INTENSIVE ROTATIONAL GRAZING DAIRY SYSTEMS CONTINUE TO GARNER INTEREST

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Prior to the mid- to late 1950's, pasture-based dairying was practiced widely in the U.S. In the last 35 years, the U.S. dairy industry has adopted an approach to dairying that involves much greater use of concentrate feeds, greater reliance on stored forage, and removal of dairy cattle from pastures. During this period, milk production per cow has increased greatly, largely due to increased grain consumption but also to improved cattle genetics and to diets that more accurately and uniformly meet the nutritional needs of the lactating cow. Maximum milk production per cow was the goal with the assumption that this also would mean maximum profit.

In the last two years, some Florida dairy farmers have begun to adopt pasture-based production systems for their lactating cows. Dairies with this management system have several common characteristics. These include the following: 1) enough land is available to graze 2 cows per acre; 2) land is planted to either perennial forages like bermudagrass or to annual forages such as sorghum-sudan grass in the summer whereas annuals such as ryegrass/small grains are utilized in the winter; 3) pastures are divided into paddocks by high tensile strength electric wire to keep cows confined to the designated area; 4) cows are rotated from a grazed paddock to an ungrazed paddock every milking or at least every day; 5) farms are working to graze all year long rather than during one particular season as is attempted further north; and 6) a pelleted supplement is fed at the parlor for intake of 20 to 24 pounds per day.

Reasons given for interest in this management system include the following: 1) fencing material to support intensive rotational grazing is improved and more economical, 2) capital inputs for buildings and equipment on total confinement dairies is too great, 3) profit per cow is substantially increased when managed in a grazing system, 4) herd health of animals housed on sod rather than concrete is improved resulting in lowered culling rates, 5) public and regulatory perception of the effects of concentrated numbers of dairy cows on quality of life (water and insects) of surrounding communities appears to be less negative for grazing dairies, and 6) managing a grazing dairy is less time consuming resulting in more time for family and leisurely activities.

The milking parlor is the only major building necessary in a grazing operation, therefore initial capital investment and maintenance costs are very low. Interest payments on free stall barns, commodity barns, equipment storage barns, farm machinery,

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etc. are eliminated from the budget. As a result, more of the milk check dollars come back to the dairymen's pockets. Reported profits per cow have ranged from $500 to $1000 per year. A significant portion of this improved profit per cow results from a much lowered culling rate. Culling rates have dropped from 35 to 40% in confined housing systems to early reports of 10 to 20% in grazing systems. Improved pregnancy rates and better overall health for grazing cows help contribute to lowered culling rates. Less cow maintenance along with less barn and machinery maintenance results in more time freed up for family and recreational activities.

An additional benefit of a grazing operation is its reputation as being more environmentally friendly. On many Florida dairies, a large number of cows are housed on a relatively small amount of land and fed nutrients imported to the farm. This has created concern that nutrients (primarily N) may leach to ground water or may be lost in surface runoff or lateral flow through soils (primarily P) to streams and lakes. As a result, nutrient management on dairy farms has become a major focus of regulatory agencies and a major expense and constraint to profitability of Florida dairy farmers. Recent regulations require many dairies to use nutrients from animal wastes for growing crops and therefore have stimulated interest in on-farm forage production and greater use of pastures.

Nutrients removed in animal products from pasture-based livestock systems typically are a small percentage of those consumed by the livestock. Some research indicates that 60 to 99% of the nutrients consumed are returned to the pasture in dung or urine. Production of 30,000 lb of milk per acre per year removes only 12.5 lb of P per acre.

Although large quantities of nutrients are returned to pastures in animal wastes, deposition of dung and urine across a pasture is thought to be evenly distributed in continuously grazed pastures. Nutrient build up in small areas of pastures can be greatly reduced if shade, water, and fertilizer are allocated across the entire pasture.

Many of these reports and experiences appear very attractive. Major concerns of this management system include low milk yields due to low intakes of energy. Milk production per cow for the three dairies reporting at the 1995 Florida Dairy Production Conference were very similar, averaging between 43 and 41 pounds per day for early April. Ability of cows to eat under heat stress conditions is a particular worry of many. Nevertheless, nearly all reports of grazing dairies have been very positive. Grazers admit that they are on the upward slope of a steep learning curve and can not answer all the questions being asked. However, enough good things are happening so far that they are optimistic that this system can be used successfully in Florida for years to come.