



R I G H T R I S K N E W S

## Tools and Resources for Navigating Risk

The Risk Navigator Strategic Risk Management (Risk Navigator SRM) process and support material was developed to make risk management accessible to typical agricultural producers. The Risk Navigator SRM process is divided into three main parts: strategic, tactical, and operational. It is cyclical as a reminder that risk management is a continuous process that requires evaluation and adaptation as conditions change.

Risk Navigator SRM support materials consist of two primary products. The first is an eighteen-chapter textbook titled *Applied Risk Management in Agriculture*. The second is a comprehensive website [RiskNavigatorSRM.com](http://RiskNavigatorSRM.com) with dozens of risk management software tools, tutorials, and related risk management materials to accompany and supplement the book.

### Strategic Risk Management Process

The ten-step Risk Navigator SRM is based on the three major phases of strategic planning: Strategic, Tactical, and Operational (Figure 1). The strategic phase constitutes the first three steps: Determine Financial Health, Determine Risk Preference, and Establish Risk Goals. This phase sets boundaries based on resources and preferences for managing risk, then establishes goals that align within these limits.

The tactical phase consists of four steps: Determine Risk Sources, Identify Management Alternatives, Estimate Likelihoods, and Rank Management Alternatives. The tactical phase is designed to evaluate various alternatives for reaching the strategic goals determined in the first phase and to develop a solid plan to achieve them.

The tactical phase is structured around the steps one would take to construct and use a payoff matrix, a construct that is commonly used to analyze risk management decisions, Figure 2. A payoff matrix consists of columns and rows. Each column represents an alternative action that can be taken. Each row represents an alternative state of nature that may occur. Each state of nature has a probability of occurrence, and each action has an outcome (i.e., payoff) associated with that state of nature. With this information, a risk manager can analyze how well each risk management alternative performs under the perceived uncertainty and decide which alternative(s) to implement.

The operational phase lists steps eight through ten of the Risk Navigator SRM: Implement Plans, Monitor & Adjust, and Replan. The steps are intended to carry out the plans that result from the tactical phase. Implement Plans focuses on the day-to-day activities needed to carry out the implementation of the risk management alternatives chosen for implementation in the ranking of management alternatives.



Risk Outcomes	Harvest Cash Price	Harvest Basis	Probability	Decision Alternatives		
				#1 Cash Market 137,000 bu.	#2 Forward Contract 70,000 bu. @ \$2.36	#3 Hedge 70,000 bu. @ \$2.70 (-\$0.34 basis)
Normal US Crop	\$2.10	-\$0.45	35%	\$287,700	\$305,900	\$298,200
Short US Crop	\$2.50	-\$0.25	65%	\$342,500	\$332,700	\$339,000
Expected Value				\$323,320	\$323,320	\$324,720
Standard Deviation				\$38,749	\$18,950	\$28,850

Figure 2. Example Payoff Matrix

Monitoring can provide information on how well the implementation is going and whether plans should be adjusted. Re-planning closes

How Much Risk is Right for You?

Off/On	Liquidity	Beginning	Ending
	Current Ratio	1.63	1.56
	Working Capital	\$54,034	\$48,554
Off/On	Solvency		
	Debt/Asset Ratio	0.134	0.122
	Equity/Asset Ratio	0.866	0.878
	Debt/Equity Ratio	0.16	0.138
Off/On	Profitability	<<Accrual Basis Income Statement>> Ending	
	Rate of Return on Business Assets		0.76%
	Rate of Return on Business Equity		-0.07%
	Operating Profit Margin Ratio		0.05
	Net Business Income		\$47,681
Off/On	Repayment Capacity		
	Term Debt and Capital Lease Coverage Ratio		1.07
	Capital Replacement and Term Debt Repayment Margin		\$5,975
Off/On	Financial Efficiency		
	Asset Turnover Ratio		0.14
	Operating Expense Ratio		0.74
	Depreciation Expense Ratio		0.11
	Interest Expense Ratio		0.06
	Net Farm Income From Operations Ratio		0.08
	Check Sum		100.00%

Figure 3. EWS Farms RD Financial tool

management tools. *Balance Sheet* is an Excel spreadsheet that provides the user with an easy-to-use template to prepare a single balance sheet. *Cash Flow* is two distinct Excel-based tools. The first is a simple cash flow template for preparation of a cash flow projection for the upcoming year or a cash flow analysis of a completed year. The second is a more comprehensive tool that allows for the preparation of cash flow and income statements driven by the completion of a set of schedules designed to gather the necessary information. Output includes a monthly cash flow spanning one calendar year, an income statement on both a cash basis and accrual adjusted basis, and a statement of cash flows for the year.

Several of the financial management tools are pre-populated with data from the EWS Farms case study farm used throughout the *Applied Risk Management in Agriculture* curriculum. *EWS Farms RD Financial* is designed to produce four types of financial statements for the farm including the beginning and ending balance sheets, cash flow, accrual adjusted income statements, and a statement of owner equity. The statements are presented in a condensed format designed to help demonstrate the interaction of financial statements and explore the financial analysis process. *Financial Statements* combines a set of schedules for beginning and ending balance sheets along with cash flow to produce a comprehensive set of financial statements and financial ratio calculations. The *Sweet Sixteen Ratio Analyzer* is a tool that allows the user to explore how changing values on the financial statements affects one or more of the financial ratios for the operation.

The second step of the Risk Navigator SRM process, Determine Risk Preference, is accompanied by the *Risk Preference Calculator* tool. The Risk Preference Calculator automatically estimates risk preference scores for individuals through two different mechanisms, Figure 4. The first is a thirteen-question quiz developed by two university personal financial planning professors, Dr. Ruth Lytton at Virginia Tech and Dr. John Grable at the University of Georgia, designed to assess investment risk tolerance. The second uses a method called Equally Likely Certainty Equivalent (ELCE) to estimate risk preference based on answers to four willingness-to-pay questions.

The final step of the strategic phase of the Risk Navigator SRM process is to Establish Risk Goals. There are seven tools in the Risk Navigator toolbox to help with this process. The *Time Management Worksheet* provides a template for identifying and prioritizing management activities toward accomplishing goals and objectives. The *Management Team Roster* provides a good way to be sure that all individuals are included in the operation at the appropriate level. The *Mission Statement Worksheet* provides a template taking input from the management team roster to craft a mission statement for the business. The *Strategic Goal Worksheet* is designed to draft a fully described strategic

**Risk Navigator**  
STRATEGIC RISK MANAGEMENT

**Risk Preference Calculator**

Estimate my risk preference

You have an opportunity to grow onions, but crops fail about half the time. Indicate in row 1 how much you would spend to produce onions if you have a 50% chance of making no crop and a 50% chance of making \$100 thousand dollars. Do the same in rows 2, 3 and 4 where the odds are slightly different.

	Decision to produce onions	Expected Payoff	How much would you spend to produce onions?
	No Crop	Crop	
1	\$0	\$100	\$50
2	\$0	\$25	\$13
3	\$25	\$100	\$63
4	\$6	\$31	\$19

Your Utility

Your Risk Preference: 4.09

Your Risk Tolerance: 8.69

**Risk Preference Key**  
 Negative = Risk taker  
 0 = Risk neutral  
 1 = Somewhat risk averse  
 2 = Rather risk averse  
 3 = Very risk averse  
 4 = Almost paranoid about risk

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Figure 4. Risk Preference Calculator

out one decision-making cycle, such as a production year, and sets the course of continuously managing risk by cycling back through the process. The Risk Navigator SRM website contains a graphic like Figure 1 with each of the ten steps numbered and hyperlinked to a more detailed explanation.

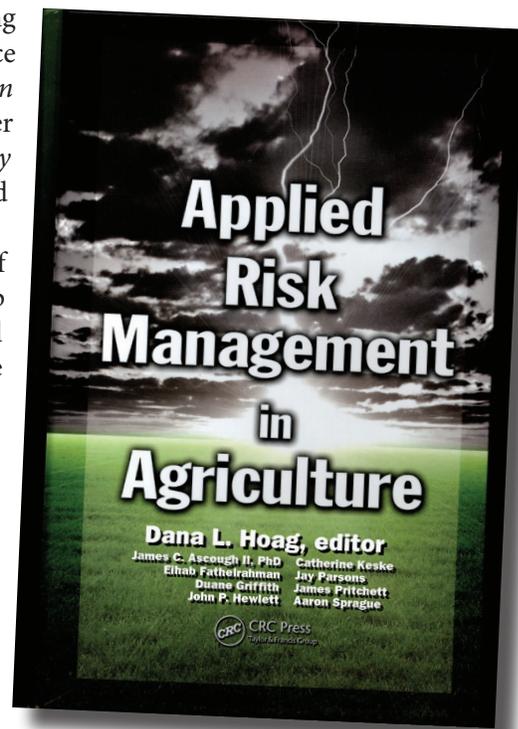
### The Risk Navigator Toolbox

The Risk Navigator Toolbox includes 19 customized computer tools to help decision makers apply each step of the ten-step Risk Navigator SRM process. Determine Financial Health, step one of the Risk Navigator SRM process, is accompanied by several financial

goal. The *Transition Planning Worksheet* provides a workspace for developing transition plans intended to bring about changes to enterprise activities, resource use, and/or management activities over a defined planning horizon. The *Action Planning Worksheet* offers a template to assist in planning action steps in greater detail that are required to achieve a tactical objective. Finally, the *Adequacy Achievement Grid* is tool designed to assist in reviewing goals, objectives, and operational plans on a regular basis.

Three tools are currently available to help navigate the tactical phase of the Risk Navigator SRM process. The *Marketing Plan* tool is available to help identify and explore different marketing plan alternatives for agricultural commodities. The *Stochastic Budget Generators* provide a means to examine price, yield, and cost uncertainties for crop and livestock enterprises. The *Risk Efficiency Tool* is available to help rank management alternatives. It uses user supplied data for up to ten observations of three management alternatives to build a statistical profile of the alternatives. Two major risk management tools are then produced as output. The first is a Stoplight Diagram that provides a very intuitive representation of the probability of being above or below specific cutoff values of interest. The second uses what is called a Stochastic Efficiency with Respect to Function (SERF) analysis to compare the three management alternatives given different levels of risk aversion.

The *Action Planning Worksheet* and the *Time Management Worksheet* are also useful tools under the Operational phase of the Risk Navigator SRM process. Three other tools are provided in the Risk Navigator toolbox for navigating this phase. The *Critical Success Indicator* looks at income and expenses at the enterprise level. It provides space to describe changes to these dimensions over time with targeted levels for success. The *Resource Flow Plan* is designed to assist managers with the day-to-day and month-to-month planning and tracking resource inflows and outflows. Finally, the *Risk Management Worksheet* is designed to catalog each source of risk on an enterprise-by-enterprise basis and various plans for mitigating those risks.



### Textbook

The core set of written material for Risk Navigator SRM is the textbook *Applied Risk Management in Agriculture*. The website provides a table of contents for the book and links to three sample chapters. Sample chapters include Chapter 4 that provides an overview of The Strategic Risk Management Process. There is also a link to the publisher's website where the book is available for purchase either in hard copy or as an electronic book.

### Courses: Strategic Risk Management 101

Strategic Risk Management 101 is a ten-module online course available at [RiskNavigatorSRM.com](http://RiskNavigatorSRM.com). Each module contains one to three presentations recorded by one of the authors of the book. The modules are designed to provide an overall introduction to the Risk Navigator SRM process and then walk users through the various phases and steps of the process. Several of the modules also contain a tutorial on a relevant tool from the Risk Navigator toolbox that can be used to help accomplish the step or phase being discussed in that module.

Along with many other RightRisk tools and educational materials, the Risk Navigator SRM curriculum and support materials are open to the public. It was developed so agricultural producers can learn about risk and develop effective risk management plans for their operation. It provides a comprehensive collection of risk management information related to agriculture and tools to build a successful future.



~ OTHER RIGHTRISK NEWS ~

**NEWS RELEASE - NOVEMBER 14 | RIGHTRISK**

INTEREST RATES on farm loans increased sharply in the third quarter and the acceleration in farm real estate values continued to ease. Farm income and credit conditions remained solid, but the pace of improvement softened. The financial impact of drought also intensified, particularly in the southern and western portions of the District. Despite recent headwinds, farm finances remained strong and continued to support sound agricultural loan performance . . .

For more see: [RightRisk.org\News](http://RightRisk.org/News)



	<p><b>November 1   Social Media Post</b> <i>What is the Fair Labor Standards Act?</i></p>		<p><b>November 17   Social Media Post</b> <i>Western Risk Management Library</i></p>
	<p><b>November 3   Social Media Post</b> <i>Estimating Your Cost of Production</i></p>		<p><b>November 22   Social Media Post</b> <i>Understanding Risk In Agriculture</i></p>
	<p><b>November 8   Social Media Post</b> <i>Enterprise Feasibility</i></p>		<p><b>November 24   Social Media Post</b> <i>Machine Risk Calculator   RightRisk</i></p>
	<p><b>November 10   Social Media Post</b> <i>Risk Navigator   RightRisk</i></p>		<p><b>November 29   Social Media Post</b> <i>Code of Conduct What is It, Who Needs One?</i></p>
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*How much risk is right for you and your operation?*

