

Cost Containment Is Important When Raising Dairy Replacements

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I often ask dairy farmers what does it cost to raise a dairy heifer. The immediate response is—a whole bunch. After this ice breaker in the conversation, it becomes very evident that some have calculated this investment in the future productive units for their herds, whereas others have not calculated the cost for raising dairy heifers separately from the entire milking operation, or not at all.

Raising dairy replacement heifers represents a huge expense and often times 15 to 20% of the cost to the entire dairy operation. When calculated separately from lactating cows, recent estimates have placed the cost to raise a heifer from birth through calving at \$1400 to \$2000+. An individual farm's cost estimate will depend not only on costs associated with purchased feeds, veterinary supplies, and breeding to name a few, but also whether costs associated with housing and feeding facilities (depreciation costs), manure management, home-grown forages, management (unpaid or family) labor, and whether hired labor costs were included or split out from the milking operation. Over the years of cost tightening, most costs paid directly from the farm checking account have been contained. The question now becomes; how can costs associated with raising replacements be kept in line for the greatest return? In other words, what are the biggest drivers behind dairy heifer rearing costs?



Feed Cost Post-Weaning

Generally speaking, approximately half the cost for raising heifers is associated with cost of purchased and home-grown feeds. It would stand to reason that a savings in this category would reduce the cost associated with raising a heifer from birth through 24 months of age. When evaluating feed costs of older heifers, the largest cost per pound is associated with grain versus home-grown forages. If you could improve forage quality or balance rations which results in a reduction of the amount of grain being fed, a savings would be realized. For example, assuming that forage quality improved for a two-year period and you could feed 2 lbs less grain to heifers from 6 to 22 months of age, a net savings of \$83/heifer raised would result (Calculations assume a savings of \$122/heifer for grain purchased at \$250/ton and an additional cost of \$39 associated with the additional hay consumed when valued at \$80/ton). Translating this to a 100-cow herd where 20 heifers are from 6 to 12 months of age and another 40 heifers are from 1 to 2 years of age, the savings would be \$3104 yearly.

Costs Associated with Improved Growth as Baby Calves

Feeding additional milk or milk replacer results in additional growth during a timeframe when calves use feeds efficiently for growth; however, as expected, daily cost does increase. For example, assuming the calf is fed double the amount of reconstituted milk replacer or milk (2 vs 4 quarts twice daily) with a

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higher protein content, total costs may increase by approximately \$110/calf. But, when more milk /milk replacer is fed, weight gain may double or increase by almost 1 lb per day. This improvement in weight gain has been correlated with increased milk production later in life. The question then becomes, how much more milk production is needed to generate a return on this investment? Assuming a milk price of \$18 and she calves 0.5 months earlier, she would have to give 600 to 850 lbs more milk or approximately half of the improvement in production seen in multiple research studies. With these expected rates of gain, cost per pound of gain decrease from around \$4/lb gain daily to less than \$3/lb gain. Thus, calves fed more milk use your feed dollars more efficiently, resulting in growth. The key is to not lose this additional gain at or after weaning.

Watch Age at First Calving

Heifers that calve in older increase heifer raising costs. Daily costs for older heifers are higher since total feed costs are higher and have been estimated at approximately \$2/day or an additional \$60/month past 24 months of age. For our example 100-cow herd calving in 40 heifers yearly, this amounts in an additional \$2400/month when the average age of calving is greater than 24 months of age. Thus, from an economic standpoint, it behooves one to get them bred in a timely manner so that they calve and enter the milking herd by 24 months of age.

Although calving at 24 months of age saves daily maintenance costs, other reasons exist for extending the age at first calving past 23 to 24 months of age. Some milk markets penalize farmers for overages from a base production or for a spring flush of over-production. Thus, depending on one's situation, it may make sense to redistribute the number of heifers calving each month, thus holding back heifers to calve at an alternate time, to better equalize production month to month as well as milk income per month. The key is to understand that this practice is not "free", and have an appreciation as to what it is costing your dairy operation.

Raise the Appropriate Number of Heifers

In order to maintain herd size, an adequate number of heifers needs to be raised on farm, contracted or purchased. Heifers represent an investment into the future productive units of the herd and a sizable outlay of capital. For our 100-cow example herd calving 40 heifers yearly, these heifers represent \$56,000 to \$80,000 investment and for each heifer raised over those needed, it costs an additional \$1400 to \$2000. Raising 5 more heifers than needed increases rearing costs by an additional \$7000 to \$10,000. When raising heifers, the key is to have enough, but not more than needed which can easily occur with the use of sexed semen. If you have already culled out the least profitable mature cows, these extra heifers are using financial assets that can be diverted elsewhere. In the past, extra heifers could be sold for a profit but in today's market that profit may or may not be realized. The key is to frequently review the number of heifers being raised, future needs, and adjust the numbers to reflect your future needs.

Today, with the appropriate use of results from genomic-testing of females, the best heifers can be raised as replacements and the remainder sold early in life. Thus, one can target raising the number of heifers truly needed as well as retaining those heifers with the greatest genetic potential. In addition, the lower end of the milking herd can be bred to beef sires selected to produce quality beef-on-dairy crosses with the carcass characteristics needed in the packer industry. With the appropriate genetics, marketing, and rearing, these beef-on-dairy steers can add a premium when selling these steers and a potential alternative cash income for dairy herds.

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The Bottom Line

Heifers represent the future profit-generating assets for a dairy business as well as a sizeable investment of capital. To ensure that these financial assets are used wisely and heifers are available to replace culled cows, dairy business managers need to review feed costs, weight gain, weight gain per unit of feed intake, age at calving, and whether the appropriate numbers of heifers are being raised to see if they are on target for the goals of the dairy. With profit margins very tight, evaluating dairy heifer rearing programs are as important as reviewing costs and income generated by the dairy's milking herd.