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Lameness in Cows I...

Lameness is a "disease" that reduces overall profitability of a dairy operation. Effects of lameness can be subtle with many degrees of severity. Invariably, lameness is associated with pain, depressed dry matter intake, loss of body condition, decreased milk production, and increased reproductive failure and mastitis, often leading to expensive treatment or even culling. It is estimated that each case of lameness costs the dairy producer approximately $346 (Guard, 1997) and that 15% of cows culled for slaughter are culled due to lameness (NAHMS, 2002). Lameness is a multifaceted disease resulting from an array of factors inherent to dairy operations (Nordlund et al., 2003). Factors affecting lameness and locomotion include: nutrition, feeding strategies, wet environment, abrasive or slippery floor surfaces, stall comfort and design and health events causing production of poor quality horn (fever, age, off-feed, metabolic disturbances, toxins and mycotoxins). Identification and management of problem areas in an individual herd can be challenging. This article will focus on those areas most often found as herd-level problems: lameness identification, housing, management and nutrition.

Early detection of lameness is essential to minimizing the severity and potential long term implications of lameness. Researchers at Michigan State University (Sprecher et al., 1997) developed a five point system to evaluate herd lameness. This system may be used as a tool for the early diagnosis of lameness as the degree of lameness varies from virtually unrecognizable impairment in movement to complete debilitation.

With this system, the cows' gait ("locomotion") is assessed with special emphasis placed on back posture. A visual assessment ranks cows from 1 (normal) to 5 (very lame). A locomotion score of 2 or 3 indicates "hidden or sub-clinical" lameness while identification of these animals allows for early intervention and remedy before the insult becomes more severe and costly.

Workers at the University of California, Davis (Robinson, 2001) found that, compared to cows scoring 1, cows scoring a 2 or higher had a 2 to 15% reduction in milk yield (Table 1). In addition to reduced milk loss, cows scoring a 3 or greater had reduced reproductive performance. Michigan State University researchers (Sprecher et al., 1997) found that, compared to cows scoring a 1 or 2, cows scoring a 3 or greater were 2.8 times more likely to have increased days to first service, 15.6 times more likely to have increased days open and 9 times more likely to have increased services per conception (Table 2). Lastly, these cows were 8.4 times more likely to be culled.

Table 1. Effect of locomotion score on % milk loss

Locomotion Score	2	3	4	5
Milk Loss	2%	4%	9%	15%

Robinson, P. 2001

Results of these studies indicate that the more severe the lameness, the greater the economic loss. Early diagnosis of lameness and intervention is essential for minimizing the severity of lameness. Robinson (2001) reported that cows with a score of 3 were 4 times more likely to score a 4 or 5 than a 2 in 30 days, if no intervention and/or corrective measures were taken.

Table 2. Impact of locomotion score on reproduction and culling: Risk of reduced fertility for cows scoring greater than a 2.

Reproductive Parameter	Predictive Risk of Happening
Increased days to first service	2.8 x more likely
Increased days open	15.6 x more likely
Increased services/conception	9.0 x more likely
Culled (exit herd)	8.4 x more likely

Sprecher et al., 1997.

Part II will feature housing and management issues that impact lameness and foot health... in the June newsletter.

(edited from an article by *Drs. Tomlinson & Socha, Zinpro Corporation)*

Silage Management – cost or investment?

What is the return or loss on your silage? Managing silage from harvest to feedout will impact your bottom line. This involves when and how it is harvested, packing density, whether or not you use a quality preservative or inoculant, and bunk-face management at feedout. The goal should be to minimize shrinkage in your forage and maximize feed value. Assessing these measures can help improve both forage quality and profitability.

Packing density is one of the most critical aspects of silage management, along with good preservation. As packing density is increased, the loss of dry matter in ensiled forages is reduced. The results of a research study on variations in packing densities after 180 days (Journal of Dairy Science. Ruppel et al, 1992), showed that dry matter loss in a bunker was reduced from 20.2% to 10% when the density was increased from 10 to 22 lbs/cubic foot. The tighter the pack… the less oxygen is available for bacteria to "burn" in their process of reproduction, and the more quality silage is available for your livestock to eat.

It is also important to use a quality preservative or inoculant when ensiling forages, to help ensure the quality is maintained until feedout. Ask me for information and assistance on managing your forage for maximum results.

Interested in discussing topics in this newsletter, or want to do a better job feeding and managing your cows? Looking for research-tested corn hybrids for the coming year? Call me! My goal is to help you. That's Renaissance's commitment to you!

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RENAISSANCE… ***HELPING TO IMPROVE PRODUCTIVITY & PROFITABILITY!***

Feeding heifers...

Do you feed your heifers enough? Genetics are important. But how and what you feed replacement heifers is critical to the performance and profitability of your future lactating herd. When evaluating a heifer ration and feeding program it is imperative that you do not "skimp." You need to ensure they get all that is necessary for optimum growth and development. *"We put a lot of money into genetics, but then if we don't feed heifers enough you lose that genetic potential,"* says Jon Robison (California State University - Fresno). He offers these "tips" to guide your heifer program:

- Always feed at a level that covers maintenance plus growth and development.
- Use a ration that supplies nutrient levels that parallel your heifers' growth potential.
- Make sure the nutrients are provided in a form that is appropriate and useable for that age of animal.

Try the Renaissance Program for your heifers and appreciate a difference!

WHAT'S IT LIKE AROUND THE FARM? Spring is here and summer is on the way. While we often give a lot of consideration to reducing and eliminating heat stress with dairy cows, the calves and heifers are sometimes neglected. This is not deliberate… but with a lot to do around the farm, we overlook the impact heat stress has on this important group of animals. Calves and heifers need protection from summer sun, heat and humidity! It is important that they are not directly exposed to the sun during these months. Shade is critical in minimizing the impact of heat stress! Calf hutches or other facilities housing calves and heifers must be well-ventilated, ensuring adequate air flow at all times. Young animals usually exhibit heat stress by going off of feed, looking listless and increasing their respiration rate. Death can result, if extreme conditions are not addressed quickly. In addition to shade and air flow, it is important that calves/heifers have access to fresh, clean water throughout the day. Last (and not least) is the need to maintain good hygiene in all housing areas. Calves and heifers represent your future lactating herd. Keep 'em cool this summer!

A POINT TO PONDER... This is a very busy time of year! Crops need to be planted and preparations need to be made for harvesting the first cutting of hay (or haylage) in the not too distant future. It is easy to become preoccupied with all the work we have to do ~ all the things we need to accomplish. In fact, we can focus so much on what needs to be done that nothing actually happens. Additionally, in the midst of "being busy" we begin to neglect other important things such as family, friends, church and community. Take time to organize your efforts and manage your priorities. In doing so, you might actually find more time to commit to those aspects of life that are truly important. Enjoy springtime!

RENAISSANCE NUTRITION

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May...

fields planted ~ crops growing
working toward an efficient operation
& improving profitability!

Check it out.