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# Price and yield (and revenue) risks: Is insurance up to the task of handling them all?

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Farm employee management: Assembly of farm job descriptions, continued from page 2

- 5. **Work relationships.** In this section, describe who supervises the position and whether the position includes any supervisory duties. Describe how this position relates to other positions in the organization.
- 6. **Time of Work description.** This section is not intended to be a specific work schedule, but rather a description of the range of hours worked each week and whether the position includes night and weekend work.

Other information about the job such as compensation plans, benefit plans, housing, etc., are

generally not included in a job description. This would normally be included in a separate document for that specific purpose.

Once you have completed job descriptions for each position on your farm, you will find them to be invaluable tools in improving your organization. As you use job descriptions in employee recruitment, development and evaluation, the process of keeping them updated will become easier.

As always, feel free to contact me with any of your farm employee management questions.

## Price and yield (and revenue) risks: Is insurance up to the task of handling them all?

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Over the last several decades, most discussions of farm programs for crop farmers have included the concept of risk management as a means of distinguishing newer programs such as crop and revenue insurance from more traditional programs such as nonrecourse loans and supply management. As Congressional activity heats up for the 2012 Farm Bill, risk management is the central justification for most of the commodity title program proposals.

Crop farmers face two major kinds of risks that need to be managed: price and yield. Either one separately or both together affect the revenue that a farmer receives to cover her expenses and hopefully provide a profit. There is nothing in any farm program that can or should substitute for good financial and agronomic management. Risk, on the other hand, is what happens over and above the level of financial and agronomic management and is, to some greater or lesser extent, beyond the control of the farmer.

While price and yield together determine crop revenue, it is important to look at them separately

because they have different characteristics.

The general price level of a major crop is beyond the control of a given farmer. Yes, good financial management may yield a farmer a quarter a bushel more than his neighbor, but when corn prices are at the \$2.00 level it is highly unlikely that a farmer is going to receive \$6.00 a bushel. Similarly when prices are at the \$6.00 a bushel level, even the poorest marketer is likely to receive at least \$5.00, a number well above the cost of production.

Price is what is called a systemic risk. It affects all farmers across the country without regard to their agronomic and management ability. There is little an individual farmer can do to affect the supply and demand interaction that results in a low price. Farmers are price takers not price makers.

Insurance is unsuited to take on price risk because price risk is systemic. There are two consequences of this systemic risk. First, when farmers take out insurance to protect them at a given price and the price falls below that level, it does so for all farmers. That is akin—for property insurance

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companies—to all of the houses in the country burning down in a given year. It would bankrupt those companies.

Thus, the stability of crop insurance companies offering insurance that includes a price component must either receive massive subsidies to stay in business or they must raise their premiums to a level that would make them unpalatable to most.

Second, when price enters a multi-year period of decline, insurance provides less protection as the prices fall. At some point, the expected price that is offered in an insurance contract will be below the cost of production and offer no real protection at all. That is why some analysts are coming to the realization that crop insurance that includes a price component in its calculation does not provide an adequate safety net for crop farmers.

Yield, on the other hand, is more random in nature and depends upon events that are less predictable: weather and disease. A half dozen counties in central Illinois can experience a yield disaster as the result of a localized drought, while neighboring counties can see record yields. It would be rare that all farmers across the United States would experience a yield disaster in the same year.

It is this random nature of yield loss that makes crop yields a more appropriate target for crop insurance, especially if different areas are rated for their relative risk of yield loss. This is akin to offering lower fire insurance rates for a brick building with a sprinkler system than a frame building with no sprinkler system. Assuming that farmers engage in good agronomic practices—that is they do not game the system—yield insurance is an excellent way to protect farmers from a weather- or disease-related disaster. If this type of insurance program is properly managed, it is superior to making crop farmers dependent upon Congress for an ad-hoc disaster program.

As crop insurance programs have morphed into revenue products, the different types of risk

represented by price (systemic) and yield (random) have been ignored. As long as prices remain high, the chance of farmers (and government as the insurance underwriter) experiencing problems with combining these two risks is minimal.

What happens in an era like today is farmers get focused on within-year risk and shallow loss farm programs based on an expected price at planting time, which is generally greater than the price at harvest, guaranteeing farmers a profit at times when even the lowest price is well above the cost of production. As a result, the demand for farm programs is for ones that protect against this shallow loss.

At the same time, it is easy to forget that one of the major functions of farm programs is to provide farmers with a safety net when everything collapses. Shallow-loss programs when the anticipated price at planting is well below the cost of production are of little use. All they do is guarantee a loss on the crop.

From our perspective, by ignoring the two different kinds of risks and bundling them in a single program, policy makers risk losing support for farm programs in general. It is very likely that the public will come to view shallow-loss programs in the same way they have come to view direct payments—large payments when farmers are already making a good profit. This loss of goodwill on the part of the general public will make it more difficult to design a safety net when prices collapse and farmers are in real trouble.

## Research briefs from the Department of Economics

### **CARD study shows impact of ethanol on pump prices**

*Du, Xiaodong; Hayes, Dermot*, May 2012

We update the findings of the impact of ethanol production on U.S. and regional gasoline markets as reported previously in Du and Hayes (2009 and 2011), by extending the data to December 2011. The results indicate that over the period of January 2000 to December 2011, the growth in ethanol production reduced wholesale gasoline prices by \$0.29 per gallon on average across all regions. The Midwest region experienced the biggest negative impact of \$0.45/gallon, while the East Coast, West Coast and Gulf Coast experienced negative impacts of similar magnitudes around \$0.20/gallon. Based on the data of 2011 only, the marginal impacts on gasoline prices are found to be substantially higher given the increasing ethanol production and higher crude oil prices. The average effect across all regions increases to \$1.09/gallon and the regional impact ranges from \$0.73/gallon in the Gulf Coast to \$1.69/gallon in the Midwest.

Full text is available at: <http://www.card.iastate.edu/publications/dbs/pdf/files/12wp528.pdf>.

### **Revisiting Wal-Mart's impact on Iowa small town retail: Twenty-five years later**

*Stone, Kenneth E.; Artz, Georgeanne M.*

WP #12011, May 2012

Stone conducted the first economic impact study in Iowa of Wal-Mart stores in 1988. Since then, research on Wal-Mart's impacts has exploded. Recent studies employ sophisticated statistical techniques to more accurately measure the size and direction of effects. Many reach conclusions similar to Stone's original work. This paper updates the original Stone study with additional years of data. It draws on recent methodological advances to help account for Wal-Mart's strategic location decisions on estimated retail sales impacts in Iowa. Consistent with previous studies, we find that Wal-Mart's entry into smaller trade centers in Iowa had a big initial impact on host town retail sales, with some

categories experiencing large significant increases while others saw declines in sales per capita. Wal-Mart's presence helped to stabilize or even expand the local retail sector of most rural Iowa host communities. To conclude, policy implications for local economic development officials are discussed.

Full text is available at: <http://www.econ.iastate.edu/sites/default/files/publications/papers/p15202-2012-05-31.pdf>.

### **Value of soil erosion to the land owner**

*Duffy, Michael*

WP #12004, March 2012

Levels of soil erosion have decreased in the United States and Iowa, but soil erosion still remains a serious problem, especially for some soils. In 1982 there was an estimated 7.4 tons per acre of soil erosion on Iowa cropland. By 2007 erosion in Iowa had decreased to 5.1 tons per acre. For the entire United States, erosion rates dropped from 4.0 tons to 2.7 tons per cropland acre over the same time period. (USDA/NRCS, 2)

Erosion represents costs to farmers. These costs include lost fertilizer and soil carbon. Erosion also produces costs to society. These costs include clogged roadway ditches; increased turbidity in the water, damaging fish and increasing the need for filtration; and displaced soil in the water that increases siltation of water control structures. These societal costs are borne by taxpayers or society in general. They are 'external' to the decisions made by the farmer.

There is a third category of costs not usually considered in a soil erosion discussion. These are the costs to land owners caused by a decrease in their asset value. Land owners may be the farmer, but increasingly they are not. In 2007 more than half the farmland in Iowa was rented, compared to 38 percent of U.S. farmland.

Research briefs from the Department of Economics, continued from page 5

This paper estimates the costs of erosion to the land owner. The focus is on Iowa soils. Full text is available at: <http://www.econ.iastate.edu/sites/default/files/publications/papers/p14959-2012-03-06.pdf>.

### **New retail reports by Eathington find sales stabilizing after economic downturn**

New retail reports by Liesl Eathington, assistant scientist in Iowa State's Department of Economics and the director of Iowa Community Indicators Program (ICIP), has found that retail sales in most

Iowa regions appear to have stabilized over the past fiscal year following a substantial downturn during the recession. Iowa State's annual retail trade analysis is based on state-reported sales of goods and services subject to Iowa's statewide sales tax. Eathington found a slight growth in Iowa retail sales over the last fiscal year. Read the full article written by Mike Ferlazzo, ISU News Service, at: <http://www.news.iastate.edu/news/2012/mar/IAretail>.

### **Your input sought on Evaluating Your Estate Plan materials**

You may have noticed the new category Transition and Estate Planning under Whole Farm on the Ag Decision Maker navigation bar. Fourteen new information files were added in February, March and April. Development of the information files was funded by a grant from the North Central Risk Management Education Center. Feedback from you as a user of the materials is important to us. We will use your feedback to guide our decisions to update current materials and create new publications.

If you have any questions on this evaluation or the Evaluating Your Estate Plan materials or program, please contact us at [agdm@iastate.edu](mailto:agdm@iastate.edu) or call 641-732-5574. Participation in the survey is completely voluntary and responses will be kept confidential. Providing survey responses takes less than 5 minutes. The survey is available through June 29th online at: <http://www.surveymonkey.com/s/eyep2012>.

*Updates, continued from page 1*

#### **Internet Updates**

The following information files and tools have been added or updated on [www.extension.iastate.edu/agdm](http://www.extension.iastate.edu/agdm).

**Season Average Price Calculator** – A2-15 (1 page)

**Estimating Corn Use by Iowa Livestock and Poultry** – B2-55 (5 pages)

#### **Current Profitability**

The following tools have been updated on [www.extension.iastate.edu/agdm/info/outlook.html](http://www.extension.iastate.edu/agdm/info/outlook.html).

**Corn Profitability** – A1-85

**Soybean Profitability** – A1-86

**Season Average Price Calculator** – A2-15

**Ethanol Profitability** – D1-10

**Biodiesel Profitability** – D1-15

**Returns for Farrow-to-Finish** – B1-30

**Returns for Weaned Pigs** – B1-33

**Returns for Steer Calves** – B1-35

**Returns for Yearling Steers** – B1-35

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Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.

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