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RYEGRASS UTILIZATION

by

The Texas Dairy Industry

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Forage is the keystone to a profitable dairy feeding program and ryegrass is an essential component of the forage program in Texas and the Southeastern USA. Forages make major contributions of all nutrients and are the major source of some nutrients. In addition, forages are important in maintaining proper muscle tone and providing fiber to maintain proper function of the ruminant digestive system.

Furthermore, forages have become increasingly important in feeding dairy cattle as production costs have continued to escalate and milk prices have tended to go lower. This limits profitability and borrowing power. High quality grazing can reduce production costs by reducing purchased feeds, fertilizer, fuel, facilities and machinery inputs. Secondly, grazing programs can minimize cost associated with complying with environmental regulations. Pasture cattle are confined only long enough to be milked which in turn reduces the amount of excreta accumulated in the holding area which reduces the size and expense of the lagoon system needed to store the waste. The pasture system also lends itself to disposal of the waste from the lagoon by recycling of nutrients and reducing fertilizer inputs. Waste can be applied at nearly any time of the season in the East Texas area. Finally the cows are on pasture most of the time, the manure is naturally distributed over the entire grazing area.

Texas Experience

In Northeast Texas ryegrass is a component of the forage mix in winter grazing programs. The usual practice is to sod seed about 100 pounds of small grains and about 20 pounds of ryegrass per acre in late September or early October. The small grains and ryegrass germinate and are usually ready for grazing in early November and continue until about mid-May. Preponderance of the forage will be made up of small grains in the early part of the grazing season, but as the year continues larger portions of the forage are made up of ryegrass. This is especially true as the small grains start to mature in early spring.

Recently, a group of about 25 dairy farmers in the area have started an intensive rotational grazing program which relies on grazing bermudagrass overseeded with cool-season annual forages such as ryegrass. Under an intensive grazing program cows are stocked at about two cows to the acre. They are moved on to fresh forage everyday or even more often. In order to maintain this type of grazing pressure, it is necessary to follow a strict fertilization program of approximately 50 units of nitrogen per month plus potash and lime on a regular basis according to soil tests. When animal wastes are used as fertilizer, little or no phosphorus will be required. For pastures receiving lagoon effluent, no commercial fertilizer is applied that month.

Cows are managed so that they are milked twice per day and receive grain in the milking parlor at the rate of about 22 pounds per cow per day equally split between the two milking times. Hay is available to the cows at all times, but little hay is eaten during the times of lush grass production. Pasture or paddock change occurs after the morning milking where as many as 150 to 200 cows will be confined to the front half of a 8-10 acre paddock. Following the evening milking an electric tape will be removed and the cows will be allowed to graze the morning area plus the other half of the paddock.

Milk production has been limited to about 14,590 pounds per cow per year marketed under this management strategy, but with lower input costs and a larger number of cows per unit of land, compared to other grazing systems, returns have been promising.

Harvesting some of the highest quality forage that can be produced in the eastern half of Texas as silage has improved the profitability of dairy operations.

Financial Analysis of the Ryegrass Program

A financial analysis of the grazing operations was compared to conventional dairy operations by economists at Texas A&M University as shown in the following table:

Table 1. Financial Analysis of Grazing vs Conventional Dairy Operations¹

Item	Grazing		Conventional	
	Small	Large	Small	Large
Cows/herd	180	975	200	812
Milk Marketed/cow (cwt)	145.2	145.9	150.6	168.4
Investment/cow(\$)	3804	1949	4253	3779
Vet Cost (\$/cow/yr)	11.64	10.22	60.00	39.00
Net Income (\$/cow/yr)*	860.52	460.36	-166.27	477.93
Feed & Crop Costs (\$/cwt)	5.93	6.67	9.36	6.78
Debt/Assets Ratio	0%	41%	45%	45%

¹ Drs. Joe L. Outlaw and Robert B. Schwart, Jr. Department of Agricultural Economics, Texas A&M University.

* Does not include principal payments

In addition to the grazing program, a larger number of dairy farmers are using small grains and ryegrass as a silage crop or grazing and silage program. Table 1 shows that milk production per cow does not vary much until the herds are large enough to use total mixed rations (TMR) as indicated in the large conventional operation. However, the larger grazing operations have a tremendous advantage in lower investment per cow of \$1949. The pasture operations also have experienced lower vet and medical costs. Net income does not include principal payments. Because the category of small grazers was low, and they owed no money, their net income per cow indicates a greater return than would be shown if a larger number of producers were included. Net income per cow for the large grazing operation and the large conventional operation are about equal. However, when investment per cow is considered, the grazing operation will yield a greater return.

In Northeast Texas ryegrass is a component of the forage mix in winter grazing programs. This forage is usually harvested by grazing cattle, but larger amounts are now being harvested as silage. Where dairy farmers are using intensive rotational grazing as the harvest method, ryegrass has become increasingly important in meeting the nutrient needs of the cattle during the winter season.