BARNYARDS & BACKYARDS

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Useful risk management tools in one place

Managing risk and uncertainty in production agriculture is multi-faceted.

Every level of production and planning requires at least some risk analysis. The academic professionals from RightRisk.org have created the RightRisk Analytics (RRAnalytics) toolbox to put many of their useful tools in one convenient place.

RRAnalytics offers seven spreadsheet-based risk analysis tools that cover a wide range of topics, including enterprise budgeting, forage leasing, and machinery cost/custom rate calculation.

Tools to Manage Variability

Accounting for variability in one or more variables when budgeting and planning is a key aspect of many RRAnalytics tools. Many planning and budgeting variables are not known with certainty; for instance, using $3.25/bushel for a corn price when budgeting.

Best guesses are often used for budget items such as expected prices, yields, and expenses. The problem occurs when these guesses are treated like certain numbers and can lead to flawed decisions further on in the production year due to a failure to account for variability within these best guesses.

Several RRAnalytics tools account for these variables by generating scenarios and probabilities related to a range of estimates for key decision variables (maximum, minimum, and most likely).

The **Risk Scenario Planner** (RSP) tool helps users take in a wide range of values when making budgeting projections or production decisions. The tool helps a producer quantify the risk associated with a particular decision or management change and provides a probability distribution for the calculated results.

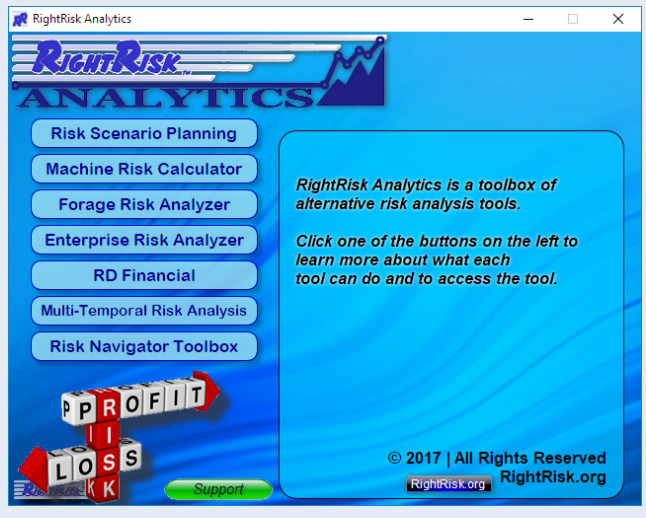
The **Enterprise Risk Analyzer** (ERA) tool is the next step up, allowing a user to perform risk analysis at an enterprise level. The ERA tool generates net return analysis based on data entered by the user and calculates break-even price and yield estimates with associated probability projections.

The **Multi-Temporal Risk Analyzer** (MTRA) tool reflects long-term expectations for a budgeted management change. Users incorporate the risk associated with making long-term changes in risk management strategies via estimates for potential income and expenses up to 20 years into the future. The tool provides an estimate of the net income or loss in today's dollars to help a manager decide if the strategy is worth pursuing.

The **Forage Risk Analyzer** (FRA) and **Machine Risk Calculator** (MRC) tools account for income and expense variability in specific cost areas. The FRA tool can analyze a wide variety of potential forage situations, including leases and evaluating the cost of owned forage. The MRC tool was developed to help estimate machinery costs and consider the risk sensitivity of these costs to future variability. Users can also use the MRC to cost-out field operations to help price custom rates for common farm operations.

For more information

Simply point your browser to RightRisk.org and select "Risk Management Tools" under the "Resources" tab to begin using any of the tools in the RightRisk Analytics toolbox. These tools offer users a unique approach to evaluating risk and to make better, more-informed decisions for their business operations. RightRisk.org is a premier risk management site for active managers of agricultural operations and provides numerous online courses, producer profiles, and many other education products available free of charge.



Strategic Planning and Whole Farm Budgeting

The RRAnalytics toolbox also includes tools for whole farm budgeting (**RD Financial**) and resources to help producers develop strategic risk plans (**Risk Navigator** toolbox). The Risk Navigator toolbox is a set of comprehensive risk analysis tools centered around the Strategic Risk Management process. These materials assist users to develop their own strategic risk management plans.

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Selenium soils plus plants that uptake the element can equal livestock health problems

"Too much of a good thing can sometimes be a bad thing" is very applicable to the element selenium.

Selenium is a crucial micronutrient for livestock but if uncontrolled and in large enough quantities, can lead to sickness. Selenium is most often a chronic or cumulative poisoning. Not to say acute poisoning doesn't happen, but continued grazing of plants containing high levels of selenium within their plant tissues is the most common route of poisoning.

Selenium is a naturally occurring element in soils. There might be a lot, little, or no selenium depending on the geology of an area. There are soils in Wyoming that lack selenium and others that have too much, from a grazing standpoint. Removing livestock from selenium-rich areas is the best treatment for poisoned animals, and the best strategy is avoiding problem areas.

Most problem areas are at mid- to low elevations in Wyoming. Wyoming's sagebrush basins, eastern prairies, and desert ecosystems are the most common areas to find soils high in selenium and associated selenium-accumulating plants.

Issues occur for livestock managers when plants growing in high-selenium soils uptake the element. Plants can be grouped into three categories based on the rate they accumulate selenium. Plants become toxic once they start accumulating five parts per million (ppm) selenium in their plant tissue.

Plants in **group one** are primary selenium accumulators that include species of milkvetch (*Astragalus bisulcatus*, *A. racemous*, and *A. pectinatus*), woodyaster (*Xylorhiza glabriuscula*), princesplume (*Stanleya pinnata*), and selenium goldenweed (*Oonopsis* spp.). Group one may accumulate 2,000 to 3,000 ppm selenium.

Group two includes species of Aster, milkvetch (*Astragulus* spp.), saltbrush (*Atriplex* spp.), Indian paintbrush (*Castilleja* spp.), toadflax (*Comondra umbrella*), and certain species of the *Mentzelia* genus. Group two may accumulate 200 to 300 ppm selenium.

Group three plants are considered the low-selenium accumulators with parts per million rarely exceeding 50. The final group includes grasses, alfalfa, and small grains.

Woodyaster and Princesplume are two plant species easily recognized and excellent indicators of selenium-rich soils.

Overgrown hooves, hair loss, lameness, and weight loss are the most common symptoms of chronic selenium poisoning. These symptoms may not show right away, so actively monitoring for potential high-selenium areas is important.

Horses are most known for issues with selenium poisoning, yet sheep, swine, and cattle can also be affected. Acute poisoning is rare. Livestock can develop sore feet, making travel to forage and water difficult, leading to a decrease in production. Symptoms often go unnoticed.


Princesplume

As with most animals that might come into contact with poisonous plants, making sure animals have plenty of high-quality forage and access to clean water is important to help decrease the amount of dangerous plant material consumed and to maintain animal health.

For more information on selenium poisoning and plants associated, please refer to USDA Bulletin 415, available online at bit.ly/usdapoisonplants, and the USDA Plants Database online at https://plants.usda.gov.

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