Utah State University Cooperative Extension

Cow-Calf Risk Analysis

Managing Production Risk on a Ranch

Dillon M Feuz and Sarah A. Drollette
Applied Economics, Utah State University

Cattle ranchers deal with a significant amount of uncertainty every day. From not knowing what the weather will be like this year to wondering if they have given the best 7-way vaccine to protect their calves from a number of potential diseases, agricultural producers are forced to make decisions based on imperfect information. This uncertainty creates the possibility of financial loss and of financial gain. While uncertainty can lead to both positive and negative outcomes, we normally think of risk as the possibility of adverse outcomes due to uncertainty and imperfect knowledge in decision making. For example, a severe storm during calving season may increase calf death loss or drought may reduce forage resources for the cow herd.

Ranchers are basically in the business of converting grass and a few other inputs into pounds of live calf weight. At the end of the year, the gamble is that those pounds of calves will be worth more than the grass, labor, vaccine and other inputs that went into production. Some manufacturing companies have the luxury of knowing exactly how many outputs can be produced with a specific number of inputs. Ranchers do not have that luxury. Cattle production is riddled with risks that can negatively affect production levels and lead to significant losses.

An unusually dry summer may result in lighter weight calves than expected; cold, wet spring weather may increase the incidence of scours; and dry dusty fall weaning conditions may increase respiratory diseases in calves. Other diseases not tied to weather can greatly alter conception rates and can induce abortions in pregnant cows. Unknown or uncertain quality of inputs, such as purchased hay, can also pose risks to production levels.

The presence of any of these unpredictable risk factors can significantly lower production levels and lead to financial losses. Since production output is the main source of revenue for agricultural operations, it is crucial for ranchers to recognize and manage production risk.

There are many tools available to help ranchers manage production risk. Which tools a rancher uses should depend on his individual ranch situation and risk-bearing willingness and ability. An understanding of the tools available for managing production risk can help agricultural producers develop better business plans that can reduce those risks and increase profitability.

Management Practices

Many common management practices can help reduce production risk. Involving a veterinarian as you plan your vaccination program for your cows and calves, testing your bulls for fertility and disease, and pregnancy checking your cows are all practices that will likely increase the number of calves you wean and reduce production risks. Nutritionists can be consulted to make sure that cattle are receiving proper nutrition throughout the year. This practice may be particularly important during periods of drought, or severe winter weather and the nutritional content of forages is reduced or nutritional demands are increased. Other practices, such as providing more sheltered area for calving or separating 1st calving heifers from older cows are examples of management practices followed to reduce production risks.

Excess Capacity

Production risk can also be reduced by maintaining excess production capacity. Many cattle ranches always like to have some hay left over at the end of winter. This provides a cushion should winter last longer than expected or should the next summers hay crop be shorter than expected. By having this surplus, a producer may be able to avoid buying high priced feed. Having excess grazing capacity may prevent a rancher from having to liquidate some of the cow herd during a drought. The cost of maintaining excess capacity should be weighed against the benefits of lowering production risk when making management decisions.

Diversification

Diversification can help lower production risk for agricultural producers. For example, while having one short calving season may be beneficial to producing a uniform calf crop; it may also be more risky if a severe storm occurs during that calving season. A ranch that only has calves to sell in the fall is at risk if the market is down during that time frame. A ranch that runs some yearlings in addition to the cow-calf enterprise will have more than one product to sell at one point in time.

It is also important to choose efficient and profitable enterprises when considering diversification. While diversification may reduce risk, it may also reduce possible gains from specialization. For example, a rancher who adds a wheat enterprise must shift time from managing his cattle enterprise to manage his wheat enterprise. Different machinery may be needed, learning time must be spent, and the new enterprise may increase profits by less than the decrease of profits in the livestock enterprise because of the shift of energy.

It is, therefore, important to understand whether the added enterprise is efficient and profitable. Adding an inefficient enterprise that creates continual losses is not worth the lowered risk from diversification.

Lease Arrangements

Utilizing share leasing arrangements can also help reduce production risk. If a producer leases additional pasture on a cash lease or leases additional cows on a cash lease, then the full amount of the lease must be paid, even if there is drought that reduces the pasture production or even if the cows are not productive and wean a reduced calving percentage. With a pasture or livestock share lease, the rancher shares production risk with the other party. For example, if a cow lease is for a percentage of the calf crop, then both parties to the lease have a financial interest in seeing that the cattle are properly managed to produce the largest number of calves.

Information

Having good and up-to-date information can greatly reduce the risk associated with agricultural production. Agricultural companies, as well as universities, are constantly doing research to test and develop new and better ways of producing various agricultural commodities. Ranchers who are well informed about and who follow new and proven production practices can reduce their production risk. For example, research has consistently shown that production is increased through hybrid vigor from a good cross breeding program.

Adopting new technologies can also help reduce production risk. Improved methods of synchronizing the estrus cycle in heifers may improve conception rates from an AI program. However, producers also need to be cautious with new technology and not fall prey to the traveling snake oil salesmen who continue to show up peddling their magic potions.

Insurance

Different forms of crop insurance have long been used by crop producers to protect against production risk. Insurance products for cattle ranchers to use to insure production have not existed in the past. However, the USDA, Risk Management Agency has recently introduced insurance products that ranchers can use to insure against production losses. One of these products is Adjusted Gross Revenue-Lite insurance. A fact sheet can be viewed at:
http://www.rma.usda.gov/pubs/rme/agr-lite.pdf

Another pilot insurance product that is available in selected states and selected counties within some states is a Pasture, Rangeland and Forage insurance product that ranchers can use to insure against pasture shortfalls due to weather, fire or other disasters. A fact sheet is available at:
http://www.rma.usda.gov/pubs/rme/prffactsheet.pdf

For more information about insurance policies, see the following USDA Risk Management Agency website:
http://www.rma.usda.gov/policies/

Agricultural production has always been risky, and production risk can be among the most uncertain and potentially devastating to the financial well being of a rancher. There are many risk management tools available to reduce production risk and it is essential to understand the options available when making risk management decisions.

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