



## Potential To Improve Profits On Pasture

Submitted by  
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PFGC Vice President

At the 2003 Pennsylvania Grazing and Forage Conference, we were fortunate to have two brothers from Ireland as keynote speakers. John Roche is a dairy nutrition researcher in New Zealand. His brother Tom runs the family dairy operation in Ireland. The Roches have studied opportunities in the dairy business outside of their native Ireland.

The Roches spoke on several topics at the conference. One of those topics included some comments regarding observations from their visits with grazing dairies in the U.S. in 2001. The following are areas where the brothers believe farmers could further improve the profitability of their grazing farms. Here is what they wrote:

The use of nitrogen fertilizer is one of the keys to highly profitable pasture-based dairy farming. Bearing in mind that some areas will have environmental regulations dictating how much nitrogen can be applied (many of which will not be science-based), but in a non-quota environment, nitrogen should be used to the point where the marginal response to nitrogen is no greater than the cost of supplements, or to the maximum safe level, whichever is

lowest. Nitrogen fertilizer serves several purposes.

Firstly, pasture does not grow without nitrogen and soil nitrogen does not become available until soil temperatures exceed 46-50 degrees Fahrenheit. On the other hand, modern pasture species grow at temperatures as low as 39 degrees, with some annual ryegrasses even growing at 36 degrees. Therefore, early application of nitrogen is essential in producing early pasture. In Ireland we apply approximately 50 pounds of nitrogen (110 pounds of urea) per acre in January. Nitrogen produces a sward with larger leaves and hence greater digestibility.

Nitrogen helps prevent the effects of drought and severe cold.

Nitrogen is not the only nutrient that will limit pasture production. It is important that soil is also tested for other mineral nutrients, especially phosphorus, potassium, and sulfur concentration. Low levels of these nutrients will reduce pasture production and either limit the stock carrying capacity of the land or increase the need for more expensive supplements.

Offer supplements during periods of feed deficit. When post-grazing pasture residuals are too low (below 2 inches in spring and below 2.5 to 3 inches in summer/autumn), milk production will be re-

duced.

The price of milk compared with the price of grain suggests that farmers will receive an economic response to supplementing cows during this period. Furthermore, there is a carryover effect in higher body condition score and higher yielding cows when the feed deficit passes. However, it is important to continue monitoring post-grazing residuals so that you are not offering too much supplement and that you remove supplements when sufficient pasture is available once more.

It would appear (from our limited view) that you will be able to buy supplements for less than you will produce them yourself. Remember, dairy farmers generally make the worst cropping farmers. This allows you to increase stocking rate and maximize production and utilization of pasture. Simple feeding systems are required. Energy will be the primary limiting nutrient in a pasture-based system. Therefore, an energy supplement that can be fed simply (e.g. in the milking shed) will remove time and labor constraints, when compared with mixing and feeding a TMR, and will allow you to milk more cows per labor unit.

Don't believe confinement system operators or feed merchants when they tell you that pasture is a poor quality/unbalanced feed and that you therefore need to complement (add to) it. Pasture will not result in the same milk yields as high input systems because of the difference in dry matter intake and energy expended in grazing and walking. However, high quality spring pasture is every bit as nutritious as a TMR and only a frac-

tion of the cost. In addition, a pasture system will generally reduce your labor costs and your animal health costs significantly. High quality pasture is arguably the most balanced feed ingredient available for dairy cows. Therefore, supplement cows only when pasture supply is limiting.

Avoid unnecessary capital costs. It is often said that New Zealand farmers do not spend money on capital items. This is untrue. They do not spend money on unnecessary capital items. In our short trip through the U.S. we saw farmers able to forego winter housing, even in northwestern New York, while other farmers had spent a considerable amount of money on housing. Consider your capital spending carefully. Depreciation and interest repayments are real costs and reduce your return on assets considerably.

Don't get fooled into talking about your income over feed costs. Although a useful benchmarking exercise to compare yourself with your neighbors, it does not tell you how successful your farm re-

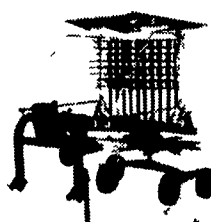
ally is. This is somewhere where pasture-based systems have the ability to make considerable profitability gains when compared with confinement systems. You must calculate all your costs (including your own and family labor) and use this to determine your true cash surplus and your return on assets.

Research into appropriate pasture management strategies and farm systems will be necessary for you to determine the appropriate overseas advice to apply here. It appears that most research in the U.S. is undertaken in confinement systems (with some notable exceptions at Penn State and North Carolina State University). Research into pasture-based systems may require farmer funding. In both New Zealand and Ireland, we have a dairy levy that is both voluntary (majority of farmers voted for it) and compulsory (all farmers then have to pay for it) which funds research and extension. Farmers fund approximately

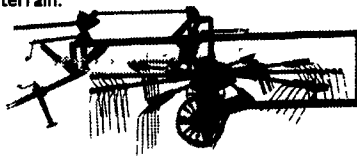
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### TOP HAY CROPS

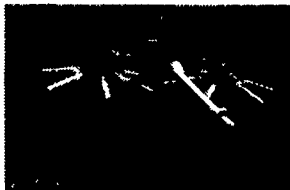
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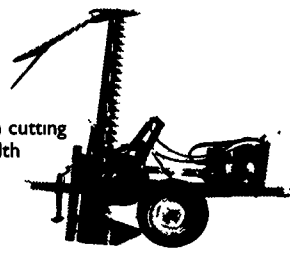
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