Dollars & Sense

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Heifers, heifer-development programs affect long-term profitability

Heifer-development programs may have a greater effect on profits than which replacement heifers are choosen. Selection and management of beef replacement heifers involves decisions that affect the future productivity of an entire herd. Understanding the value of a change in a heifer-development strategy is as important for those selling replacements as for those buying.

Custom heifer-development programs often focus on the physiological processes that influence puberty. A manager needs to understand the potential economic effects of the "improved" replacement, as well as how various characteristics of the new replacement strategy can affect profits.

For example, heifers that calve first as 2-year-olds and continue to calve annually produce more calves during their lifetimes than do heifers that calve first at 3 years of age. What is the value of that? Considering a decision to breed heifers as yearlings involves careful consideration of the economics of production and the reproductive status and breed type or genetic makeup of the heifers involved. A number of factors influence the ability of a cow to calve in a given year and over a number of years.

Heifers that calve early during their first calving season have higher lifetime calf production than those that calve late. Because most calves are weaned at a particular time rather than on a weight-constant or age-constant basis, calves born late in the normal calving season are usually lighter at sale time than those born early, missing an opportunty for a higher return, especially for the commercial producer. This tends to decrease the total economic productivity of their dams.

A manager evaluating a current heifer-development program or a potential new program needs to consider the long-run economic effect of the program, as well as how good a particular set of heifers looks. The manager needs a way to analyze all of the factors and financially weigh the differences.

But how much value is there between one heifer-development program and the next? There isn't one best answer for all producers all of the time. The correct decision for each individual producer will depend upon their own costs, management practices, and the current and expected market prices for calves, replacement heifers and cows.

As an example, for a typical 100-cow farm I analyzed the value of moving heifers to a 63-day calving period from a 105-day calving period. The example farm was analyzed for an eight-year period during the current cattle cycle. The change would provide an additional $315/heifer in farm income that could be used to move to the new program or to buy heifers already "programmed."

Determining what that number might be for a particular farm then would allow the manager to estimate how much could be paid for "developed" heifers or the development service.

This type of information is critical to cow-calf producers and anyone wishing to do business with them. Understanding the value of change is the first step in knowing whether to take on a new project.

Calves in this example farm were assumed to grow at a rate of 2 pounds (lb.)/day from birth to weaning on the old program. As a result of increased management control, increased guidance from veterinarians and better genetics, the gain from the calves might be expected to increase to 2.1 lb./day. With this change alone, the producer could afford to pay an additional $126/head for replacement heifers or development services.

This producer could expect an increase of $14/cow in income over variable costs by extending the suckling phase by 14 days from 6.5 months to 7 months.

Finally, I evaluated the effect of a more concentrated calving season for this operation. The economic value, measured in dollars of income over variable cost per cow, from reducing the calving season is about $6-$7/21-day cycle eliminated from the calving season.

The selection of the best female replacement strategy has arguably one of the greatest long-term effects on profits when compared to any other decision made by the cow-calf producer. Selection and development of replacements is extremely important to the overall management of the cow herd. A decision on replacements this year will have an effect on herd profitability for at least the next 8-10 years.

When one considers keeping offspring of current replacements for future replacements, herd profitability will be affected even further into the future.

The low-cost producer of heifer replacements must evaluate long- and short-term effects of replacement choices and the combined sensitivity of those choices to market price and long-term reproductive integrity of the herd. Whether a heifer-development program is being evaluated by a cow-calf producer or someone providing the service, the potential gains of the process of heifer development and the effect of the heifers on the herd may have a greater effect on long-run profits than thought.

Clearly, quality replacements are the best choice. However, decisions on their development may have even greater effects on profits.

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Editor's note: *We are pleased to introduce a new column to the* Angus Journal. *"Dollars and Sense" will appear as one of our periodic columns (published four to six times per year and appearing in the larger issues). Vern Pierce, who will author "Dollars and Sense" is a beef economist within the Commercial Agriculture program at the University of Missouri–Columbia.*