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Big Horn County producers use partial budgeting for profit answers – Part III

By James Sedman and John Hewlett

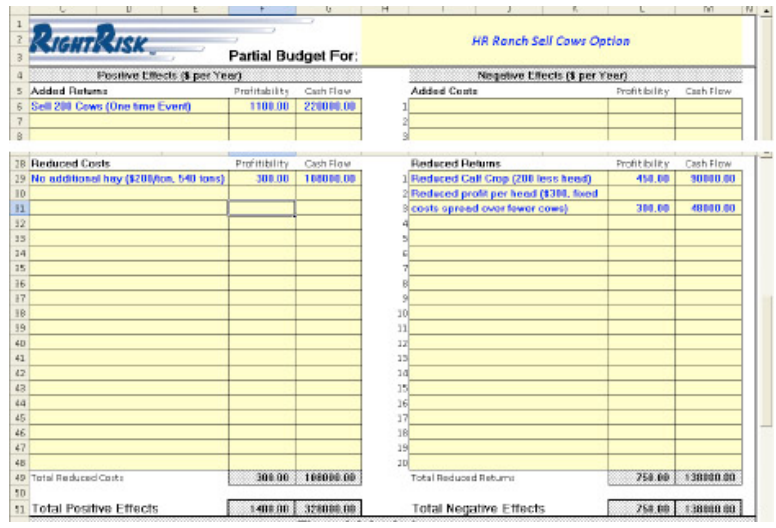
The complex partial budgeting tool available from RightRisk.org is an excellent option for producers looking to evaluate a potential business decision without generating a large whole farm budget every time.

This budget tool allows producers to examine the positive and negative effects on net income across four categories: added returns, reduced costs, added costs, and reduced revenue.

In previous installments, we examined the HR Ranch management decisions on whether to reduce its Big Horn County cow herd or purchase additional hay to address the drought conditions. We looked at the ranch's "buy hay" option to using the complex partial budgeting tool available at Rightrisk.org. That analysis demonstrated that, while the HR's usual profit per head was significantly reduced, they still showed a profit of $150 per head by purchasing 540 tons of alfalfa hay at $200/ton.

"Sell Cows" Option Evaluation

For the "sell cows" alternative, the ranch makes the following assumptions. First, to keep from purchasing extra hay, the ranch would need to sell 200 cows – leaving them with 160. These would be the older end of the cow herd and bringing $1,100 per head. We assume that their usual profit per head ($450) will drop to $300 per head due to fixed costs being spread across a smaller cow herd. They will not need to buy 540 tons of hay at $200 per ton as in the first option.



In the reduced returns column, the ranch would have 160 head of calves to sell, as well as lower cull cow revenue (we will assume this is part of the $300 per head profit).

So far, the net benefits outweigh the costs of selling cows. However, as with the "buy hay" option, if we look at a three-year time frame and factor in the cost of buying back cows (at a price per head of $1,500) the budget picture changes to the negative side. Buying back 200 cows at this price ($300,000 total) reduces total profit to more than $109,000.

To make this strategy breakeven, the total number of cows bought back within two years would need to be 127 (at $1,500 per head), or the cow price would need to drop to $952 per head to purchase back 200 head.

Summary

There are no perfect solutions when livestock producers deal with severe drought. In this case, the HR evaluated selling cows and buying back at a loss versus buying hay at $200 per ton. While we examined the decision in a "stripped-down" fashion, many other variables would go into a full-blown decision analysis – such as the long-term value of genetics, availability of cows to buy back, and availability of other feeds.

In this case, it may be best for the HR to buy hay and wait out the drought. However, economics are only part of the story. The very best alternative is the strategy that moves the HR the furthest toward its risk management goals at a level of risk with which its managers are comfortable.

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For more information

Farm and ranch financial success often begins by following a process of partial budgeting.

The partial, enterprise, and whole farm budgeting tools available from RightRisk.org are an excellent way for producers to analyze past and future production and risk management decisions. Producers can point their browser to RightRisk.org and click the "Risk Mgt. Tools" link under Resources to begin. RightRisk.org has numerous risk management resources and producer profiles to assist producers with their risk management decisions.

Are dung beetles and livestock parasite control compatible?

Dung beetle activity increases soil fertility, minimizes dung accumulation, reduces horn and face fly populations

By Scott Schell

Most people are familiar with dung beetles, and most ranchers have probably observed the dung ball rolling species – "tumblers" – at work on their pastures.

Fewer realize the majority of dung beetle species don't tear apart dung pats and roll the manure away to be buried as a food source for their larvae. Other species of dung beetle activities are inconspicuous. Some feed and reproduce inside a suitable dung pat and are called "dwellers." Others form and bury dung balls directly under the dung pat and are called "tunnelers."

This leaves the surface of the pat undisturbed, which helps keep the manure moist and aids microbial decomposition.

Job Emphasis

In many articles on dung beetles, the claim is made that, if you have intact dung pats on your pasture, "You don't have dung beetles." If all manure was immediately rolled away by tumblers, the dweller and tunneler species would soon be extinct. In arid climates or dry periods in mesic climates (balanced moisture), the dweller and tunneler species have the advantage of using intact manure pats. The dry crust on intact pats conserves moisture and allows reproductive activity. In very dry conditions, it is thought the dung balls dry too rapidly as they are rolled, and the tumbler species will be inactive or only work at night.

Many exotic species of dung beetles have been imported into the Americas, Australia, and Africa in an attempt to maximize livestock manure decomposition on pastures. One of the most common species found in association with cattle dung in Wyoming is *Aphodius fossor*, described to science by Linnaeus in 1758. It is a species native to northern Europe and Asia. This area is where the wild ancestors of cattle originally roamed.

W.K. Owen's thesis research at UW found that the soil underneath the dung pats was enriched by *A. fossor* tunneling activity, and those soil microorganisms backfilled into the dung pat helped speed its decomposition. Even though the dung pat looked intact from above, it was being recycled into the soil.

Dung beetle activity increases soil fertility, minimizes dung accumulation, reduces horn and face fly populations, and is entirely beneficial.

Parasite Control and Dung Beetles

What can cattle producers do to make parasite control of their herds compatible with dung beetles?

A comprehensive study of seasonal dung beetle activity in Alberta, Canada, conducted by K.D. Floate and B.D. Gill found that, although many species of dung beetle adults could be found from mid-March to mid-November, peak reproductive activity for most species was in May and June. Smaller peaks of activity were seen in late summer and early fall in response to rainfall, which stimulates the emergence of some species' adults.

The most common dung tumbler is the native *Canthon pilularius* on the left; *Aphodius fossor*, an introduced species, is the largest and most abundant of the tunneling species found during research projects on cattle dung fauna in Wyoming. Size relative to matchstick.

The obvious recommendation is to avoid using cattle parasite treatments during peak dung beetle activity to reduce the beetle's exposure to pesticide residue. If your herd health management plan necessitates treatment during the spring, choose the products in your rotation that will have minimal impact on the dung beetles. Moxidectin, levasole, and albendazole are broad-spectrum active ingredients that have shown reduced impact on dung beetle populations in experimental studies.

Keep in mind everyone should be rotating the modes of action of all control products used to avoid creating treatment-resistant parasites!

The next time you see dung beetle activity, remember their slogan, "It's a dirty job, but somebody has to do it!"

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