

Focusing on Farm Profits: Replacement Management

Peter Tozer, Sarah Roth, and Jeffery Hyde, Agricultural Economics Extension, Penn State
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The cost of rearing replacements affects the current profitability of the dairy business in the future. Replacement heifers cost money to raise and they do not contribute to the current profit situation of the dairy business. This means that the replacement enterprise is a cost center. This does not mean that heifers should be reared for the least cost. Rather, replacement heifers need to be raised such that the animal entering the milking herd is the best quality animal, an animal that meets the productive goals of the producer at the lowest cost. Having an animal that meets the productive goals of the business may mean that the animal costs more to raise before she produces milk, but in the long term the animal may contribute more income than a heifer reared at the least cost. Producing more income should more than offset the extra cost of rearing that animal in the first place. That is, the payoff from the investment in rearing heifers depends upon how the farmer invests his time and money in rearing the animals.

To reduce the costs of rearing heifers the overall rearing system needs to be evaluated, starting at the maternity pen and ending when the heifer enters the milking string. Many problems relating to productivity and growth rate can be caused by unclean or poorly prepared maternity pens. Scours and other early life diseases impact the growth of heifers. Reducing the risks of heifers becoming affected by these diseases will cost money, but the tradeoff in early or higher milk production because of better growth rates should offset these costs.

The next stage to examine is the preweaning management of the heifers. The ideal system is to reduce as soon as possible the use of a higher priced milk replacer and replace it with a well-balanced grain-based feed without any forages. This is particularly important, as research has shown that a feeding program that does not include forages in the preweaning stage stimulates rumen development and contributes to rapid growth rates after weaning. The decision of when to wean should be based on grain intake and not on age. The recommendation for weaning is that the heifer should be consuming at least 2 pounds of grain per day for 3 consecutive days. This is one stage where costs can be reduced directly, through substituting milk replacer with grain. This can increase the profitability of the dairy business immediately.

After weaning, it is essential that the rations for the growing heifers be balanced for energy and protein to ensure sufficient protein for skeletal growth, but not excess energy, which could jeopardize future milk production due to fat accumulation in the mammary gland. It is possible to save money in housing costs by keeping growing heifers in low-cost housing (i.e., bank barns or group pens), or even on pasture. However, to ensure that these heifers can produce to their potential it is necessary to monitor growth rates (height and weight), to ensure adequate structural growth at breeding. While this group of heifers tends to be forgotten, it is important to observe them, maybe not as much as the preweaned group, but sufficiently to achieve acceptable growth rates. This check on growth can increase the profitability of the operation through earlier ages at first calving and relatively high milk production.

Once the heifers have reached an adequate size, not age, for breeding, they should be bred as soon as possible. This will reduce the age at first calving, which has a twofold benefit to the producer. First, the heifer is producing milk earlier meaning that the dairy producer gets an earlier return on the investment in the heifer. Secondly, reducing the age at first calving means fewer replacements are needed to maintain herd size. Therefore, the producer can lower the cost of the replacement heifer herd or may be able to replace cows from the milking herd earlier as more heifers are available.

The final part of the system to examine is the bred heifers. Once again, this is a group where some housing costs can be saved. These heifers can be kept out on pasture or in a low-cost facility, but again monitoring of growth and health is important for future productivity. For this group, ration formulation is important. Animals in this group need nutrients for their own growth as well as for fetal growth. However, a balanced ration is imperative. The ration should not have surplus energy above basic requirements, as this can lead to heifers gaining excess body condition that could lead to calving difficulty and reduced profitability.

A final note regarding ration formulation for heifers: growing animals require certain levels of nutrients within their ration and feeding excessive nutrients reduces the profitability of the dairy business in several ways. The first is that nutrients cost money and feeding heifers to their requirements and not overfeeding will save money. The second cost, and this refers particularly to protein and phosphorus, is that overfeeding these nutrients can lead to nutrient management problems, as any nutrients fed above requirements are excreted and the dairy producer needs to remove these nutrients from the dairy system.

Reducing the costs of rearing replacements heifers without jeopardizing future productivity is the key to a successful heifer enterprise. But more importantly, having heifers enter the milking herd in optimal condition and of adequate size can increase the profitability of the dairy business. Costs can be saved immediately and in the long term by judicious management strategies and tactics. A note to remember is that growing heifers achieving a higher desired rate of gain may cost more on a daily basis, but on a total rearing cost basis the costs will be lower. So it is important for a dairy producer to recognize that there are tradeoffs to be made when looking at the management of the replacement heifer enterprise.