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Raising Dairy Heifers On Pasture

CURRENT TOPIC

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June 2000

Heifers are the foundation of a dairy enterprise and replacements represent a significant investment. Information about raising replacement heifers on pasture is less commonly available than information about raising them in confinement with harvested feeds. For general information on raising heifers, refer to Extension materials such as *Raising Dairy Replacements* (1) or the enclosed *Agricultural Alternatives: Dairy Heifer Production*. In countries like New Zealand, where raising heifers on grass is common, more information exists.

The rumen of pasture-raised heifers tends to be bigger than confinement-reared, which allows for a larger feed capacity and higher milk production (2).

Traditionally, dairy farmers have raised their own heifers, but custom-raising of heifers is now becoming an enterprise in its own right. This can be an opportunity for supplemental income or a farm's main operation.

Raising cattle on pasture necessitates management decisions about grazing. Controlled grazing or management-intensive rotational grazing (MIG) of pastures can increase plant and animal production. Controlled grazing involves grazing and then resting several pastures in sequence. The rest periods allow plants to recover before they are grazed again. Although an intensive system has initial costs of electric fencing and watering investments as well as increased management, many farmers report better profitability. There is a growing body of information on grazing with dairy cattle but it focuses on the milking herd—less information is available specifically on rotational grazing for replacement heifers.

Please refer to the following ATTRA materials for information on pastures and grazing:

- *Assessing the Pasture Soil Resource*
- *Nutrient Cycling in Pastures*
- *Introduction to Paddock Design and Fencing-Water Systems for Controlled Grazing*
- *Matching Livestock and Forage Resources in Controlled Grazing*
- *Meeting the Nutritional Needs of Ruminants on Pasture*
- *Sustainable Pasture Management*
- *Grass-Based and Seasonal Dairying*
- *Rotational Grazing*

When planning a supplementation program, first determine the type and amount of forage the animal is eating, and then consider the nutritive content of the forage. Most cool season grass-legume pastures are higher in crude protein than is needed by the animal—in this case, a small amount of grain or bypass protein will stimulate gain. Native warm-season grasses and some legumes, such as birdsfoot trefoil, tend to be less soluble in the rumen and have a higher bypass protein availability. One can aim for the same heifer growth rates on pasture that are possible with confinement feeding of grain.

National Center for Appropriate Technology
The ATTRA Project is administered by the National Center for Appropriate Technology, under a grant from the USDA's Rural Business-Cooperative Service.

Research at the University of Missouri Southwest Center (3) on the proper grazing techniques, forage systems and supplementation regimes needed to best grow dairy heifers showed that rotational grazing systems and supplementation in the fescue belt provided 1.8 pounds of daily gain on heifers from 0 to 24 months. Enclosed is an article, "Study Shows Fast Gains Possible on Heifers," that discusses getting pastured heifers to the milking herd by 24 months.

Local and state Extension Service or Natural Resource Conservation Service (NRCS) personnel may have information on rotational grazing and grass dairying and can help choose forage species and varieties which would work best for a producer in a grazing program. *The Stockman Grass Farmer* (4) is a magazine "dedicated to profit from grassland agriculture" and has many articles dealing with grazing. *The Stockman Grass Farmer* holds workshops on grass and seasonal dairying. Refer to the section called "The Grass Farmer's Bookshelf" in every issue of *The Stockman Grass Farmer* for useful books about forages and forage management. The magazine's editor, Allan Nation, recommends contract-raising of heifers as a high-value enterprise particularly well-suited for small acreages.

The Internet listserver graze-l is an excellent resource for grazing information, including producers who are raising heifers on pasture. To subscribe send an email to <listserv@taranaki.ac.nz>. In the body of the email, type "subscribe graze-l". Graze-l also has a Web page with an archive of past discussions: http://grazel.taranki.ac.nz.

Custom heifer-raising

It is increasingly common for heifers to be raised on specialty farms. They are usually raised by contract in joint-venture arrangements. Hiring out the raising of replacement heifers is advantageous to a milk producer for at least two reasons: it saves labor on the dairy farm and frees all the forage or other feed to be utilized by the milk-producing animals. However, mingling heifers from several different farms is a concern for health reasons.

Sample contracts are enclosed—one was developed by graziers Dick and Kim Cates (5). It is important to decide in advance which parties are responsible for veterinary costs, feed, transportation, mortality, insurance, semen, breeding etc.

Custom-raising of heifers is not recommended as an enterprise for beginning farmers due to the level of knowledge and experience needed to manage young animals. Grazing expertise is useful since good use of pasture is a way to reduce costs. Many retired dairy farmers consider custom heifer raising. Finding heifers to raise may be difficult at first. A good reputation and track record will be assets in securing animals to raise. Breeding expertise is also important since it is critical to time breeding appropriately to get animals into a milking herd.

Farmland (6) offers a Herd Maker Heifer Alliance program for producers who want to retain ownership when another producer is raising their heifers. The Alliance serves as a quality control facilitator. Farmland has partnered with the New Zealand Grazing Company (NZGC) which has a long history of successful heifer-raising expertise, and is providing computer software for financial and inventory control as well as a monitoring service for weight and height. An information packet is enclosed.

Tom Wrchota (7) in Wisconsin received a SARE producer grant to use MIG to custom graze heifers and summarized his results in a report called "Heifers on Grass Research Project." He raised 38 heifers on 25 acres. The heifers in his study arrived at the farm weighing an average of 730 lbs. and left the farm weighing 965 lbs., gaining an average of 1.86 pounds per day during the 4 month period. A budget from his study is enclosed showing variable and fixed costs.

Another option is for producers to buy newborn heifers, raise them on pasture, and sell them as bred replacements. More risk is involved since heifers may not breed and may not sell.

Costs of raising heifers

It is especially important for farmers to know the costs of raising heifers because it may be less expensive to hire someone else to do it.

A series of articles in *Hoard's Dairyman* in the spring of 2000 summarized a study conducted by dairy scientist Pat Hoffman (8) and others at the University of Wisconsin. The study showed that the average cost to raise a heifer is $1,360—or $1.69 per head per day. The costs are broken down into the following:

- Pre-weaned calf cost averaged $2.69 per day.
- 200- to 700-pound heifers ranged from an average of $1.22 to $1.52 per day.
- The average daily cost at breeding (800 to 900 pounds) ranged from $1.75 to $1.90.
- Average daily costs increased to $2.06 per day for the 1,200-pound heifer. (9)

The herds surveyed were organized into 3 groups (herds under 75 cows, 75-150 cows, and over 150 cows) in order to examine the affect of herd size on labor and other factors (10). Labor is one of the biggest costs in heifer-raising. The lowest-cost producer used group feeding systems such as barrel feeding from 48 hours of age—a big labor-saver. The more costly producers had several periods in the life of the animal when it was fed and housed individually. Feed costs accounted for 60% of total cost of raising heifers (11).

Additional resources include the Professional Dairy Heifer Growers Association (12). Denis Turner (13) is an officer in the association and a custom dairy grower in Missouri. Dr. Wayne Kellogg (14) at the University of Arkansas Department of Animal Science researches raising dairy heifers on pasture.

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2) Nation, Allan. 1994. Dairy replacements more profitable than beef stockers. The Stockman Grass Farmer. October. p. 6–9.

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3) Southwest Missouri Center
Route 3, Box 88
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4) Stockman Grass Farmer
P.O. Box 2300
Ridgeland, MS 39158
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5) Dick and Kim Cates
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608-588-2836

6) Farmland
P.O. Box 7305
Kansas City, MO 64116
816-459-5407

7) Tom Wrchota
5200 O'Reilly Road
Omro, WI 54963

8) Pat Hoffman
Marshfield Agricultural Research Station
8396 Yellowstone Drive
Marshfield, WI 54449-8401
715-387-2523
715-387-0479 fax

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11) Poisson, Irv, Darrell McCauley, and Randy Knapp. 2000. Real herds, real heifers: Feeding heifers: What should it cost? Hoard's Dairyman. May 10. p. 334.

12) Professional Dairy Heifer Growers Association
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13) Denis Turner
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Wrchota, Tom. No date. Heifers on Grass Research Project. Omro, WI. p. 13.

Further Reading:

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Garrett, Jennifer and Richard Crawford. 1994. Demonstration of alternative forage systems for improved dairy heifer development. 1994 Research Report, Southwest Missouri Center, University of Missouri-Columbia. p. 6–13.

The ATTRA Project is operated by the National Center for Appropriate Technology under a grant from the Rural Business-Cooperative Service, U.S. Department of Agriculture. These organizations do not recommend or endorse products, companies, or individuals