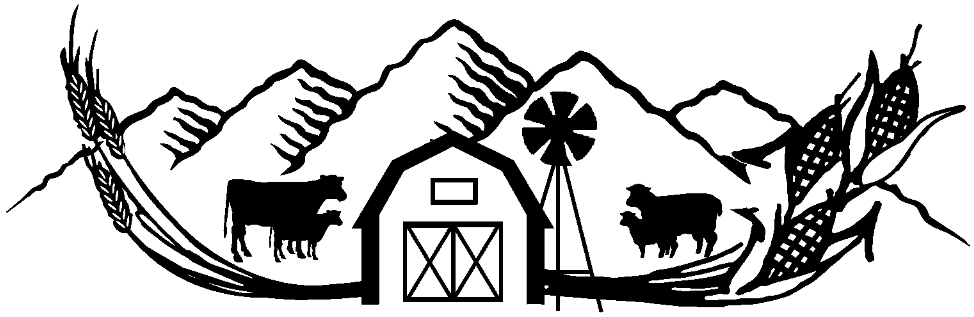

Risk and Resilience in Agriculture

Managing Your Production Risk: An Overview of the Tools You Can Use

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The 1990s likely will mark one of the most significant decades of change in agriculture's history. This decade saw the ratification of the North American Free Trade Agreement and rapid changes toward a global market environment. The 1994 Crop Insurance Reform Act was passed, which ultimately was the first step in moving the government away from traditional federal disaster aid for agriculture. The 1996 FAIR Act gave producers the freedom to plant crops in whatever quantity they choose. All of these actions have been coupled with volatile weather patterns and turbulent global economic conditions. The result has been the end of an era of direct government intervention in agricultural programs, and it has marked the beginning of a more volatile and dynamic economic environment for production agriculture. This environment translates into both increased opportunities and increased risks for agricultural producers.

There have always been economic downturns in agriculture. As economic downturns occurred in the past, government programs could be counted on to help ease financial distress. The general public seems less willing to condone such programs, and the government has de-emphasized direct intervention programs. This means agricultural firms now have to be able to survive the economic downturns and adapt to the changing economic environment with much less aid. Each time an economic downturn occurs, some firms exit agriculture and other firms adapt. Agricultural producers must continue to improve their risk management skills, if they are to survive economic hardships and be resilient enough to take advantage of upswings. This section of the handbook is designed to help you improve your risk management skills when dealing with production risk.

Production Risk and the Tools to Manage It

Anything that can affect your crop yields or livestock performance creates risks, which could keep you from attaining your financial goals. While such things as weather, pests and diseases are often out of our control, measures can be taken to lower the income variability associated with these production risks. A more stable income can make the difference between having a resilient firm that can survive and adapt or experiencing business failure.

The two basic strategies available to producers, which can reduce income variability are enterprise diversification and crop insurance. Enterprise diversification involves producing a mix of products that have the characteristic of leveling out the lows and highs. Crop insurance can be used to protect against losses and insure some level of cash flow in disastrous years. The rest of the production risk management section in this handbook deals with how to analyze, choose and implement these strategies.

Enterprise Diversification

Enterprise diversification involves having your income dependent on more than one product to avoid large income highs and lows that can come with production and price variability. If profit from one product is low, profit from producing other products may prevent total profit for the firm from falling below acceptable levels. To investigate whether a new enterprise will improve profitability and or reduce income variability, some initial planning should be done to assess that enterprise's contribution to your goals. The first step in this planning process is to produce the product "on paper." This step can reduce the risk associated with a "trial and error" approach to trying new enterprises.

Producing the new product on paper requires the estimation of some budgets. The first two publications in this section deal with the very topic of what is involved and how to estimate budgets for enterprises. "**Partial Budgeting"** takes you through the process of how to evaluate the economic effect of minor adjustments in some portion of the business. For example, let us say you choose to change an input or technology in the production of a product, you can use a partial budgeting approach to weigh the costs against the returns and decide if that change would be beneficial. While partial budgeting is a good tool for evaluating a minor change in your operation, it does not give you the whole picture when looking at an existing enterprise or adding a new enterprise. **"Enterprise Budgeting"** discusses the major points of estimating a full enterprise budget. An enterprise budget is a listing of all estimated income and expenses associated with a specific enterprise. These two articles **"Partial Budgeting"** and **"Enterprise Budgeting"** provide powerful tools for a manager who is considering changing production practices or adding a new enterprise.

Once the costs and income associated with a new enterprise have been estimated, further evaluation can be done on whether it helps reduce your operation's risk. There are several different measures that you can easily do to initially assess how risky an enterprise may be. **"Enterprise Diversification: Will It Reduce Your Risk?"** walks you through some of the basic tools you can use to analyze the risk associated with adding a new enterprise. Most of these measures can easily be done by hand with minimal effort, or the use of a computerized spreadsheet can make the process extremely easy. **"Enterprise Diversification: Will It Reduce Your Risk?"** uses the example of comparing wheat and cattle enterprises to illustrate how to use the tools discussed.

If you have determined that an enterprise could potentially reduce your risk, a next step is to decide how your current enterprise mix along with the new enterprise compares in terms of profitability and risk. **"Choosing the Right Enterprise Mix to Reduce Your Risk: A Case Example in Wyoming's Big Horn Basin"** uses actual enterprise data from Wyoming to look at the profitability and risk associated with different enterprise mixes. It also incorporates tools learned in **"Enterprise Diversification: Will It Reduce Your Risk?"**. This case study example illustrates how normal risk measures can be compared with using a target income as a benchmark to assess risk. The target income approach basically requires the producer to set some minimum level of income that the firm cannot afford to go below and compares the potential each enterprise mix has in falling below that target. This approach is a bit different than the traditional approach of just looking at income variability as a way to analyze risk. Both of these articles, **"Enterprise Diversification: Will It Reduce Your Risk?"** and **"Choosing the Right Enterprise Mix to Reduce Your Risk: A Case Example in Wyoming's Big Horn Basin,"** give you the tools you need to analyze the potential risk reduction associated with different enterprises and enterprise mixes.

The decision to change your operation by adding a new enterprise or changing the enterprise mix can affect a number of things. A plan, which includes new strategies or alternatives, means changing, and along with changes comes added or different responsibilities for a manager. Implementing the new plan involves acquiring the necessary resources, scheduling and overseeing the changes called for. By considering as many of the implications as possible of a change in your operation, you can hopefully increase your probability of success and reduce the risks associated with the change. **"Things to Think About When Trying Something New in Your Operation"** provides a list of things to consider when implementing a strategy involving a new enterprise or enterprise mix.

Crop Insurance

Another tool that can reduce income variability or meet cash flow requirements in the face of production risk is crop insurance. The first decision you must make on crop insurance is whether you have enough financial reserves to cover a disastrous crop year. If the answer is no, then crop insurance may be an option you should consider in your risk management plan. **"Crop Insurance as a Tool"** describes the different types of crop insurance products available and lists those, which are available by crop in Wyoming, Colorado and Montana as of 1999. This piece also provides several guidelines and a template for analyzing and choosing which crop insurance product best meets your goals.

Concluding Comments

The articles in the production risk section of the **"Risk and Resilience in Agriculture"** handbook are designed to provide you with tools you can use today to manage your operation's risk. When developing a risk management plan you should consider incorporating both enterprise mix and crop insurance alternatives and strategies. The articles in this section of the handbook certainly cannot reduce your risk to zero, nor can they ensure you will be an expert in risk management. They can, however, be used as an important first step or to hone already developed risk management skills and plans.