Strategic Planning for Risk

by Dana L. Hoag, Colorado State University

All business owners make decisions that impact their bottom line. Making decisions is made harder when there is uncertainty about markets, production, or finances. Agricultural producers make more risky decisions than most business owners, but studies show that most of us don't have a strategic plan to manage risks. Having a solid plan to manage risks softens the impact of lower yields, higher costs, or lower prices. The Strategic Risk Management Process (SRMP) is specifically designed to help producers manage their risks.

The SRMP was developed by the RightRisk Education Team. The team is spearheaded by a group of experienced extension economists who understand the special needs of agricultural producers in the West. The team's comprehensive risk management program includes a Web site (www.rightrisk.org), the SRMP 10-step risk management program, an extensive risk management library, and a realistic risk-simulation program called RightRisk. The Team offers risk management education through the Web site, a variety of publications and workshops offered in Colorado, Wyoming, Utah, Idaho, Montana, Arizona, and many other states. Both the SRMP and RightRisk are summarized within these pages. For full details and a schedule of workshops in your location, visit the RightRisk Web site at www.rightrisk.org.

The SRMP process is divided into three main parts: strategic, tactical, and operational. These parts are further divided into 10 specific steps for the management of any operation. The process is cyclical, with feedback and reevaluation as conditions change. The circle reminds us that risk management requires continuous evaluation and adaptation. Management decisions are based on the operation's goals, actual performance, and consideration of current and future conditions, which are affected by risk.

Patterned after strategic management, the first three steps involve using your ability and preference to tolerate risk to set risk management goals. Your tolerance for risk will depend on your financial health and personal preferences. The middle steps are tactical, which includes identifying risks and the outcomes for various management actions, determining the likelihood of each outcome, and making an informed decision about how to manage any risks. The operational stage assures that what was done was evaluated and reconsidered, and the process is repeated with course corrections.

SRMP teaches producers about risk and includes innovative computer tools to help you complete each step on our Web site. RightRisk gives you an opportunity to test your newfound skills by managing realistic risks in a realistic setting without risking real money. There are several versions of the RightRisk simulation to cover a variety of diverse farming and ranching operations and risk scenarios. Read on to find out more and watch for updates on our Web site as we grow.

Step 1: Determining Your Financial Health

By Duane Griffith, Montana State University

At harvest producers often enjoy a short pause after a long summer's work. Machinery is stored for the winter and attentions are turned to livestock enterprises. Producers would not think about pulling their equipment into the fields for the next season without thoroughly reviewing its readiness and reconditioning it to assure good performance. The financial risks of downtime during critical production periods can be substantial too. Similarly, producers need to monitor and maintain their financial condition. Financial health refers to the well-being of a business as measured by adequate financial analysis.

The first phase of the SRMP is strategic. And the first step of the strategic process is to determine your financial health. Financial resources may be in better shape in some areas and less so in others. An example is strong net-worth, but weak cash flow. In general, healthy performance in each area of interest leads to a healthy business that is better able to withstand the changes in the economy and business environment. The process of strategic and tactical financial analysis found in the SRMP can identify weak links and help prevent financial disaster.

Most producers prepare a balance sheet at end of each year and a cash flow projection for the coming year. Some use the schedule F and tax returns as a proxy for an income statement. But this information does not provide an adequate picture of business financial position and performance and the impact the family structure has on the business' financial health.

Preparing any financial information generates financial measures, but the results are suspect, at best, unless they are complete. Individual statements, like a cash flow, are useful in measuring historic cash flow or budgeting future cash needs, but management decisions based on a single statement are utilizing an incomplete picture of the operation's financial position and performance.

There are five areas of financial health that should be monitored by all agricultural businesses: liquidity, solvency, repayment capacity, profitability, and financial efficiency. To get an accurate measure for all areas of financial health requires four financial statements: the balance sheet, a cash flow statement, an accrual adjusted income statement, and a statement of owner equity.

The information on the financial statements, as well as ratios and measures derived from the financial statements, are used to evaluate each of the five areas of financial health, and taken as a whole, the overall financial health of the business.

Preparing and reconciling all four of the financial statements is necessary, but understanding the flow of information between the financial statements and the reconciliation process is a critical first step in knowing how to use the information for complete financial position and performance analysis and tactical financial planning. The reconciliation process allows the business management team to get accurate measures of financial business position and performance. This is done by verifying how two values at different points in time are related.

Think about the process of reconciling a checkbook register after receiving the bank statement at the end of every month. This verifies the ending cash balance on successive bank statements, adjusting for deposits, checks, and other transactions that are not on the bank statement, or charges and other transactions made by the bank that are not in the check register.

The process accounts for all transactions by both the bank and the checking account owner to verify the amount of cash in the checking account. Reconciliation allows the checking account owner to see exactly how and why their account balance changed during the month.

Lack of adequate financial analysis implies an "any road will get you there" strategic planning process. Producers who do not know how they got to their current financial position will probably not be able to implement a plan for where they want to go.

Financial health is the ability of a business to produce a profit. If the business generates the optimal profit, it is financially healthy. That does not mean it is capable of supporting any desired family structure overlain on top of the business resource base. If the business resource base is small and generates a negative net farm income, it still does not mean that it is not being used at its economically optimal level. It may simply be that the cost of capital assets are large enough to prevent the resource base from earning a profit, even though the resource base is being used at an optimal level. In this instance financial health may be defined as earning as small a negative net farm income as possible with contributions from off farm sources supporting the business operation.

The financial management process.

From a financial health perspective, the circle above can be viewed as a process that tells the owner of a firm exactly how the business changed from the beginning net worth, a measure of financial position at a point in time, to the ending net worth. The reconciliation process applied to financial statements is similar to reconciling monthly balances in a checking account. Net worth on the beginning balance sheet is reconciled with net worth on the ending balance sheet. Beginning and ending cash balances in a checking account are at a point in time and balance sheets are also prepared for a point in time. Business and family transactions during the year link the beginning and ending net worth values, and allow the business owner to understand how and why net worth increased or decreased during the year due to business performance, family related activity, or other outside influences.

A clear definition of financial health is a moving target. It depends on many factors such as the size of the operation, the family structure involved, how the business is trying to support the family structure, and the particular stage family members might be in with respect to the business, to name a few. Financial health may be considered a very large net worth if Grandpa is transitioning out of the business and there is no one to take it over. If you are just getting started, then financial health might be the ability to generate enough net farm income to provide a family living and funds for expansion.

All of these situations point to a need to use a consistent and accurate approach to financial business position and performance analysis. Start with reconciled financial statements, develop business and family goals, complete tactical analysis on each alternative selected for evaluation from the strategic planning process, and monitor and measure the financial impact of implementing any particular alternative. If necessary, adjust.

Step 2: Finding Your Ability and Preference to Tolerate Risk

by Dana L. Hoag, Colorado State University

If you had a choice, would you take on more risk if it meant more profit? Would you accept a lower profit for less risk? How much profit does it take to make it worth taking on extra risks? These are the questions that can only be answered by the individual taking on risks. Some people avoid risks, while others confront it head on. In this step of the strategic risk-management process, or SRMP, we need to figure out which kind of person you are.

Since every investment involves risk, it is important to know how risk tolerant we are. "Risk tolerance" is the amount of risk you are willing to take on to achieve an investment goal. You can have three different attitudes towards risk. Individuals who are afraid of, or highly dislike, taking risks are known as "risk-averse." These individuals will prefer an investment with a lower expected payoff if it has less risk. An individual is said to be "risk-neutral" if she cares only about the expected payoff of an investment and not the risk she has to take to achieve her investment goal. Such individuals will neither actively take risks nor pay to avoid them. An individual who actively engages in risky investments is referred to as "risk-seeking."

You can see what your risk tolerance is with a simple example. Suppose you have just harvested your wheat. You have been offered $20,000 for the entire crop by your local elevator. If you store your wheat, you figure you have a 75 percent chance of the price being $26,000 and a 25 percent chance of a getting $10,000 if prices fall. The expected value of storage would then be $22,000 (.75 x 26,000 + .25 x 10,000). This presents a dilemma. Would you take on the risk of storage to gain a "risk premium" of $2,000 ($22,000 with risk versus $20,000 without it)? You would be better off with $2,000 in the long run, but getting $10,000 for your crop 25 percent of the time. Would it change your mind if the risk premium were $4,000 or $400?

The SRMP can help you determine your risk tolerance. One method involves filling out a questionnaire, which consists of a series of questions concerning different situations involving risk. Each answer has a score reflecting your risk tolerance and there is no right or wrong answer. At the end of the questionnaire, you will be asked to add up your score and told how risk averse you are. Another approach finds your risk premium by asking some questions about how you trade off risk and returns. By knowing your risk premium, you can determine whether an investment that makes less money and has less risk would be preferred to one that makes more money but with more risk.

Step 3: Goal Setting for Strategic Risk Management

by John P. Hewlett, University of Wyoming

Why bother with setting goals? The old adage says it best, "If you don't know where you're going, any road will get you there." Having clear, well-defined goals can help focus energy and effort. While this may not guarantee success, it does make it more likely. Doing the right things right is the key to getting to where you want to go.

The strategic risk-management process, or SRMP, describes a method of managing the farm or ranch operation as a whole, rather than as separate, unrelated parts. It provides a step-by-step method for working within the framework of information overload and multitude of risks ag managers face on a daily basis.

The process begins by determining your financial health and risk tolerance, then with setting goals for the operation. The first step in goal setting is to determine who is on the management team. Is it mom, dad, daughter, and her husband? Perhaps it's a mixture of parents, uncles, brothers, sisters, and spouses all joined together in a corporation. It may be just an operator and their spouse. Once it is learned who is on the team, everyone should be involved in the goal-setting process. Remember if the members of the team do not have ownership of the goals, they probably won't be working hard to help reach them.

Mission Statement

The second step is to visualize where the operation should be. Form a picture of what the future should look like. Some experts claim that we can program our minds to help bring about the things we really want to achieve.

The operation may want to capture this vision in a mission statement: a list of all the things the operation wants to be and do. A mission statement is a description of the purpose of the operation. It should describe what the management team sees the operation becoming for the individuals, the family, and for the team. A mission statement should specify what the operation will focus on in the long run. Written mission statements help build strategic goals that work for the operation.

Strategic Goals

With a mission statement in hand, the next step of drafting strategic goals can begin. These might best be viewed as a roadmap to follow to reach the destination set for the operation. Strategic goals are long term goals. They are specific steps for reaching the general goal(s) described in the mission statement. Strategic goals are typically written for 10-20 years in the future.

Where the mission statement is the destination, strategic goals form the roadmap. They are supported by the mission statement and are nurtured by the principles it contains. They represent the specific steps the operation must accomplish to reach its final objective. To do this, strategic goals must be prioritized. Resources available to most operations are limited. Thus, not all goals can be reached at the same time. Prioritizing the goals is a way of making sure the most important things are done first.

Tactical Objectives

Tactical objectives provide the framework for achieving the strategic goals. They identify a sequence of events or accomplishments required on the way to reaching longer term strategic goals. Tactical objectives generally describe "how" the strategic goals will be achieved and the order in which those events need to occur. They help to outline what needs to be accomplished in the near term, as well as into the future, usually the period three-10 years from today.

Operational Plans

Operational plans are concerned with describing the specific steps and timetable required for accomplishing the tactical objectives. Operational planning deals with the "how" and "when" of the process. This step refers to planning the activities that must be accomplished in order to achieve the tactical objectives and the timing of these activities over the coming year. Operational plans often include a listing of the action steps, a timeline for completion, who is responsible for completion of each step, and some indicator to show the step has been completed.

Step 4: How to Determine and Prioritize Your Risk

by Aaron E. Sprague

The first step in Tactical Risk Management is to determine and prioritize the risks that an operation faces. This is a critical step to the success of the entire process. Through the use of the techniques in this step the strategic risk-management process, or SRMP, will enable a producer to identify, quantify, organize and prioritize risks, ultimately leading to the ability to discern what risks threaten the operation. In order to identify risks faced by an operation, five specific sources of risk in production agriculture have been determined. Most risks faced by and operation fit into one of the categories:

Production Risk – Uncontrollable events such as weather, pests, or disease that make crop or livestock yields unpredictable.

Market or Price Risk – The changing of prices for outputs and/or inputs as a result of domestic and international supply and demand relations occurring after the producer commits to a production plan.

Financial Risk – Risks associated with the attainment of capital to operate an agricultural business throughout the biologically lagged production cycle.

Institutional Risk – Unpredictable changes in policies and regulations, often governmental, which can affect the profitability of an agricultural operation.

Human Resource Risk – Risk introduced through unforeseen changes in the character, health, or behavior of people involved in the agricultural operation.

Using the SRMP tools to determine and prioritize risks, a producer will learn these definitions as well as be trained on how to categorize a risk into one of the five categories.

Most of the risks faced by agricultural producers are very complicated. Therefore, it is only the beginning of the step to determine what risks are faced by the operation. After the sources of risk are identified, it is important to prioritize the risks with respect to the particular operation. This can be accomplished in many ways. Two tools that SRMP uses to help prioritize sources of risk are the Influence Diagram and the Risk-Influence Chart.

An Influence Diagram is a graphical representation of the risk being analyzed. It provides some structure to analyzing risk management decisions

that are often complex and circuitous. One particular type of Influence Diagram used in the SRMP is the Contributing Factor Diagram (CFD). Instead of attempting to capture all of the relationships inherent in a risk situation, the CFD focuses on the logical or most important relationships in a decision.

Risk-Influence charts can be used to finish prioritizing risks. The idea behind the Risk-Influence chart is straight forward: risks can be prioritized through the evaluation of how much a particular risk impacts a particular operation as well as how much a particular operation can influence that risk. Once a producer has determined the sources of risk that the operation is exposed to, priority can be given to the risks that are high and that can be highly influenced by the operation. On the other hand, decisions that entail low risk and low influence by the operation can be given lower priority. Through determining and prioritizing risks, the operation will create a type of roadmap for the rest of the tactical steps that will allow for efficient strategic risk management at the farm level.

Step 5: Identify Risk Management Alternatives

by Dana L. Hoag

Once you know what your risks are, you can consider what options are available to manage them. There are four basic ways to manage or control risks. Some people just try to ***Avoid*** risk wherever possible. Metaphorically, people that keep their money under their mattress are avoiding risks of letting others hold their savings. While it is understandable that people want to avoid risks, extreme risk avoidance can have extreme impacts, like significant losses in income potential and even introducing the decision maker to new and potentially greater risks. Again, metaphorically, putting your money under a mattress eliminates any earning potential and exposes you to the risk of fire or flood. A business example of avoiding risks would be to avoid crops like onions or potatoes, which net wild swings in earnings, in order to pick relatively safer crops like hay.

Someone that does not like risk might want to ***Transfer*** his or her risks to someone else. This is often a better option than risk avoidance if there is an appropriate market to transfer the risk to. There are many formal modes for transferring risks, such as crop insurance and the futures market. In the case of insurance, risk is transferred from an individual to a corporation that can tolerate more risk. A producer pays a firm more than the expected indemnity to avoid the risk. The company earns a living from the risk premiums. It can afford to pay for accidents and catastrophes because it is pooling risks over many people, or types of coverage. Even insurance companies are required by law to reinsure so that they maintain diversified pools. A company that specializes in hurricane insurance for example, swaps some of its coverage with a company that covers automobile accidents so that neither company is caught short should a crisis occur that was too large for them to handle, like the devastation that insurance companies had to pay for in New Orleans when hurricane Katrina came

Four Ways to Manage Risk

Avoid risks
Excess equipment capacity
Off farm employment
Rent/lease equipment

Transfer risks to someone else
Futures and options
Revenue or crop insurance
Forward pricing

Assume or retain the risk
Retain ownership (feeder calves, grain storage)

Reduce the risk
Diversification
Time (market timing), geography, demography,
Vertical integration
Technology (irrigation)
Choose enterprises with low variances

through in September, 2005.

The other important transfer mechanism for agriculture is the futures market. Producers swap risks with speculators by hedging and options. The market for swapping is so large as to distribute the risks across many people.

Those people that do not mind dealing with risk, may want to ***Assume or retain*** their risk. The motivation for putting up with risk is that there is usually a positive correlation between risk and return. Those people that take on more risks, though they have more ups and downs in their lives, make more money in the end. That is, they make more money IF the ups and downs don't put them out of business first. A study at Colorado State University showed that because women are more risk averse than men, on average, they end up with less savings at older ages. People that assume risks can take actions to make them able to bear them, like having good access to capital.

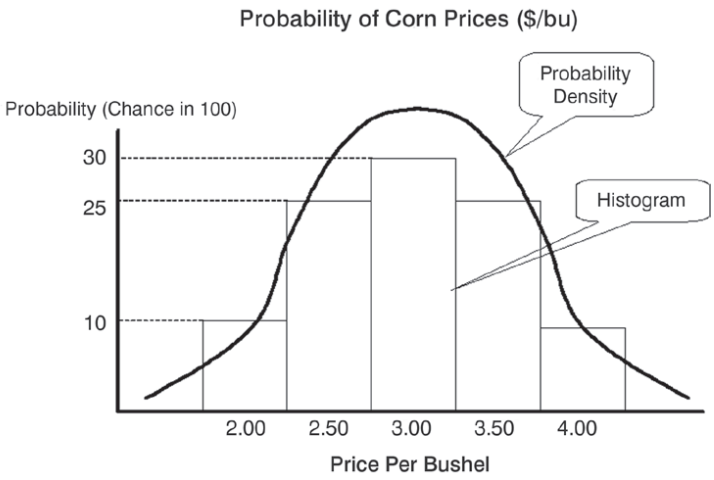
Of course, whether you wish to retain risk or avoid it, everyone wants to ***Reduce*** risk to the extent possible. For example, instead of totally avoiding risky crops or assuming the most risk I can with the riskiest crop I can find, I could diversify my risks. I could grow some onions and some wheat, for example.

Step 6: Determine Likelihood of Risk Outcomes

by Dana Hoag and Jay Parsons

In Step 6, we calculate the probability of each possible outcome for every management action under consideration. Few people really understand probability, but the SRMP can help. Fortunately, there are some well established concepts and tools available to aid the decision-maker in putting this all together. The SRMP uses your historical data, or even just your judgment if information is not available, to produce a graphical representation of likelihood (or probability) in the form of a histogram, a probability density function, or a cumulative density function. These graphical pictures are among the tools that can be used by the decision-maker to estimate the likelihood of an outcome occurring.

The diagram shows a histogram of corn price probabilities and the familiar bell-shaped probability density function. The chance of the price being $3/bushel is 30 percent. This is three times more likely than the price being $2/bushel, which is 10 percent. Real-life probabilities do not usually behave so well; they are usually a lot more bumpy and asymmetrical. With the help of the SRMP, you can trace out the probabilities for your own crop yields, prices, or most anything else.



Step 7: Ranking Your Management Alternatives

by Dana L. Hoag

The last tactical step is determining a risk management plan. Your choice will depend on your tolerance for risk (Steps 1 and 2); your goals (Step 3); and your risk management alternatives (Steps 4, 5, and 6).

Consider the example in the inset box. If you had to decide how much hay to store for your cattle, keeping in mind winter weather uncertainties, would you buy more hay, keep the amount that you produced, or sell some of your hay? If you knew the winter would be severe, you would buy hay. If you knew the winter was going to be mild, you would sell hay. However, uncertain weather conditions mean that the weather may be mild, normal, or severe, yielding nine possible financial outcomes.

In this example, if you were not concerned about risk, you would maximize the expected return by selling hay ($49,085). If you were extremely risk averse, you might try to minimize a bad outcome (Maxi-min). Under the Maxi-min strategy, you would choose to buy hay, where the worst return you could get would be $36,159. The SRMP offers many tools to help you adjust for uncertainty and to help you develop farm management plan that is tailored just for your level of risk preference.

RightRisk Payoff Matrix Exercise – Which "Action" would you choose?

Winter	Probability	Actions		
		Buy Hay	None	Sell Hay
Severe	1/6	$36,159	$34,365	$31,524
Normal	4/6	$50,997	$51,497	$51,997
Mild	1/6	$52,997	$53,997	$54,997
Expected Value		$48,857	$49,058	$49,085
Maxi-min		$36,159	$34,365	$31,534

Steps 8, 9, 10: Operational Strategic Risk Management

by John P. Hewlett, University of Wyoming

Putting the rubber to the road, assigning tasks, monitoring work flow, making mid-course corrections and constantly reassessing not only strategy, but also performance, is the difficult work of the operational stage of risk management. This level of the strategic risk-management process puts plans to work. Drawing from the work accomplished in steps one and two – determining financial health and risk preferences – coupled with the risk goals set in step three, the operational steps describe the day-to-day activities needed to carry out the tactics analyzed and selected in steps four through seven of the strategic risk-management process, or SRMP.

Where the strategic level of the process assembles an inventory of resources available and develops the plan itself, the tactical level looks at how the plan will be accomplished by examining various management alternatives and choosing one to pursue. The operational level makes the selected management alternatives happen and provides for the internal processes needed to sustain the effort over time.

The operational level of the SRMP includes three steps: implementation, monitor and adjust, and replan. Although when viewed in the SRMP diagram, they appear as a linear, step-by-step means of putting a strategic plan to work.

Implementation

The process of putting a strategic plan into action may take many forms, depending on the culture of the organization, history of previous efforts, size in terms of number of individuals involved, geographic scope, and number and diversity of enterprises, as well as management style and degree of structure within the business.

In addition, the strategy selected plays a heavy hand in how implementation occurs. For example, a number of alternative strategies are available to develop or maintain a competitive advantage. Possibilities include creating barriers to entry, competitive pricing, or technological change and innovation, and adjusting firm architecture or personnel management. Each of these overarching strategies implies a very different method for implementation.

In its essential form, implementation is focused on three fundamental activities: resource acquisition, resource flow, and resource coordination. Resources in this context are the raw materials needed to create the products or services offered for sale by the firm. In livestock operations these would include grass and other forages, stored feeds such as hay and grain, the livestock animals, buildings and other improvements, the people involved in providing labor and management skills. A similar list can be assembled for any business or any alternative agriculture enterprise. These resources are traditionally grouped into three broad categories: land, labor, and capital.

First and foremost, implementation is about making sure the correct quantity of resources is available where and when they are needed. The resources must also be of the correct quality and must be in a condition to provide service for the needed period of time at the level required.

Resources can be obtained in a number of ways, such as purchasing with equity capital, purchasing with credit, renting/leasing, via share arrangements, custom hiring, sub-contracting, or trading for like resources/services.

The flow of resources into and out of the business must also be carefully managed for successful implementation. Not only is it critical that resources be available in the quantity needed, but also when and where they are needed. Resource levels fluctuate over the production year. But resource levels must be managed throughout the year for areas such as stored feedstuffs, farm diesel fuel, rangeland forages, and ranch labor. The success of many farm and ranch enterprises hinges on the ability of management to constrain the use of resources to sustainable levels, while simultaneously generating optimum output.

Coordination of acquisition and flow of resources throughout the production year is an essential

facet of the implementation step. Resource demands by more than one enterprise, services provided by sub-contractors within a limited window, or redirecting resource in response to changing conditions are all examples of the need for coordination. Strategic planning can assist in this process to some extent through development of detailed operational plans. However, day-to-day oversight is required to ensure success.

Communication is a key dimension in the coordination function. Effective managers will develop plans for appropriate communication to be employed as operational plans unfold. Details included in a communication plan will include: who needs to know, what they should know, and when they should know. Communication may also take many forms, increasing the complexity of this important function. In addition, a number of languages may be used depending on the ethnicity and backgrounds of the people.

Monitor and Adjust

Although good, solid operational plans may be developed, which well-support the accomplishment of objectives, execution of such plans seldom go exactly as envisioned. Delays in receipt of raw materials, failure to make progress as intended, unforeseen weather events, or changes in markets can all cause plans to change. These are some of the events from which risks in agricultural enterprises derive. The second step of the operational level of the SRMP is intended to minimize these risks through monitoring resource performance and making mid-course adjustments as needed.

Referring to the model presented in Figure 2.4 (on page 8), we see that the monitor and adjust step provides two types of control – informational control and behavioral control. Informational control is focused on doing the right things. Behavioral control is concerned with doing things right or that tasks are completed on time, by the right people, and in the most effective way possible.

While these two types of control are listed separately it is not meant to imply that they can be separated or that they might be assigned to different individuals. Rather, separating the two functions allows for discussion of each individually. As a matter of practicality, each type of control would be used when and as often as management deems it necessary, usually on the fly in the thick of day-to-day decision making.

Informational control describes the responsibility of management to constantly check that the day-to-day activities of implementation are following the operational plans, leading to accomplishment of the tactical objectives, on the way toward achieve-

ment of the strategic goals, while honoring the spirit of the mission statement and core values of the people in the organization. Informational control describes both the action of checking that the right things are being accomplished and adjusting activities as needed to keep on course.

Behavioral control is focused on making sure things are accomplished in a manner in keeping with the philosophy of the organization. It is concerned with how things are done. Behavioral control can be broken into three, separate dimensions: culture, rewards, and boundaries.

Each of these dimensions must be in balance and be consistently applied for effective behavioral control.

Replan

As the production year unfolds management will monitor and adjust as needed to keep the business on course and functioning smoothly. However, such mid-course corrections do not provide the strategic control needed when the destination itself changes. The replan step provides for the level of control needed to consider such fundamental shifts in the environment which would require drastic correction or an entirely new course.

Replan encompasses big changes in the landscape like retirement of key personnel, inclusion of new partners or children into the organization, starting or stopping an enterprise activity, opportunities to purchase the neighbor's farm, or estate transfers. The replan step also considers smaller changes such as increases in debt capital due to unfavorable market conditions, higher than expected crop yields due to favorable weather, lower than expected feed costs, or faster than anticipated harvest due to higher labor efficiency.

The replan step is a reduced version of the goal setting process outlined in step 3, which should be completed annually. Its essential elements include an evaluation of resource performance and reconsideration of strategic goals in light of past performance.

Just as monitoring resource quantity, quality, and timing of inflow and outflow is important to the monitor and adjust step of the process, assessing changes in the resource base from one year to the next can provide much needed trend information. Such information is critical to making decisions about capital resource replacement, changes in the land base, or even changes in labor resources.

Adequate, accurate, and timely records are needed to allow for resource performance. Annual reports may be compiled from such a record-keeping system, which includes estimates for critical success indicators. Such reporting is routinely completed for the financial resources of a business. They are necessary for filing tax reports with the Internal Revenue Service. However, reports should also be compiled for the other resources of the business. This provides for a more holistic evaluation of the entire unit and all its resources.

The operational level of the SRMProcess is foundational to achieving the goals and objectives established at the strategic level. There are three basic steps at this level – implementation, monitor and adjust, and then replan. Each step is necessary to accomplish all the functions of the operational level. In essence the operational level is concerned with achieving the strategic goals and tactical objectives on a day-to-day basis. The operational level puts the plans of the organization to work, on the ground, using the resources available, through the activities of the people in the business.

Typical Farm in Northeast Colorado Banks on Plan First, Reaps Profits Later

Tucked into the far northeastern corner of Colorado is the small town of Holyoke. The surrounding lands have always been productive, and water pumped from the Ogallala Aquifer has helped irrigate the fields. It is in this area where the Sprague family has been farming for more than 60 years. The farm has been productive in good years and has weathered the bad years, and the current generation of Sprague family is determined to make sure the family farm continues to do a healthy business.

To ensure the farm's operation stays in good health, the Sprague family added a new step to its winter-time chores. Along with getting some much needed rest, repairing buildings and vehicles, and attending to anything else which came up, the Sprague family got together and formed a plan. They laid out their goals of what they wanted to achieve in the upcoming season with the farm. They determined how much money they wanted to make and how much they could expect to make. After mapping out expenses, the potential for income, and estimating several other factors from weather to the availability of water, the Sprague family found themselves in a confident position when it came to start the work of the growing season.

To understand the plan the Sprague family put together, you must first know a little about the Spragues. Four brothers formed the Sprague Brothers Cooperative Farm in the 1940s, and over the years, it has evolved into EWS Farms. Russell and Kimberlee Sprague took over the farm after they finished high school. Russell managed the farm's operations and Kimberlee managed the books. The couple had five children. Knowing the benefits of education, they urged their children to peruse college educations.

Two of the children, along with their spouses, have returned to Holyoke and the EWS Farm after graduating to join Russell and Kimberlee in working on the farm. The newer generation of the Sprague family is also involved in off-farm jobs and activities. The eldest son, Aaron, coaches football (along with Russell) for the local school district and Aaron's wife Amber teaches Spanish. Eldest daughter Desiree is also a teacher and her husband Aaron Mosenteen also helps out in running the local football program. The lessons learned at college were not forgotten, and the eldest son Aaron was able to convince his family that they all had an interest in ensuring the long-term viability of the farm. Aaron is also a co-developer of the SRMP and has applied the system to his own farm to improve and validate the program.

"What it's done is given us a plan to stick to," Aaron Sprague said. "We have already figured out what we want to be doing, so there is no guessing about what needs to be done, when we should sell and what we should do if a problem should come up."

In many ways, EWS Farm is a typical family-owned operation. It boasts 2,500 acres of tillable land; 500 acres of that are irrigated by the Ogallala Aquifer. The farm is solely a commodity production business, and that makes crop rotations an important component to the success of the business. The primary commodities are corn for feed and hard red winter wheat.

Through marketing and forward contracts, having a price in mind of when they want to sell, the Sprague family has been able to minimize the risk that accompanies running an agricultural operation. Aaron admits they may not always hang on to sell when a commodity hits its high-mark on the season, but they aren't selling at the low point, either.

"You're not going to hit the high," Aaron said about selling EWS Farm's corn and grain. "But in the long run, you'll be better off. If you hit the high, then you can expect to eventually hit the low. In the end you know, bare minimum, what you are going to have."

It was a good season for EWS Farm. Even though it was a hard season for water, and drought seemed to loom all summer like a thunder cloud that wouldn't rain, the farm once again turned a profit. In the winter, the Sprague family will once again look at their goals, see what they want to achieve, and come up with a plan to map out the best way to make those goals a reality.

Ag Survivor: Ag Risk Simulation

by Jay Parsons, University of Nebraska-Lincoln

The *Ag Survivor* simulation was developed by the RightRisk Education Team to teach risk concepts and management strategies to agricultural producers in an experiential learning environment.

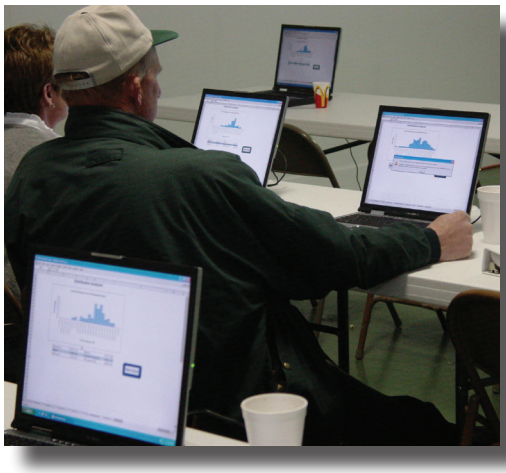
Using *Ag Survivor* for example, a manager can compare a current strategy for selling grain or livestock to other standardized risk management strategies.

Ag Survivor presents the complicated and confusing risk management subject matter in an easily understood format by fully engaging workshop attendees in a hands-on farm or ranch simulation.

Ag Survivor users are asked to take on the role of a farm or ranch manager and to make decisions for the operation over a one- or multi-year time span. *Ag Survivor* uses real probabilities and impacts to depict risks. With this information, users make risk management decisions for the operation as it progresses through several decision making periods. By the end of the simulation, decision makers have moved through one or more production years with the representative farm or ranch.

Ag Survivor provides a platform to compare risk results across several alternative measures for business success. These can help estimate the value of alternative risk management strategies.

In many ways, a single run through the simulation represents a combination of decision making strategy and the luck of the draw. It provides a good starting point but, with the click of a button, *Ag Survivor* can run the simulation many times using random draws of possible outcomes.



Output from these repeated runs include graphical measures such as bar graphs and statistical measures such as mean, high, low, variance and other factors that help decision makers separate the luck of a single run from the overall value of their risk management strategy."

RightRisk Analytics: Tools for Ag Decision Makers

by John P. Hewlett, University of Wyoming

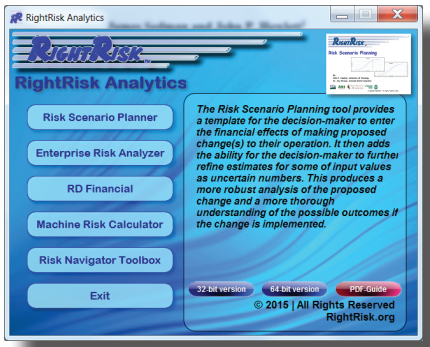
RightRisk Analytics combines several useful risk management tools organized into a convenient toolbox. Users can address many of their risk management planning needs, including budgeting tools for enterprises to whole farm, machinery risk, risk-scenario planning, and financial analysis.

Budgeting Tools

The Machinery Risk Calculator helps producers determine total machinery costs and estimate and evaluate the risk sensitivity of these costs to future changes in input factors. The tool uses a comprehensive list of related expenses to calculate an overall cost, including: expected life values, repairs and depreciation, housing, insurance, taxes, and annual use.

The tool analyzes costs on powered equipment (tractors, windrowers, etc.) and up to three different implements, as well as vehicles, powered irrigation equipment, non-powered irrigation equipment, and actual field operation costs. The results show the risk sensitivity of the machine or activity to future uncertainty of selected input variables.

The Enterprise Risk Analyzer allows users to enter income and expense information for their entire business and then use the tool to allocate this information over the enterprises in the operation. The tool can evaluate enterprises in several ways: estimate the profitability of a single enterprise, evaluate it against other enterprises in terms of profitability, capital allocation, and other efficiencies, assess breakeven prices and yields for each enterprise and their effects on each other, as well as projecting them over time.



The RD Financial tool helps better understand how the information from various financial statements relates to the financial performance of an operation and provides a blueprint of how to use that information in a producer's operation. The tool makes financial statements and the information they contain, as well as various financial ratios, easy to understand and shows the effects of changes in financial decisions on the financial picture.

The Risk Navigator Toolbox

The Risk Navigator toolbox is based on the Strategic Risk Management Process (SRMP). It contains 25 risk analysis tools ranging from setting risk goals, assessing risk tolerance, to cash flows and balance sheets and financial ratio analysis. These tools are intended to assist with developing a risk management strategy, evaluate the trade-offs involved, and test those strategies before beginning to implement them on the actual operation.

Risk Scenario Planning Tool

The Risk Scenario Planning Tool (RSP) helps producers evaluate a wide range of values when making budgeting projections or production decisions. The RSP tool can help a manager quantify the risk values associated with a particular decision or change in the operation being contemplated.

Most producers have a firm grasp on some budget projections, such as input costs, but many values used in budgets are often a best guess. Managers can eliminate the guessing by using the RSP tool and begin using more accurate values in those budgets.