Virginia Cooperative Extension
A partnership of Virginia Tech and Virginia State University

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DAIRY PIPELINE

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"Feeding dairy cows is a delicate balancing act during periods of heat stress."

Ward off Fall Hoof Care Issues by Paying Attention to Summer Feeding

We're quick to notice the effects of heat stress in our herds when it causes a drop in production as a result of a decrease the dry matter intake in your herd. But often times we do not associate fall and winter hoof care issues with summer heat stress. When summer heat takes the edge off your herd's appetite, a portion of your cows could wind up lame in the fall.

Making sure your cows eat right through the summer months can help them ward off subacute ruminal acidosis (SARA), which can lead to other health issues such as lameness. In many cases SARA symptoms are invisible, but eventually lead to lameness.

Feeding dairy cows is a delicate balancing act during periods of heat stress. A cow's maintenance energy requirement can increase by as much as 25 percent during those hot humid summer days, while her dry matter intake is decreasing. But we need to be sure not to exceed 40 to 42 percent non-structural carbohydrates during this time.

One way to ward off the prolonged effects of those hot summer days is to continue to practice proper nutritional herd management. Ensure unlimited access to clean water. Feed more frequently and feed more palatable, higher quality feeds to encourage feed intake. Watch for moldy feed and clean up refusals daily. Ensure minerals, particularly sodium, potassium, and magnesium, are balanced for the dry matter intake of your herd. Also, be prepared to increase the ration density to offset reduced intakes.

—Tina Horn
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"Milk urea nitrogen (MUN) is a direct indicator of protein status of animals and can be used to predict over or under feeding."

Photo courtesy of flikr.com

Feed Management Practices That Limit Overfeeding of Protein Can Be Evaluated by Monitoring MUN Levels

Milk urea nitrogen (MUN) is a direct indicator of protein status of animals and can be used to predict over or under feeding. Factors that can influence MUN concentrations are: rumen degradable and undegradable protein intake, energy intake especially rumen available energy needed to capture rumen available N, heat damage resulting in reduced protein and energy digestibility, consumption of water because dehydration increases MUN, and feed sorting. Best management practices to prevent overfeeding of protein are:

- Balance ration for total protein, rumen degradable and undegradable protein, and rumen available energy as measured by nonfiber carbohydrates or starch as well as total energy
- Monitor dry matter intakes weekly on all groups and calculate N intakes relative to requirements
- Analyze feeds monthly for total protein, plus heat damaged protein (more than 10% of protein in the fibrous fraction (ADIN or ADFCP)) in feeds if excessive heating is suspected
- Group cows by production, feed accordingly
- Prevent feed sorting by feeding a ration properly mixed with uniformity of feed delivered; particle size separation at different feed bunk locations can be monitored by use of a particle size separator
- If bulk tank MUN is above 14 mg/dl, consider modifying the ration; rations below 12 are considered best from an environmental standpoint
- If bulk tank MUN is below 10 mg/dl, protein consumption may be low or feeds may be heat damaged

Dr. Rich Kohn from the University of Maryland has lead a project working with milk cooperative labs reporting MUN's in our region. Lab methods have been standardized resulting in uniform reporting. In other words, results from one lab should be comparable to another. Virginia Tech and Virginia Cooperative Extension are cooperating with this project and can supply technical support to herds that have abnormal levels. More information will be available in written format and on our web site (www.vtdairy.dasc.vt.edu).

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Upcoming Activities

Virginia Holstein Field Day
Friday, July 13, Surry

Virginia PDCA Dairy Days
August 2-4, Harrisonburg

State 4-H/FFA Dairy Youth Field Day, August 3, Harrisonburg

SWVA Dairy Field Day, August 8, Bland

If you are a person with a disability and require any auxiliary aids, services or other accommodations for any Extension event, please discuss your accommodation needs with the Extension staff at your local Extension office at least 1 week prior to the event.

When was the last time you saw a fat cow?

The merits of proper body condition relative to stage of lactation have long been known. But body condition scoring remains an underutilized measurement on many of today's dairy operations. Body condition is the amount of body reserves (fat) that an animal is "carrying" on their back. Body condition score (BCS) is a numerical score that attempts to quantify the amount of fat that is visually evident on a cow. Obviously, the optimal/tolerable body condition score of dairy cattle shifts with stage of lactation.

Proper BCS should be considered when designing a herd's feed ration. The "high stakes" of today's dairy market (higher milk prices, high cost of replacements and higher feed prices) encourages a higher level of feed efficiency. For instance, lower producing cows or a herd with high average days in milk fed too high a level of energy may become too fat. It may be advantageous to feed these cows a ration that is more economical with a lower energy density. Dairy cattle that have a high body condition score have stored valuable energy in the form of body fat, rather than using that energy to produce more milk. The additional cost of fat cows is observed in the subsequent lactation. Cows that are too fat at parturition have more complications during calving and lower dry matter intake that predisposes the cow to increased occurrence of metabolic disorders such as fatty liver, ketosis, and displaced abomasums. All of these metabolic disorders insult the cow, ultimately decreasing total lactation yield and increasing cull rate.

> "...body condition scoring remains an underutilized measurement on many of today's dairy operations."

Industry movement away from the use of rBST increases the importance of body condition scoring of cows. Recombinant BST promoted a higher level of milk production during later stages of lactation, which assisted producers in maintaining proper body condition on cows. Discuss the development of a BCS measuring and recording program with your herd veterinarian and nutritionist. Body condition score can easily be determined during vet herd checks and this information is valuable to the herd nutritionist during ration formulation. Figure 1 illustrates BCS at different points on the cow (vertebra, hook/pin bones and the tailhead) while Table 1 summarizes the recommended BCS at various stages of lactation.

Table 1

Recommended body condition scores at various stages of lactation are:	
Calving	3.0 to 3.5
Breeding	2.5
Late lactation	3.0 to 3.5
Dry period	3.0 to 3.5

Figure 1

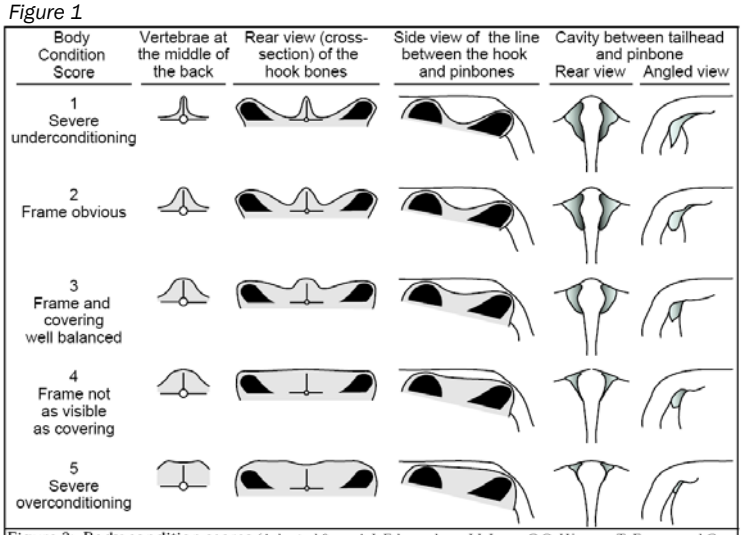

Figure 3: Body condition scores (Adapted from A.J. Edmondson, I.J. Lean, C.O. Weaver, T. Farver and G. Webster. 1989. A body condition scoring chart for Holstein dairy cows. J. Dairy Sci. 72:68-78.)

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For more information on Dairy Extension or to learn about current programs, visit us at VT Dairy—Home of the Dairy Extension Program on the web at: www.vtdairy.dasc.vt.edu.

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