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Big Horn County producers consider partial budgeting for answers – Part II

By James Sedman and John Hewlett

In a previous example, we examined the HR Ranch and its outlook for the coming year.

In this installment, we examine the ranch's decision whether to buy hay or reduce cow herd numbers.

The Big Horn County ranch suffered through severe drought the previous year and, like most ranches in the state, its managers are trying to decide on the best option to minimize the impact of the drought.

For more information

Numerous budgeting tools are available at RightRisk.org. These tools can assist virtually all types of producers with production questions such as, "Should I buy hay or sell cows?" The Excel-based budgeting tools from RightRisk.org are under the Resources tab as "Risk Mgt Tools." The tools have detailed user guides along with examples for each type of budget. For more information on partial budgeting, producer risk management profiles and other risk management materials, point your browser to RightRisk.org.

The HR operates a 360-head cow-calf enterprise along with irrigated alfalfa and native hay enterprises. Last year, the ranch was forced to purchase supplemental hay at historically high prices in order to pull through the year. This year looks to be similar with the ranch either needing to purchase more hay or reduce numbers.

Partial Budget Tool

For this example, the HR's managers use the complex partial budgeting tool available at RightRisk.org (click on "Risk Mgt Tools" under Resources to get started). This tool is similar to the simple partial budget tool as it shows the net effect of changes in an operation due to increased or reduced costs and revenues.

The complex version differs by showing the effect on profitability, cash flow, and return on investment. We will examine two scenarios for the HR: buying hay to keep cows at current levels and selling cows to sustainable levels without buying supplemental feed.

Assume first that the HR can purchase alfalfa hay at $200/ton and that they will need approximately 1.5 tons per head to make it through the year – or 540 tons total. We plug these numbers into the added cost column both per head and total cash flow.

HR's normal profit margin for its cow-calf enterprise is $450/head on total revenue of $162,000. These numbers go into the added revenue line. Table 1 depicts the entries needed for this simple example. With these two entries, we estimate net returns totaling $150/head.

A more complete consideration of HR's situation might include estimates of reduced revenues due to lower rates of gain or increased death losses, other increased costs from feeding such as labor and machinery costs, increased veterinary expenses, and other possibilities. The partial budget tool allows the user to enter such alternatives and estimate the associated net return.

The complex partial budget tool allows us to easily expand the example and demonstrate that the HR could still earn a per-head profit (albeit a much smaller-than-usual level) even when considering interest and cash flow costs. The results in Table 2 show that if the HR were to borrow money to implement this strategy, it would take approximately 2.2 years to repay the loan given the projected profit levels.

The HR could extrapolate a break-even price of hay from this examination. Its normal $450/head profit margin equates to $300/ton as the maximum they can pay for hay and still break even. On the flip side, this means that the more its expected profit margin slips (if the drought worsens, for example), the less it will be able to pay for hay at current calf prices.

We will examine the "sell cows" option for the HR ranch in the next installment.

Table 1. Buy Hay Partial Budget Entries for the HR Ranch

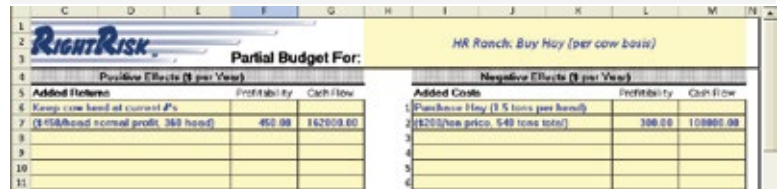
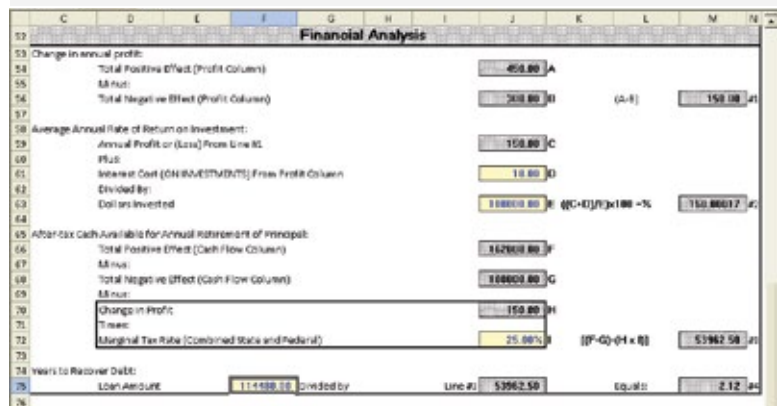


Table 2. Complex Partial Budget Results for the HR Ranch Example



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Tool calculates alfalfa phosphorus, potassium benefits

By Brian Lee

With increased prices of alfalfa hay, producers need to seriously consider a well-balanced fertilizer program for their crop.

Baled alfalfa hay in the United States is up 62 percent from the 2006-2010 average. Along with this, Wyoming on-farm stock was down 45 percent from the same five-year average due mostly to increased feeding because of the drought.

With so much incentive to produce the best possible crop, adjusting your fertilization program may be a good place to start.

Have a soil test taken to assess nutrient needs. Alfalfa can remove 56 pounds of nitrogen (N), 15 pounds of phosphorus (P), and 70 pounds of potassium (K) per ton of alfalfa harvested. These nutrients need to be replenished to ensure alfalfa has what it needs to grow. Research also suggests a well-balanced fertilizer program helps increase the longevity of an alfalfa stand, which would help delay establishment costs of the next crop. Consider the quality and age of the alfalfa stand, your yearly situation, and yield expectations.

This examination considers costs of two fertilizers. First, the cost analysis of phosphorus fertilization using 11-52-0 was conducted. This fertilizer is probably one of the most readily available and commonly used for phosphorus fertilization. At the price of $691/ton for 11-52-0, expect to pay the following for corresponding pound-per-acre goals. The break-even, ton-per-acre values are also included. These were figured considering $210/ton baled alfalfa hay. For example, if 100 pounds of 11-52-0 per acre is applied, expect to pay $71.81 per acre, and you would need to see a 0.34-ton per acre benefit from applying the fertilizer.

Table 1. Cost and break-even values of applying 11-52-0 fertilizer to alfalfa

2013 National Average 11-52-0 Price	Cost/Acre	Break-even/Acre
Max #P per acre (165#)	$115.00	0.55 ton
100# per acre	$71.81	0.34 ton
50# per acre	$38.59	0.18 ton

Table 2. Cost and break-even values of applying 0-0-60 fertilizer to alfalfa

2013 National Average 0-0-60 Price	Cost/Acre	Break-even/Acre
Max #K per acre (300#)	$154.12	0.73 ton
200# per acre	$104.54	0.50 ton
100# per acre	$54.95	0.26 ton
50# per acre	$30.16	0.14 ton

The second fertilizer analyzed was 0-0-60, which would be a common fertilizer applied to reach potassium goals. At $595/ton, expect to pay the following prices for corresponding pound-per-acre goals. The break-even, ton-per-acre values are included. These were also calculated considering $210/ton baled alfalfa hay. For example, if 100 pounds of 0-0-60 is applied per acre, you would pay $54.95 per acre, and you would need a 0.26-ton per acre benefit from applying the fertilizer.

University of Wyoming Extension has a multi-crop, online tool to help calculate cost-per-acre and break-even levels of fertilizer applications. The tool was designed for nitrogen applications but will work for other per-acre fertilizer goals. It is at http://bit.ly/Ncalculator.

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