

## **RISK MANAGEMENT STRATEGIES FOR FARMERS**

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Agricultural producers face many sources of variability which can affect the cash flow, net returns, and economic progress of the farm firm. The risks which producers face and the risk management responses available to producers have been significantly affected by the 2008 Farm Bill. The Average Crop Revenue Election (ACRE) program appears to significantly risk management strategies and impact direct payments, marketing loans and loan deficiency payments. Less than fully equity in the farm business creates financial risk which may compound the effects of the business risks which all farmers face. Farmers typically combine production, marketing, and financial responses to risk and practice risk balancing. Past research has often failed to consider the sequential nature of the decision-making and knowledge which becomes available during the production process. For example, grain storage investments are often analyzed assuming storage will be used each year without considering the effect of alternative market situations.

A key element in this process is establishing what constitutes a strategic shortfall relative to expectations. Obviously, the management information systems needed to monitor critical success factors which are a prerequisite for achieving strategic risk management through control processes, as farmers begin to see their farms as a biological manufacturing plant, they should be able to take advantage of operations analysis and process control techniques for enhancing strategic risk management. At first glance production process monitoring and control might appear to be a topic better suited to the earlier discussion of operational risks. But clearly, persistent production problems can have strategically important consequences for farm firms.

***Using Options Thinking to make Decisions and Manage Risk***, The pragmatic application of these option concepts to risk assessment and decision making in farming is consider in the strategy of a producer who has two alternatives:

1. Buy a parcel of farmland that has been rented for the last five years;
2. Continue to rent that farmland for another year and purchase it after a year has transpired.

Because of the uncertainty associated with recovery of market prices, the size of future government payments is a potential to other buyers and declines in land values, etc. The flexibility associated with waiting to purchase the property has a value. That value is sometimes reflected by the producer making a payment for the seller to give him a right to buy in the future - a purchase option. Or the value of waiting to purchase might justify a higher rental payment this year to not only buy time to obtain more certainty about market

prices and government payments (irrespective of whether they are higher or lower), but also to maintain a relationship with the current landlord which may increase the chances of being the successful purchaser when the property is sold. And the more uncertainty about future market prices and government payments, the higher the option premium that the renter would be willing to pay to maintain a rental arrangement rather than purchase the property or lose the lease. Consequently, cash rents may be perceived to be irrationally high in periods of great uncertainty because of this sizeable option premium that is being paid to buy flexibility.

If the required investment must be made up-front with limited capacity to make adjustments, the expected benefit stream or the expected payoff may not justify the outlay critical investments such as storage facilities for identity preservation can be made in the first year - and specialized planting, pest control and harvesting equipment investments delayed for a year or two until new information is available on the magnitude of the price premium or yield drag for example, the option value of delaying part of the investment outlay plus buying time to obtain more certainty about future payoffs may convert an unacceptable business venture into one that is acceptable. An example of sequential expansion in livestock facilities would be constructing finishing barns initially, and then a breeding/gestation/nursery unit two or three years later if initial uncertainty concerning pork prices and feed costs subsequently suggests that margins will be on the higher end of the original probability distribution function rather than the lower end of that function. These examples suggest not only the benefits of using the options approach to making investment or strategic decisions, but also indicate the value of making such decisions sequentially when possible. Thus a fundamental management strategy that should be considered in any capital investment or strategic decision is how to structure that decision to buy time and take advantage of the benefits of sequential decision making.

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