-year average of \$258.90 in total costs per acre. This represented an increase of over \$31 from corn's 2003-2007 total average costs per acre. Of the five crops listed, for the entire 5-year period, the annual average total costs for corn varied the most, from a low of \$211.84 in 2004 to a high of \$344.99 in 2008. During this same time period, the other four crops listed for the 5-year period, showed an increase in total production costs ranging from \$74 to \$95 per acre.

To provide for a per-acre profit number that also included the direct and counter-cyclical payments, the multi-year average farm program payment, on a per acre basis, was added to the net return per acre for each crop. This decoupled payment averaged \$12.14 per acre across all six of the listed crops, varying from a low of \$11.52 to a high of \$12.53 per acre. With the payment included, the highest calculated average 5-year net return was for barley at \$94.31 per acre. This was followed by oil sunflowers at \$83.39 per acre, HRSW at \$76.77 per acre, soybeans at \$67.44 per acre and corn at \$59.43 per acre. Including the described government payments, winter wheat showed a 4-year

average net income of \$97.83 per acre with the highest profit coming in the year of 2007 at \$207.09 per acre.

Producers are always encouraged to consider the potential income, the new and widening level of expenses, and the level of production risk when selecting crops based on the 5-year averages as shown. Producers are encouraged to look at the return over direct costs, or as it is also known, return to overhead for each crop that they are considering. By comparing the return over direct costs for each crop, producers can get a better look at what amount of income remains to handle the overhead costs for each crop. While overhead costs do vary some, particularly with some row crops, the return to overhead is still a good method of judging the potential profitability of selectable crops.

While there is no exact method of forecasting the weather or possible weather related production problems, producers may be able to take advantage of multi-year pricing opportunities for crops such as corn, soybeans and wheat. By taking advantage of various marketing opportunities through the use of cash forward contracts, futures, options, and combinations of these tools, producers can greatly reduce the pricing risk for crops they may select. By reducing the marketing price risk more emphasis can be placed on the production practices needed to ensure yields that produce the best possible annual net returns.

References

Region 3 - South Central ND Farm Business Management Annual Reports, 2004-2008, North Dakota Farm Business Management Program.

Table 1 Crop Production 2004-2008 in Region 3, South Central North Dakota

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