Tracking farm profitability

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The profitability of producing corn and soybeans varies greatly from year to year and within each year. To track this variability we have developed typical cash-grain farming operations that represent farms in Central and Northern Iowa. We track profitability by comparing the break-even cost of production to the selling price for corn and soybeans. The comparison is shown on a monthly basis throughout the marketing year (Sept. – August). This shows the profit (loss) per bushel the farmer could have received if the crop had been sold in that month.

The analysis is provided at the Crop Decisions – Costs and Returns section of the Ag Decision Maker Web site.

**Farm types**

The cost of crop production varies greatly depending on whether the farmland is owned by the farmer or cash rented from someone else. To show these two extremes, we have created a farming operation where all of the land is owned (debt free) and another where all of the land is cash rented. These reflect the extremes between ownership and rental. To reflect a more typical Iowa operation we created a third farming operation where 40 percent of the land is owned and the remaining 60 percent is rented. We also included $500 of farmland debt per acre on the owned land (average land indebtedness for Iowa farms).

**Analysis years**

The analysis includes the crop production years of 2007, 2006, and 2005. The marketing year for each crop year starts on September of the crop year and extends through August of the following year. For example, the marketing year for the 2006 crop year started on September of 2006 and extended through August of 2007. During each month of the marketing year...
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the profitability is shown by the difference between the break-even cost of production per bushel for each farmer and the monthly average crop selling price.

Updated monthly
The analysis shows the crop selling price, production cost per bushel and net return per bushel for each farmer for each month. Although the marketing year's for 2005 and 2006 are over, the marketing year for the 2007 crop is just beginning. As we progress through the 2007 crop marketing year, we will add the past month's breakeven cost and average crop selling price, so the analysis is always current.

Cost Assumptions
Except for the differences between the amount of farmland owned and rented, the three farming operations are virtually identical.

1) Each operation has 800 acres of cropland (land productivity is the same for each farm).

2) Each operation raises only corn and soybeans in a 50/50 rotation.

3) Each operation has the same yields, which are typical of Iowa for that year.

4) Each operation has the same production input costs. The production input costs are changed each year to reflect increases in costs from the previous year. Input costs are taken from Information File Crop Production Budgets.

5) Although each operation pays the same cash rental rate, it is changed each year to reflect typical rates. The rental rates are based on Information File Cash Rental Rate Survey.

6) The money to purchase production inputs is borrowed at typical lender interest rates.

7) Each operation has the same machinery line (typical investment per acre for Iowa cash-grain farms).

8) Each operation has the same machinery indebtedness.

9) Each farm operator has the same level of managerial skills.

10) Money is borrowed and interest is charged on the value of the grain inventory for the length of time the grain is held after harvest. So the break-even cost increases as the marketing year progresses due to accrued interest.

Although the cost assumptions are believed to be typical of Central and Northern Iowa cash-grain farming operations, the coefficients can be changed to reflect special circumstances. If a coefficient is changed, the analysis and the graphs will automatically reflect this change.

Conclusion
The purpose of the analysis is to track the monthly profitability of corn and soybean production in Iowa using three hypothetical cash-grain farming operations. The analysis will always be current because it will be updated each month.

In coming months we will also start tracking the monthly profitability of livestock production and the monthly profitability of ethanol and bio-diesel production. Because the output of the crop production sector is the feedstock for the livestock and bio-fuels sectors, it will show how corn and soybean prices will allocate profits (losses) among these three sectors of Iowa's agricultural economy.