

Dairy Heifers in a Grazing System

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Dry cows, growing heifers and calves can make effective use of pastures. But they, like lactating cows, will utilize pastures most effectively when they are rotated frequently and the forage plants are given time to recover before they are regrazed. Intensive pasture management, which need not be expensive, pays off in pastures that are more productive and in livestock that meet high expectations for growth and health.

Research in this article addresses the question of health, growth and economy of grazing heifers or growing them in confinement.

The first study compared the performance of springing heifers grazing cool season grass pastures or confined in a feedlot where exercise was limited. Health and performance of the heifers housed in a tie stall was monitored after calving.

Springing heifers grew faster in the feedlot, although intakes were limited to restrict gains to 2.33 lb/day. Heifers on pasture gained 1.69–1.75 lb/day. Forage supplementation was required at season end under conventional grazing as grass supply ran out. Rotationally grazed heifers had an adequate supply of feed without supplementation. Heifers managed on pasture systems maintained higher intake from 2 weeks pre-partum than those in confinement. Rotated heifers tended to have more consistent pre-partum intakes. Confinement heifers had more dystocia and health problems at calving. A number of confinement heifers did not complete first lactation. During lactation, heifers raised on pasture consumed more dry matter. Average daily dry matter intake during lactation was 45.2, 43.2 and 40.4 lbs/head for heifers on continuous grazing, rotational grazing and feedlot systems, respectively. Raising regimen did not affect milk production of the healthy heifers that completed lactation.

A second study compared feedlot rearing of pre-breeding heifers with heifers grazing an alfalfa stand that was 5-7 years old over the three years of the research. Three questions related to intensive rotational grazing for dairy heifers were addressed: 1) Can growing dairy heifers attain a target 2 lbs/head/day in an intensive rotational pasture system over the grazing season? 2) How do costs of the pasture system compare to a feedlot system for growing dairy heifers? 3) Does raising dairy heifers on pasture generate enough returns/acre to justify converting corn-soybean land into pasture?

Research utilized 58-72 heifers per group (> 400 total) in the three years. Pastures and feedlot were located on a commercial heifer grower's farm in central Minnesota. Heifers under both management systems gained 2 lbs/head/day, reaching breeding weight by the end of the grazing season. Feedlot heifers were fed a total mixed ration. Grazed heifers were fed up to 2 lb/day of supplement for part of the grazing season. Costs/day averaged \$1.32 for the feedlot and \$0.93 for the grazing system.

Table 1. Per acre returns for different crops.	2000	2001	2002	3 yr. Average
Corn	\$ -18	\$ -56	\$ 30	\$ -15
Soybeans	\$ 35	\$ 16	\$ 39	\$ 30
Alfalfa Hay	\$ 81	\$ 79	\$114	\$ 91
Grazing Dairy Heifers	\$123	\$ 26	\$215	\$121

An economic model was used to compare grazing dairy heifers to other cropping alternatives. Results show that well managed pastures are very competitive with other crops (Table 1).

Complete papers describing the projects in detail are available from the authors. Information for pasture development and management is published at <http://cecommerce.uwex.edu/pdfs/A3529.PDF> or **Pastures for Profit: A Guide to Rotational Grazing** (A3529) from the Wisconsin or Minnesota Extension Service.

Pasture can be a cost effective source of feed and housing for dairy heifers. The pastures should have productive, high-quality legumes and grasses organized in paddocks that are grazed 3 days or less with rest periods before being grazed again. Heifers should be monitored regularly to determine supplementation and general health needs.