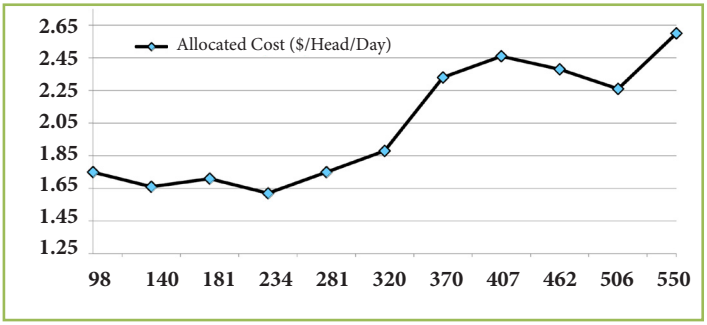
Pasturing Reduces Dairy Replacement Heifer Costs

by David Combs, University of Wisconsin

The goals for raising dairy heifers are pretty straightforward – raise a healthy animal and have her weigh ~1,200-1,300 lbs when she calves at 22-24 months of age. A Holstein heifer should average a relatively modest 1.7 lbs/day gain from weaning through calving to meet these goals. But raising dairy heifers is an expensive proposition. Whether a dairy producer raises them on the farm or has them reared by a custom grower, heifer rearing usually accounts for the second largest operating expense next to feed costs. Wisconsin researchers (Zwald et al., 2007) estimated that the average variable cost to raise heifers from birth to calving was ~$1,323 in 2007 and had increased by ~2.3% per year since 1999. If one assumes that the 2.3% per year inflation rate remains constant, 2010 variable costs for raising heifers are >$1,400/head. Costs of raising heifers also increase as they become heavier. A Wisconsin survey (Figure 1) indicates it costs over $2.25/day to raise a heifer from ~800 lbs to calving.

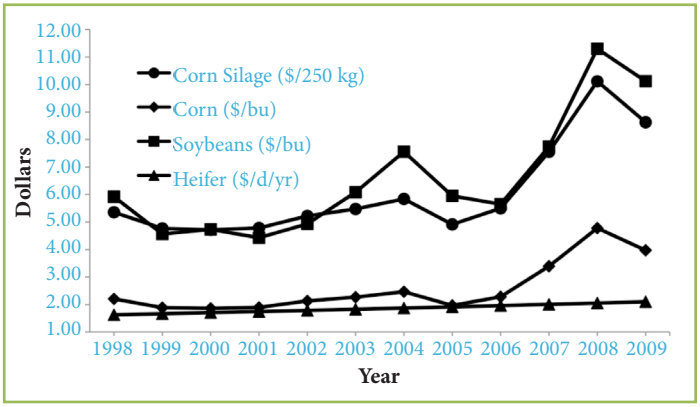
These data were based on the typical confinement-based heifer rearing operation with corn silage, alfalfa silage and corn grain as the primary feeds and include labor. One of the major factors contributing to the rising cost of heifer rearing has been the increased cost of grains and harvested forages in the Midwest (Figure 2). The rapid increase in the market price of corn silage, corn and soybeans has pushed feed costs to well over half of the total cost of rearing dairy replacements (Kruse, 2009).

Figure 1. ***Allocated cost ($/hd/d) of raising heifers based on the effect of weight (kg) on variable and fixed costs associated with raising one heifer on Wisconsin dairy and custom heifer operations (Zwald, 2007).***



Dairy producers and researchers are evaluating alternatives to reduce the cost of raising dairy heifers. Grazing heifers, especially yearlings, appears to be an attractive strategy. In Minnesota and Wisconsin, the grazing season is relatively short so producers need to determine if the reduced feed costs due to grazing are substantial enough to justify moving cattle from confinement to pasture during the summer. University of Minnesota-Morris workers (Rudstrom, 2002) compared costs of raising heifers in confinement to grazing alfalfa pastures during a 145-day grazing season and found that while grazing, feed costs were reduced from $0.73/head/day to $0.28/day. In the two year study, they reported that the net savings after all variable costs were considered was $82.25/head for the heifers that were grazed as compared to the heifers raised in a confinement system for the 145-day period. The heifers raised on pasture were fed supplement in this study and gained similarly (2.0 lbs/day) as the heifers raised in confinement. UW-River Falls workers (Cosgrove, 2010) have been measuring performance of 15-24 month old Holstein heifers with a management intensive grazing program on perennial forage pastures with no grain supplements. In their studies, heifers gained ~1 lb/day without any supplement in 2009 and ~1.4 lbs/day in 2010. The difference in performance from year to year was due to rainfall. Their work suggests that adequate high quality pasture can supply nearly all of the energy and protein that older heifers need, but that performance and pasture forage availability must be monitored closely.

Figure 2. ***National average cost of corn silage, corn grain and soybeans from 1998-2009 (source: USDA National Agricultural Statistics Service), and the cost of rearing dairy replacement heifers ($/day) based on Zwald et al., 2007.***



As part of a larger study, UW-Madison researchers (Lopes et al., 2010) monitored performance of yearling heifers raised in confinement or on Italian ryegrass pastures in 2009. Heifers in confinement were fed a corn silage-, alfalfa- and corn grain-based TMR while grazed heifers received only 1 lb of a corn grain/mineral mix in addition to the pasture. The Italian ryegrass pastures were planted in early spring and were ready to graze in mid-June. Thirty two yearling heifers were grazed on the 40 acres of pasture until October 2009. An Intensive Rotational Grazing system was used in which fences were moved twice weekly and swards were grazed approximately every 25-30 days. In this trial, heifers on pasture gained at about the same rate as the heifers in confinement. The average daily gain for both groups was 1.6 lbs/day, not statistically different (Figure 3). No differences in body condition, health or subsequent lactation performance were seen between the heifers that grazed or were raised in confinement. Economic analysis of the trial is still being tabulated.

The bottom line is that as feed prices continue to climb, dairy producers and custom heifer raisers should take a closer look at grazing options. Even with relatively short grazing seasons in Minnesota and Wisconsin, the potential to substantially reduce costs, especially in yearling heifers, appears to be substantial.

References

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Figure 3. *Performance of yearling heifers raised in confinment (TMR) and on Italian Ryegrass pastures (Grazing) from June to October, 2009 (Lopes et al., 2010).*