

Livestock Notes

The Cost Of Raising Replacement Beef Heifers

A common question that has come up recently involves how to determine the most cost effective means to increase the size of the beef herd. The options are: raise your own within herd replacement heifers, purchase bred heifers or purchase cows (either open or bred with a calf at side or bred with no calf). The question of which is the most economical alternative is difficult to answer and many aspects of each option must be evaluated. Let's examine them.

First, raising home-bred females into productive herd replacements involves a strong commitment to nutrition and herd health beginning at the time the heifer calf is chosen as a potential replacement, usually at weaning time. The decision to keep a weaned heifer calf for development into a herd replacement is complicated by the relatively high price being paid today for weaned feeder heifers, in the range of \$86-\$94/cwt. For comparison purposes, we will assign an average value of \$90.00/cwt to feeder heifers averaging 525 lbs at weaning. This translates into an opportunity cost of \$472.50 per head if the calves were sold at weaning. Next, we must add to this opportunity

cost, the cost of raising the heifer until she calves as a 2 year old and produces the first return to your investment (her first weaned calf).

Two critical periods in the development of replacement heifers include the time from weaning to breeding (usually over the first winter) and the period from breeding to calving. Nutrition is the critical component in the heifer management program during these periods of rapid development. As a result, the feed and management costs associated with raising a replacement heifer through calving are relatively high. The time period to consider would involve breeding heifers at 15 months of age to calve as 2 year olds and wean their first calf 210 days later in total, close to a 3-year commitment.

For this estimate, we will use \$103/ton corn grain and \$90/ton grass legume hay, along with the appropriate minerals, as part of a diet to achieve 1.25 lbs gain/day from weaning to breeding. Dietary adjustments will then be made to carry the heifer through calving and up until the time she weans her first calf. Labor and interest on investment are also considered. Table 1 outlines the costs associated with raising a retained heifer calf through the time she weans her first calf.

Table 1. Home-Raised Replacement Heifer.

Cost Item	\$ Invested
a) Heifer value at weaning (assuming 525 lb heifer worth 90¢/lb.	472.50 (opportunity cost)
b) Feed-interest-labor weaning through breeding (year 2)	290.70
c) Feed-interest-labor breeding thru weaning of 1st calf (year 3)	346.00
Total Cost	\$1,109.80
Returns	\$ Returned
1st calf weaned (year 3) 475 lb at 90¢/lb	427.50
Net cost of raising a home-bred replacement through weaning of her first calf (\$1,109.80 - \$427.50) =	\$ 682.30

Next, let's examine the option of purchasing a bred heifer from outside the farm. The basic costs will remain the same for each production period but the difference will be the time frame required to

receive the first return from the investment. If we consider the same 3 year time frame, as outlined in Table 2, there will be 2 calves weaned from the purchased bred heifer over the same investment period.

Table 2. Purchase of a Yearling Bred Heifer

Cost Item	\$ Invested
a) Original purchase of bred yearling heifer (845 lbs)	900.00
b) Feed-labor-interest from purchase to weaning of first calf (2nd year)	346.60
c) Feed-labor-interest until weaning of 2nd calf (3rd year)	346.60
Total invested	\$1,593.20
Returns	\$ Returned
a) 1st calf 475 lbs at 90¢	427.50
b) 2nd calf 500 lbs at 90¢	450.00
	\$ 877.50
Net cost of purchased bred heifer at end of 3rd year =	\$ 715.70

A third option for consideration is purchasing a mature (4-5 year old) bred cow. Feed costs will be estimated at 80% of those calcu-

lated for growing heifers and weaned calf weight will be slightly (5%) greater. Table 3 outlines the mature cow situation.

Table 3. Purchasing Bred Mature (4-5 year old) Cows.

Cost Item	\$ Invested
a) Original purchase	1,100.00
b) Feed-labor-interest Year 1	277.25
c) Feed-labor-interest Year 2	277.25
Total cost	\$1,654.50
Returns	\$ Returned
a) Calf weaned year 1, 525 lb at 85¢	446.25
b) Calf weaned year 2, 525 lb at 85¢	446.25
	\$ 892.50
Total Net Cost =	\$ 762.00

As you can see from these comparisons, there is very little economic difference between the three situations. The bred mature cow option had the highest net cost but the original purchase cost may be slightly high. This figure could easily be adjusted to reflect any offered purchase price in a given situation. Also, all three situations make the assumption that weaned calf prices will remain relatively high over the next 3 years. Feed and production costs will vary from farm to farm but on the average, these estimates will be quite accurate. Generally, raising replacement females is more expensive than first realized by cow-calf producers.

Yearling bred heifers that can be purchased for \$850 or less would appear to be an attractive option. Also, depending on the genetic quality of the existing herd compared to that which is available on the outside, the beef producer may wish to credit some of the cost of purchasing a bred heifer to genetic improvement and herd progress.

Finally, there is no easy answer to the *raise them or buy them* question. Here are some additional thoughts to help with the decision-making process.

- Push a pencil and determine the maximum amount you can afford to pay for purchased replacements based on your own

feed, production and interest costs.

- Examine your existing genetic base and any need to expand or improve it.

- If purchasing mature cows, remember that productivity will be greatest from 4 to 8 years of age.

- Choose your sources of purchased heifers and cows carefully. The stockyard is not a good choice for the purchase of breeding cattle. One exception would be any special sales designed exclusively for breeding/replacement stock.

- Herd dispersals or small local breeders are usually a reliable source of both purebred and commercial cattle.

- If you buy bred females, get a guarantee of pregnancy as part of the purchase agreement.

- Ask about the herd health practices being used within the source herd and plan any vaccinations, boosters, etc., that will be necessary to integrate the purchased animals into your own herd.

Proper planning and sound economic analysis will help make herd expansion a productive and profitable process. Consider all available alternatives along with available genetics, time, labor and management capabilities when deciding how and when to best expand your beef cow herd.

Clinical Mastitis Records

Summarization of somatic cell counts (SCC) on DHI records has been useful to measure the extent of subclinical mastitis in the herd. Furthermore, tables have been developed on the DHI reports to evaluate the effect of stage of lactation, age and season. Review of these tables lends insight into the potential sources and management causes of subclinical mastitis and the cows that are involved. Once the trends and cows are identified, management decisions may be made to improve the control of mastitis in the herd.

While it is an excellent practice to monitor subclinical mastitis in the herd with DHI SCC, producers may have reduced the subclinical mastitis and somatic cell counts to goal levels. In these herds, management of clinical mastitis may be the major concern. The question is — "How does one objectively evaluate the extent of clinical mastitis in the herd?" Dr. Deanne Morse, dairy Extension specialist at North Dakota State University presented a paper at the 1991 annual meeting of the National Mastitis Council in Reno, Nevada, to address this issue.

The first task was to define *clinical mastitis* from an economic standpoint. On that basis, the definition is: an episode of clinical

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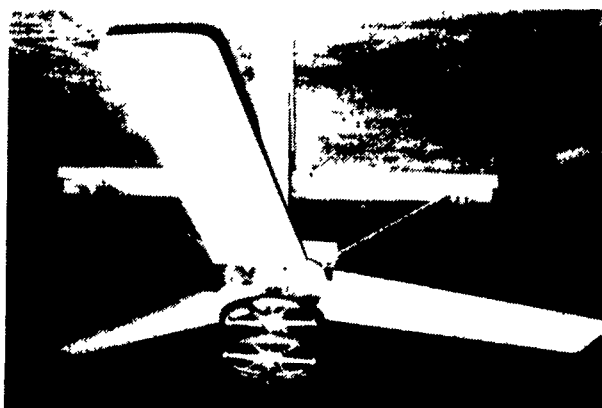
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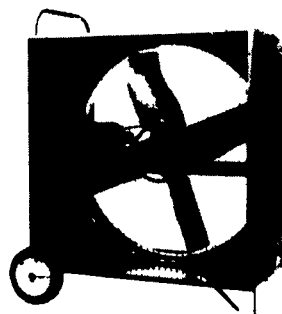


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