

# Raising Dairy Heifers on Pasture

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This publication discusses the costs and considerations in custom raising replacement dairy heifers on pasture, and provides a list of additional online resources.



Photo by Esben Nørgaard.

## Introduction

Heifers are the foundation of a dairy enterprise and replacements represent a significant investment. Information about raising replacement heifers on pasture is becoming more available as producers begin to adopt grass-based systems to alleviate energy costs associated with raising feed crops. For general information on raising heifers, refer to Cooperative Extension Service materials such as *Raising Dairy Replacements* or *Agricultural Alternatives: Dairy Heifer Production*, as referenced in the **Online resources** section.

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 animal production and maintain resilient, diverse and nutritious pastures. 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. Please refer to the **Related ATTRA Publications** for more information.

When planning a feed supplement program for pastured heifers, first determine the type and amount of forage the animal is eating, and then consider the nutritive content of the

## Related ATTRA Publications

Nutrient Cycling in Pastures

Paddock Design, Fencing, and Water Systems for Controlled Grazing

Ruminant Nutrition for Graziers

Pastures: Sustainable Management

Cattle Production

Pasture, Rangeland, and Grazing Management

Dairy Production on Pasture

Rotational Grazing

Dairy Resource List: Organic and Pasture-Based

Pasture, Rangeland, and Grazing Management

Grazing Contracts for Livestock

forage. Most cool-season grass-legume pastures provide more 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. Producers can aim for the same heifer growth rates on pasture that are possible with confinement feeding of grain.

University of Minnesota researchers have documented gains and costs of raising dairy heifers in a feedlot versus raising them on pasture. In their study, the feedlot heifers had an average daily gain (ADG) of 2 pounds per head while the pasture heifers had an ADG of 2.04, with a total cost per head per day of \$1.52 versus \$0.95 respectively. The study, *Tale of Two Heifer-raising Systems: Feedlot and management intensive grazing go head to head* by Margot Rudstrom, is available online, and is referenced below in the **Online resources** section.

Local and state Cooperative Extension Service or Natural Resources Conservation Service (NRCS) personnel may have information on rotational grazing and grass dairying and can help choose forage species and varieties that work best for a producer in a grazing program. In addition, *The Stockman Grass Farmer* is a magazine “dedicated to profit from grassland agriculture” and has many articles dealing with grazing and sponsors workshops on grass management 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.

## Custom heifer raising

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

Custom raising of heifers is not recommended as an enterprise for beginning farmers because of the level of knowledge and experience needed to manage young animals. Grazing expertise is useful since pasture and grazing management are key to enterprise sustainability and profitability. Finding heifers to raise may be difficult at first, but a good reputation and track record will be assets in securing animals. Breeding expertise may also be important depending on contractual obligations.

Tom Wrchota in Wisconsin received a Sustainable Agriculture Research and Education (SARE) producer grant to custom graze heifers and summarized his results in a report called *Developing Dairy Heifers on Pasture*. According to the SARE report, “the most surprising aspect about the development and successful implementation of a seasonal custom heifer grazing program was: the grant program started with very modest amounts of capital, almost no experience and a limited cash/no debt strategy.” The SARE report can be accessed online at [www.sare.org/reporting/report\\_viewer.asp?pn=FNC93-040&ry=1995&rf=1](http://www.sare.org/reporting/report_viewer.asp?pn=FNC93-040&ry=1995&rf=1).

## Costs of raising heifers

The costs associated with a custom heifer raising enterprise include labor, feed, facilities and fencing and veterinary costs. Feed costs and labor costs are usually the largest costs to a custom grazer. High-quality pasture and good grazing management can help reduce these costs and ensure a profitable, sustainable enterprise.

### Accessing your local Natural Resources Conservation Service (NRCS) and Cooperative Extension Service offices

NRCS and Extension phone numbers can be obtained in the federal and county government sections, respectively, of your local telephone directory. Also, you can access local NRCS and Extension directories on the following Web sites:

Natural Resources Conservation Service  
<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>

Cooperative Extension Service  
[www.csrees.usda.gov/Extension/index.html](http://www.csrees.usda.gov/Extension/index.html)

*The Economics of Heifer Contracting*, by Robert Moore, Joseph Beiler and Gary Schnitkey of The Ohio State University, was developed to assist producers in estimating costs and charging to cover costs from a custom heifer raising enterprise, and can be accessed online at <http://ohioline.osu.edu/as-fact/0006.html>.

## Online resources

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The use of pasture and grazing management to raise dairy heifers is becoming more prominent in the industry, and the following online resources will assist the interested producer in planning and managing this risky but often rewarding enterprise.

Anon. 2008. Labor Efficient Pasture Management. Penn State Extension. Accessed June 2009. [www.extension.org/pages/Labor\\_Efficient\\_Pasture\\_Management](http://www.extension.org/pages/Labor_Efficient_Pasture_Management)

Beiler, Joseph. 2000. Dairy Heifer Contracting: Motives, Forms, and Arrangements. The Ohio State University Extension Fact Sheet AS-0005-00. <http://ohioline.osu.edu/as-fact/0005.html>

*Identifies important points a producer should consider when examining heifer contracting. Three topics are discussed: reasons for entering a contract, forms of contracting and the arrangement between the producer and the grower.*

Fischer, David B., Michael F. Hutjens and Edward N. Ballard. 2005. Pasture-Based Feeding Programs for Dairy Cattle. University of Illinois Extension. Accessed June 2009. [www.livestocktrail.uiuc.edu/dairynet/paper-Display.cfm?ContentID=7160](http://www.livestocktrail.uiuc.edu/dairynet/paper-Display.cfm?ContentID=7160)

Hedtcke, Janet and Josh Posner. Rotational Grazing with Dairy Heifers on WICST: b. Animal Performance Summary. Accessed June 2009. UW-Madison Center for Integrated Agricultural Systems. [www.cias.wisc.edu/wicst/pubs/rotate\\_b.htm](http://www.cias.wisc.edu/wicst/pubs/rotate_b.htm)

James, Robert E. Nutrition of heifers while on pasture. Dept. of Dairy Science, Virginia Tech. <http://128.118.11.160/dairynutrition/documents/jamespastheif.pdf>

Mongeon, Mario, et al. 1998. Considerations for Custom Raising Dairy Heifers. Ontario Ministry of Agriculture, Food, and Rural Affairs. Accessed June 2009. [www.omafra.gov.on.ca/english/livestock/dairy/facts/98-059.htm](http://www.omafra.gov.on.ca/english/livestock/dairy/facts/98-059.htm)

Moynihan, Meg (ed). 2006. Organic Production and Custom Heifer Raising. From Dairy Your Way. Minnesota Department of Agriculture. [www.misa.umn.edu/vd/publications/DYW\\_Ch5\\_Ch6.pdf](http://www.misa.umn.edu/vd/publications/DYW_Ch5_Ch6.pdf)

Roth, Sarah, Jud Heinrichs and Coleen Jones. 2008. The Pennsylvania State University. Dairy Heifer

Contracting Fundamentals. [www.extension.org/pages/Dairy\\_Heifer\\_Contracting\\_Fundamentals](http://www.extension.org/pages/Dairy_Heifer_Contracting_Fundamentals)  
*Outlines the advantages of using contracts and describes the components that custom heifer growers may want to include in their own contracts.*

Rudstrom, Margot. 2002. Tale of Two Heifer-raising Systems: Feedlot and management intensive grazing go head to head. Dairy Initiative Newsletter. Vol. 11, No. 1. University of Minnesota. [www.ansci.umn.edu/dairy/dinews/11-1-heifer-raising.htm](http://www.ansci.umn.edu/dairy/dinews/11-1-heifer-raising.htm)

Sanson, Ron, et al. 2002. Growing Dairy Heifers in Southwest Iowa. Leopold Center for Sustainable Agriculture. Accessed June 2009. [www.leopold.iastate.edu/research/grants/2002/1999-11\\_Dairy\\_Heifer\\_Production\\_%5B\\_Animal\\_Mngt\\_&\\_Forage\\_%5D.pdf](http://www.leopold.iastate.edu/research/grants/2002/1999-11_Dairy_Heifer_Production_%5B_Animal_Mngt_&_Forage_%5D.pdf)

*Based on the experiences of the limited number of cooperators in the project, this is a high-risk operation with minimal financial returns to the farmer. Problems encountered were the source and price of quality dairy heifers in the spring, what type of arrangement the producer could make to market the animals at the end of the pasture growing season and the variability of pasture production in southwest Iowa.*

Stockman Grass Farmer Magazine  
PO Box 2300  
Ridgeland, MS 39158-9911  
1-800-748-9808  
[www.stockmangrassfarmer.net/index.html](http://www.stockmangrassfarmer.net/index.html)

UMCE Pasture Management Home Study: an Online Course. University of Maine Cooperative Extension. [www.umaine.edu/umext/pasture/index.htm](http://www.umaine.edu/umext/pasture/index.htm)

*Web-based lessons on planning a grazing system, plant species selection, fencing systems, weed management, grazier's arithmetic, managing for a year-long forage supply and water systems.*

University of Minnesota Dairy Extension Custom Heifer Raising Contracts Page [www.extension.umn.edu/dairy/business/customheifer.htm](http://www.extension.umn.edu/dairy/business/customheifer.htm)

*A page of links to custom heifer raising contract resources, including contracting fundamentals, economics, forms, heifer raising preferences and more.*

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This publication is available on the Web at:  
[www.attra.ncat.org/attra-pub/dairyheifer.html](http://www.attra.ncat.org/attra-pub/dairyheifer.html)  
or  
[www.attra.ncat.org/attra-pub/PDF/dairyheifer.pdf](http://www.attra.ncat.org/attra-pub/PDF/dairyheifer.pdf)

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