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INTENSIVE ROTATIONAL GRAZING AND/OR BOVINE SOMATOTROPIN

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Intensive rotational grazing (IRG) and bovine somatotropin (BST) are two topics that have received much press. Both are management tools that are available and being used by some dairy producers to improve dairy farm profitability. The above title suggests that perhaps the two technologies should not be used together. The real question is whether IRG and BST are management techniques that should be used separately or together.

The apparent controversy about IRG and/or BST was reviewed by Dr. Stuart McCutcheon of New Zealand at the 1994 Cornell Nutrition Conference. This apparent debate was created from a book published in 1993 entitled The Dairy Debate: Consequences of Bovine Growth Hormone and Rotational Grazing Strategies edited by W.C. Liebhardt of the University of California. The Dairy Debate compares the impacts of IRG and BST on animal health, human health, consumer response, farm economics, and environmental quality. The Executive Summary of the book concludes "Rotational grazing improves herd health in comparison to confinement-feeding systems. Poorly managed pasture feeding minimizes mastitis-caused bacterial infections that contaminate milk and result in economic losses for dairies. Pasture-grazed cows also tend to have higher reproductive performance, reduced lameness from leg or hoof problems and fewer metabolic and digestive disorders." Whereas many of these points may be correct, clearly the book claimed that IRG is a better management technology than BST. While grazing systems have many positive attributes and some challenges, a similar situation could be stated for BST. Proper nutrition and feeding management is one of the keys to the successful use of both technologies. Underfeeding or improper feeding management will likely contribute to an unprofitable response from either technology.

IRG and/or BST. Are the two management technologies mutually exclusive or complementary? Can a dairy producer use IRG and BST together? Whereas extensive research has been conducted with BST under nongrazing conditions, more limited research has evaluated BST plus IRG. At least six research studies have confirmed that pasture-fed cows will respond to BST. Research from New Zealand indicated that the response to BST with grazing is closely related to pasture growth and availability, being high in the spring and low in the summer. This situation should not exist in the U.S. where we can economically provide supplemental forages and grain during periods of low pasture availability. Additionally, grain is usually fed in the US and is often uneconomical to feed in New Zealand. The responses to BST are contingent upon cows being adequately fed, whether grazing or not grazing. Both IRG and BST have the potential to improve profitability.

The decision or choice is not simply IRG or BST. Each has its advantages and challenges and each requires good management. Cows will respond to BST when intensively grazed and BST should be considered in well managed dairy operations where pasture and total feed intake is maximized. The challenge is to combine the two into a system which allows for the most profitable production. Proper feeding plays a big role in the successful use of the two technologies.

Feeding Guidelines. Administration of BST results in an increased milk yield usually within the first few days. The increase of milk yield is followed by an increase in dry matter intake, usually within 2 to 4 weeks after the first adminstration of BST. Dry matter intake is usually increased about 2 to 4 lb/cow/day. Feeding management, particularly during the first few weeks, is very important to obtaining a profitable response to BST. Following are some suggestions and guidelines that may help in optimizing the milk response of cows administered BST with IRG:

- Provide top quality and quantity of pasture free choice (>20 hours/d) to allow maximum dry matter intake. Monitor stocking rates and available pasture, and move cows to a new paddock before the quantity of pasture is limiting, which usually occurs when pasture height is less than 3 inches.
- Monitor pasture quality during growing season. As the growing season progresses pasture quality tends to decrease, so compliment lower quality pasture particularly during the summer with higher quality forage (i.e. corn silage, haylage, hay) and/or adjust the grain and total ration for milk yield and body condition. The response to BST will diminish as pasture quantity and quality decreases unless adjustments are made in supplementary forage and milking ration to balance the diet for milk production and body condition.
- Feed balanced diets formulated to meet or exceed NRC Dairy Guidelines based on performance and body condition. No major nutrient or ration adjustments are needed with BST. Cows eat more feed and need the proper feeding management condition which maximizes feed intake.
- Optimize cow comfort and allow continual access to fresh clean water.

If BST and IRG are being used together, good management practices are needed to obtain a profitable response. Dairy producers need to monitor milk yield on an individual cow basis, if possible, or at least record daily bulk tank weights. Important questions are related to which cows should be treated, when in lactation should they be treated, and will it be profitable? Often, cows with IRG may have a lower body condition than cows under nongrazing. Body condition should be used to help determine which cows should receive BST.

In summary, the issue is not IRG or BST. These are independent management technologies that have the potential to improve profitability and should be considered together if they can improve dairy profitability. Good nutritional and grazing management will enhance the opportunity of obtaining a profitable response from the two technologies.

Award-Winning Tractor Series From MF

DULUTH, Ga. — Massey Ferguson's new MF 6100 and MF 8100 high-performance tractor series, from 86 to 180 PTO horsepower, received the 1995 OEMmie Award for innovative design and performance at the annual Society of Automotive Engineers (SAE) Off-Highway Conference.

This 130 PTO hp MF 8120 is one of seven new award-winning Massey Ferguson tractors from 86 to 180 PTO hp, designed to deliver 90 percent of their engine power to the wheels and PTO for more productive and efficient operations.

The new MF® 6100 and 8100 series tractors were selected for their innovative features and functions that set them apart from others in North America, and for advancing the state of the art and increasing equipment performance. The award is sponsored by OEM Off-Highway magazine published by Johnson Hill press.

"These new tractor ranges have taken the lead in the emerging competitive battle for increased 'power efficiency', "said Wilfred Boyle, director, Massey Ferugson® Operations, "and this was one of the key factors in earning the award."

"The new MF 6100 and MF 8100 series tractors are designed to minimize power losses through the transmission and deliver up to 90 percent of their engine horsepower to the wheels and PTO," said Boyle. "With more engine power available as 'usable power', everyday tractor operations are more productive and efficient."