Western Beef Resource Committee

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Cattle Producer's Handbook

Finance Section 932

The Costs of Raising Replacement Heifers and the Value of a Purchased vs. Raised Replacement

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Many sheets of notebook paper have been trashed, considerable barnyard door space has been used, and many brain cells have been drained by ranchers, bankers, and agricultural economists in an attempt to determine the cost (or value) of a replacement heifer.

On the surface, it appears rather straight forward to determine this value: assign a dollar value to a weaned heifer calf; calculate the winter feeding costs and the summer grazing and breeding costs; add these together and the total is the cost of the replacement heifer. This is only the beginning, however, or a very basic starting point.

Adjustments must be made to the cost of the replacement heifer when a cattle producer realizes that varying the replacement rate changes the number of calves and cull cows available to sell. Production from a replacement heifer (calf weaning weights and percent calf crop weaned) is typically less than that of a mature cow, and the management of the replacement heifer will effect her level of production.

Is it possible to adjust the value of the heifer to account for these issues? What about the type of bull used on the heifer, the amount of calving problems, and the subsequent reproduction of the second calf heifer?

As a cattle producer begins to account for the above mentioned factors, the cost of the raised replacement heifer generally increases. In addition a producer finds many different opinions as to what that cost actually is. This adds fuel to the age old debate of whether it is better to raise your own replacement heifers or buy bred replacements from others.

There probably isn't one best answer for all producers all of the time. The correct decision for each individual rancher will depend upon their own costs, management practices, and the current and expected market prices for calves, replacement heifers, and cows. Cattle type should also be considered as some types of cattle are well suited for the slaughter market but have poor maternal traits.

The intent of this paper is to evaluate the economics of various heifer management practices by accounting for the biological production realities associated with the cow herd, and particularly the replacement heifer. Once the appropriate costs of a replacement heifer are established, the raising vs. purchasing decision can be analyzed.

Realities of Herd Replacements

The first issue that needs to be addressed is the actual replacement rate needed to maintain the cow herd. It is not uncommon to hear of replacement rates varying from 10 to 30 percent. Many individuals probably underestimate the actual number of replacements required when they are preparing budgets. Over the long term, an average replacement rate of 15 to 25 percent is probably required for most herds.

The size of the cow herd, the resources available, and the degree of management will all affect the required replacement rate. Table 1 contains a sensitivity analysis when the expected death loss and conception percentages are changed. For example, with only an 84 percent conception rate and a 3 percent annual death loss, a 28.3 percent replacement rate is required. A replacement level

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