

Investigation of the economic feasibility of pasture-based dairy operations in northwest Iowa

Abstract: Starting a dairy operation can be a feasible option for beginning farmers. This project explored what would make pasture-based or conventional dairying profitable for interested producers.

Question & Answer

Q: What are some additional options that might help northwest Iowa dairy farmers be more profitable?

A: This project studied a herd and farm management model that offers another strategy to achieve profitability through reducing costs and improving cow longevity. The findings suggest that a pasture system used in conjunction with conventional free stall–stored feed systems may be a workable herd/farm management strategy for the owners of herds ranging in size from 50 to 200 cows.

Background

A growing dairy industry offers economic development potential for Iowa. The investigators added to the current body of knowledge about the full range of dairy operation options for Iowa.

In northwest Iowa's dairy community, the prevailing assumption is that staying viable in the dairy business involves operating a confinement system of some sort (either free stall or compost barn with exclusive use of stored feeds). However, there is evidence that pasturebased dairies in northeast Iowa and Wisconsin have been profitable, and are feasible, lower-cost start-up options for new farmers. This project looked at pasture-based systems in northwest Iowa to see if they could be cost-effective or financially feasible and what role is played by higher land prices and prevailing agricultural practices in the region. Key questions asked by the project: Can a pasture-based dairy in northwest Iowa be a profitable operation for smaller-sized existing farms, or for beginning farmers with modest capital resources, given the region's land prices, dairy infrastructure, and milk markets?

Approach and methods

The project leaders gathered information about pasture dairies from previous work done by Larry Tranel of ISU Extension (2005), and from direct visits to northeast Iowa pasture dairy farms. They also interviewed two owners of pasture-based dairies currently operated in northwest Iowa. Using dairy budget information for conventional herds in Iowa and northwest Iowa, they established



View of Stensland herd resting on hillside on pasture ground situated between crop ground and barn site

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realistic costs and income levels for conventional dairies in the region. The next step was to collect budget information from pasture-based dairies, and compare these figures with conventional budgets to determine key similarities and differences, and to agree on factors that make pasturebased dairies economically feasible. Finally, they obtained budget information from three conventional herds in northwest lowa. From these data, they developed hypothetical case studies to demonstrate how a pasture-based enterprise would be a feasible add-on or a potential transition for a smaller-sized northwest lowa dairy owner seeking to work with a beginning farmer, or become more profitable without expanding.

Results and discussion

The pasture-based dairy system with the most promise utilizes pasture for some of the forage needs, and uses stored feeds in the winter season as well as to supplement the ration during the growing season. Wisconsin researchers describe this as a "mixed feed" system. This system offers the most potential for existing owners of small dairy operations.

Analysis of two pasture-based mixed feed dairy farms operating in northwest Iowa reveals that they are profitable and economically feasible. The pasture system offered advantages such as increased cow longevity, perceived good herd health, reduced cull rate, good reproductive performance, opportunity for additional income from sale of extra cows, and savings due to reduced field crop expenses (fuel, manure hauling) for the pastured ground. The observed pasture system advantages carry a value of \$200 more per cow compared to the budget for a similar-sized conventional dairy in northwest Iowa.

Both farms have factors that contributed to their successful startup and operation:

• Low fixed costs achieved by low start-up debt and low capital investment,

• Access to facilities and/or land at lower than market rates due to assistance from family resources,

• Maintenance of herd size at a level to match facility and family labor resources, and

• The additional component of pasture use in the growing season was compatible with herd management practices in terms of cow housing, milking, rations, herd health and reproduction programs commonly used in northwest lowa dairying.

A mixed feed pasture system also holds promise for beginning farmers, provided that arrangements are made to minimize debt and capital costs through access to land, cow housing, milking facilities, and cow purchases at lower than market rates. Starting a new farm under typical beginning farmer circumstances would carry an estimated fixed cost of \$1,081/cow, which is not viable. If fixed costs can be held to \$315/cow, the enterprise is more likely to succeed.

Conclusions

It is not economically feasible to start a completely new 50- to 100-cow dairy, either pasture-based or conventional, when the startup process requires purchase or rent of land at current rates, construction of housing and milking parlor, purchase of equipment, and purchase of cows.

It is economically feasible to establish a pasture-based dairy, IF the owner/manager is able to begin the enterprise with lower costs from some or all of these options:

Lower rates for land rent for pasture paddocks,

• Utilization/upgrade of existing facilities to avoid construction costs for new buildings,

• Acquisition of cattle at lower than market rates via low-interest loans, and/or via phased-in startup purchase of young stock two years before milking operations begin, and

• Ability to become established as an organic producer to obtain higher payments for milk.

Impact of results

The results of the project are significant for two audiences: those with low equity seeking to start a dairy farming operation and those who currently own a small dairy farm and need strategies to stay competitive and



View of Lee Van Grouw's dairy that combines elements of conventional freestall-parlor system with pasture system

profitable. While the increase in large farms (800+ cows) gives a big boost to regional and state economies, the majority of farms in Iowa and northwest Iowa are not large (50 to 300 cows). Keeping these farms in operation as well as helping beginning farmers will contribute to the state's economic growth. (See Garcia and Kalscheur, "Dairies and Economic Development" and Conlon, "Dairy Cows are Rural Economic Development Engines" for more information.)

The economic activity generated by dairy farming and dairy processing carries a high economic multiplier value. According to a study from Cornell University, the direct, indirect, and induced income associated with the dairy industry is higher than for other production agriculture sectors. The dairy industry is cited for having an income multiplier of 2.29, which means that for every \$1.00 of income generated by dairy, \$1.29 of income is generated in other, associated industries. The dairy industry also carries a high employment multiplier (1.88). This type of information frequently is used to encourage dairy startups and relocations, or to estimate the value of existing operations.

The results of this project illustrated that a pasture-based management system can be a viable financial strategy for a smaller herd, and should be considered as an option for

For more information, contact Chris Mondak, ISU Extension-Sioux County, 400 Central Avenue NW, Suite 700, Orange City, Iowa 51041; (712) 737-4230, e-mail cmondak@iastate.edu a herd owner seeking to stay profitable without expanding herd size or facilities. Also, adding a pasture-based herd to an existing dairy operation may allow a beginning farmer to enter the industry and could result in a significant boost to the region's economy.

Education and outreach

There were three target audiences for information transfer from the project.

• Beginning farmers—information will be shared with those already working with this group, such as the ISU Beginning Farmer Center, Iowa Farm Bureau Federation, and Farm Service Agency partners.

• Existing dairy farmers in northwest Iowa—four groups involving 30 dairy producers in four regions (counties of Sioux, Osceola-Lyon-O'Brien, Cherokee, and Sac-Carroll) have been meeting in small group workshop settings to discuss ways to make smaller dairies viable, competitive and profitable. These groups will be the first to receive information packets about pasture dairying.

• Economic developers and dairy industry leaders do presentations for area economic development groups and dairy producer organizations (such as the Western Iowa Dairy Alliance) that are interested in learning about options for dairy development and strengthening the existing dairy industry.

Leveraged funds

No additional funds were leveraged by this grant.



Close-up view of Van Grouw's pasture lane and grazing paddocks