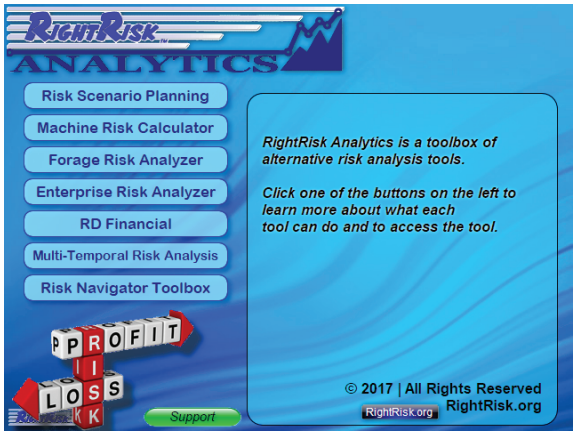
Getting Started In Ag:
Risk Management Tools from RightRisk Analytics

If you are new to production agriculture or just getting started, you may have not considered the many ways risk and uncertainty make their appearance in your operation. Risk management encompasses a wide variety of topics and issues when applied to commercial agriculture. Any time a large portion of your income depends on factors outside your control, such as weather and market forces, the potential for success hinges on your ability to manage these and other risks. Agricultural producers frequently overlook the importance of strategic thinking and fail to formulate a comprehensive risk management strategy. This oversight leaves them vulnerable to the uncertainties associated with fluctuating prices, poor yields, and rising expenses.



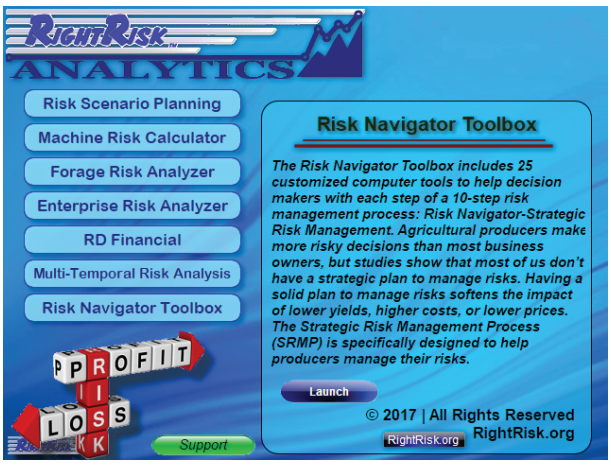
The RightRisk Analytics toolbox can help producers tackle much of the inherent variability of their business through risk management planning. These tools cover a range of risk management planning topics, from partial and enterprise budgeting to financial analysis and long-term whole farm budgeting.

RightRisk Analytics offers new and beginning producers a wide range of options for risk management education. One of the biggest challenges these tools are designed to address is the "best guess" problem associated with risk management planning. When planning and budgeting, values such as prices, yields, or estimated costs are often assumed to be set or unchanging, though they are really only a best guess. The planning, analysis and outcomes most likely would be different if those values changed. The tools in the RightRisk Analytics toolbox are designed to deal with this uncertainty by allowing for analysis based on a wide range of variables.

Risk Scenario Planning Tool

The Risk Scenario Planner Tool (RSP) is a tool designed to help managers take a wide range of values into consideration when making budget projections or production decisions, following a partial budget approach. The RSP tool can help users quantify the risk values associated with a particular decision or management change and provides results showing a probability distribution for the variables entered.

To get started, users enter their information into a partial budget divided into added returns, added costs, reduced costs, and reduced returns. The RSP tool allows the user to select up to two variables, such as price and yield, to account for uncertainty by entering a most likely, maximum, and minimum value for each. The software then generates a probability curve based on 1,000 potential outcomes over a range of possible results.



Enterprise Risk Analyzer Tool

The Enterprise Risk Analyzer (ERA) is an enterprise budgeting tool that allows users to enter income and expense information for their entire business and then use the tool to allocate this information over each enterprise in the operation. The tool can be used to assess the profitability of each enterprise on its own, as well as comparing it to other enterprises in terms of profitability and capital allocation.

The ERA tool also provides breakeven price and yield analysis. Finally, it can be used to identify the largest expense categories for each enterprise, offering managers the chance to make improvements.

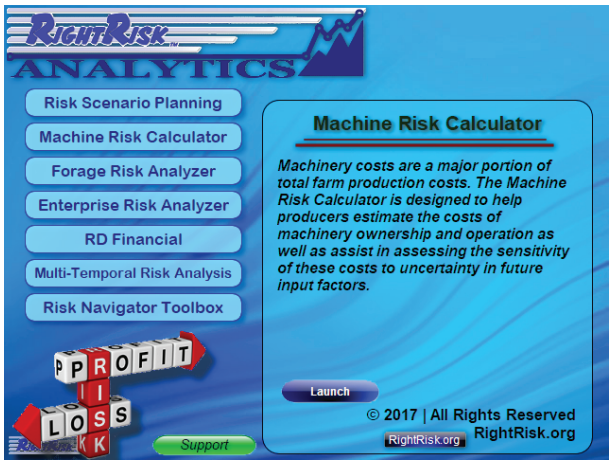
Multi-Temporal Risk Analysis Tool

The Multi-Temporal Risk Analyzer (MTRA) tool is a comprehensive tool for assessing and accounting for uncertainty associated with major decisions over the longer term. In production agriculture, most major decisions are long term in nature, whether investing in machinery and equipment, changing cropping practices or production methods, or adding a new enterprise. Often risk is not properly accounted for in these decisions; it tends be dealt with by conservatively adjusting the rate of return or interest rate following a time value of money viewpoint. This approach can leave significant aspects of risk, such as changes in costs and inflows over time, unaccounted for. Simply plugging in a lower rate of return may not give an accurate picture of how the decision or change plays out over long haul.

The MTRA tool follows a partial budget framework that allows a producer to enter inflows and outflows but also accounts for the time value of money. Users can turn on or off each of the partial budget income and expense items over a 20-year period. MTRA allows the user to incorporate risk around any potential inflows or outflows by entering their estimated maximum, minimum, and most likely

values for each. This allows the user to adequately reflect long-term expectations for the budgeted events.

The MTRA tool is capable of generating several different graphical outputs over an extended period, allowing the user to extensively analyze risk probabilities, as well as enter an interest rate in both cash and present value analysis tables.



Risk Navigator Toolbox

The Strategic Risk Management Process (SRMP) and Risk Navigator Toolbox are specifically intended to help producers develop a sound risk management plan. The SRMP is a 10-step process divided into three different areas: strategic, tactical, and operational. The process is circular in nature because effective risk management planning requires nearly continuous evaluation and adaptation.

The Risk Navigator Toolbox contains 25 risk analysis tools encompassing all points on the SRMP. Producers are able to assess their own risk preferences, plan for their operation, and see estimated results without risking actual money.

Machine Risk Calculator

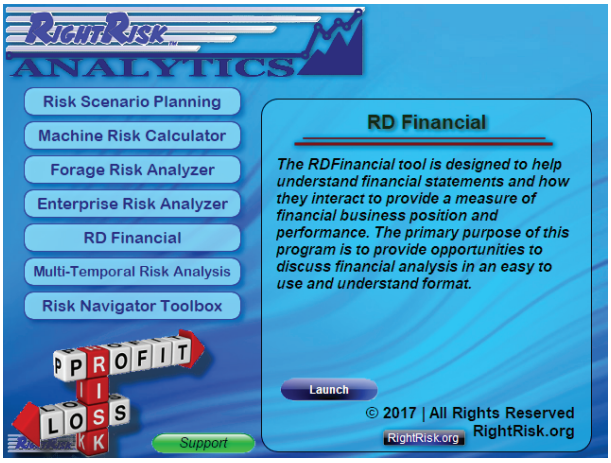
The Machine Risk Calculator (MRC) is designed to evaluate total machinery costs, as well as estimate and project the risk sensitivity of these costs to future changes in input factors. The tool uses a comprehensive list of related expenses, including expected life values, repairs and depreciation, housing, insurance, taxes, and annual use, to calculate an overall cost.

The MRC allows users to evaluate costs for 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 user enters information for their particular machine and the MRC generates results showing annual costs and average operating costs based on the data entered.

The results show the risk sensitivity of the particular machine or field activity to future uncertainty of selected input variables—in other words, the probability of a selected cost per acre falling at or lower than a selected value. The user can either enter their own machinery data or utilize tables showing ranges of reported rates and information for the selected activities.

Forage Risk Analyzer Tool

The Forage Risk Analyzer (FRA) tool can help assess the full value of a forage resource, whether owned or in a leased/rental arrangement. The FRA allows the user to select one or more types of land, such as native range, meadows, or cropland, to use in the analysis. The tool then calculates an allocation summary and performs net return and risk analysis based on the information submitted.



Estimating the value of a forage lease can be difficult. The FRA tool can help all parties in a lease agreement understand the value each party brings to the table and arrive at a fair and equitable lease. The FRA tool is divided into six resource categories to fully account for all the factors in the lease arrangement.

RD Financial

The RD Financial tool is designed to show the interaction of the financial statements, as well as changing financial ratios, on a farm or ranch's business performance.

The tool uses a step-by-step approach that allows the user to enter their own data or modify an example farm's data. The tool generates an income statement, cash-flow statement, balance sheet, and owner equity statement from the information entered. It also produces a set of financial ratios and lender/borrower credit scoring reports for in-depth financial analysis.

For More Information

To begin using the Risk Analytics Toolbox, visit RightRisk.org and select Risk Management Tools from the Resources tab. Each tool includes a detailed user guide with examples designed to provide new and perhaps different ways to examine risk for better-informed decisions in agricultural operations.