Virginia Cooperative Extension

A partnership of Virginia Tech and Virginia State University

VirginiaTech
College of Agriculture and Life Sciences

School of Agriculture
Virginia State University

DAIRY PIPELINE

Volume 31, No. 2 March 2010

Department of Dairy Science
Blacksburg, VA 24061
540/231-4762 Fax: 540/231-5014
www.vtdairy.dasc.vt.edu

"It's been tough on cows and heifers too, especially if changes have not been made in housing and feeding programs."

Photo courtesy of Flickr

How did your dry cows fare during this winter Weather?

This winter has been one for the record books, with plenty of snow and cold weather. Electric bills have soared as we have attempted to keep our houses warm. It's been tough on cows and heifers too, especially if changes have not been made in housing and feeding programs.

Using the NRC – Nutrient Requirements for Dairy Cattle one can demonstrate the impact of weather on animal growth. Several assumptions were made for the following example. First, the dry cow was considered to be half way through her dry period and weighed about 1500 lb. She was fed a ration consisting of approximately 30 lb. of corn silage, 2.5 lb. of a soybean meal-based concentrate and 25 lb. of grass hay. Under ideal conditions of 68°F and dry hair coats this ration provides enough energy for about .5 to 1 lb. of gain/day.

However, when the temperature drops to freezing and she's a little wet she now has a negative energy balance of about 13 Mcal of Metabolizable Energy (ME) per day. This means she is mobilizing body fat reserves to meet her energy requirements. Drop the temperature to 20°F and subject her to mud and snow and she now has a negative energy balance of more than 20 Mcal/day. What this means is that your dry cows are mobilizing body fat reserves that are needed in early lactation to support high peak milk yield and good post partum health. These cows won't peak well and will be more likely to experience one or more metabolic diseases after calving. What's the plan of action?

1. First look at your dry cows every week for a body condition score. There will always be some over-conditioned and some under-conditioned ones, but the average should be between 3.25 and 3.5 on a 5 point scale.
2. If the cows have housing, make sure that it is clean and dry. This may require more frequent bedding. Provide a good bedding pack of sawdust as well as straw or other similar material to enable them to rest without losing excessive body heat. If they are housed outside and exposed to the elements it may be difficult to provide enough energy for them to maintain a positive energy balance!
3. Change your feeding program. This usually means feeding more corn silage to increase the energy supplied to them. Instead of 30 lb. of corn silage you might need to feed 40 or more lb. of corn silage/cow/day during cold wet weather. A simpler approach would be to leave the proportions of ingredients provided the same and just feed as if there are 10 to 20% more cows in the group. These changes should be made preemptively meaning that you should increase energy supply before the bad weather arrives. Continue it until environmental conditions improve. Progressive nutritionists will have access to ration formulation software which enables them to account for changes in environmental conditions and provide rations which will enable the dry cows to maintain their body condition and calve with adequate reserves to support high production and good health.

The take home message here is to take action now to make sure your dry cows are ready for the next lactation!

—Bob James,
Extension Dairy Scientist, Dairy Nutrition
(540) 231-4770; jamesre@vt.edu

Upcoming Activities

March 11—Issues Forum: The Bay TMDL – Shenandoah Valley Edition Dayton, VA. Contact John Welsh at (540) 564-3080 or jlwelsh@vt.edu

March 17—PCDART Training — Rockingham Extension Office - Harrisonburg. Contact John Welsh at (540) 564-3080 or jlwelsh@vt.edu

March 17 —Augusta DHIA Annual Meeting, Verona, VA. Contact John Welsh at (540) 564-3080 or jlwelsh@vt.edu

March 19— "Advances in Precision Phosphorus Feeding" Webcast 2:30 pm (eastern) see the following links for more information and instructions: www.vtdairy.dasc.vt.edu

http://www.extension.org/animal+manure+management

On the day of the webcast, go to http://www.extension.org/pages/Live_Webcast_Information to download the speaker's power point presentations and connect to the virtual meeting room.

First time viewers should also follow the steps at: http://www.extension.org/pages/How_Do_I_Participate_in_a_Webcast%3F.

March 24 Dairy Management Institute – Analysis Session, Traditions Restaurant, Harrisonburg, VA. Contact John Welsh at (540) 564-3080 or jlwelsh@vt.edu

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.

Deep thoughts from a shallow mind

There is a fair bit of angst among Virginia's dairy producers as they anticipate EPA's forthcoming Total Maximum Daily Load (TMDL) regulations for the Chesapeake Bay drainage. I, as a farmer and Extension Educator, attended a local EPA hearing regarding their TMDL strategy. One could best describe the event as an "unfriendly environment" for the EPA bureaucrats, and perhaps rightfully so. After all, they were there to take agriculture to task for polluting the Bay. When allowed the opportunity, the producers present made several valid points:

- Agriculture, as a percent of the Bay's land base, has shrunk while urban areas and populations have expanded exponentially.
- Farmers have implemented numerous BMPs, both voluntary and for cost share over the years.
- Portions of agriculture have already been brought under the nutrient regulatory umbrella of the Commonwealth.
- Agriculture is facing sustainability and profitability issues of it's own without imposing additional costs of compliance.

For these reasons, there is a flurry of lobbying by commodity and agricultural groups within the state to preserve the environmental regulatory landscape as it exists today. The current system consists of complaint based/self regulation for the Commonwealth's smaller Animal Feeding Operations (AFO) and oversight from VA DEQ for the larger AFOs. The question I would pose is this; *Does perpetuating the status quo poise Virginia's dairy industry for long term sustainability?*

I will argue that it probably does not. The reality is that environmentally, Virginia's agricultural industry is a net importer of nitrogen and phosphorus. Research conducted by fellow Dairy Agent Beverly Cox in 2005 & 2006 provides insight as to where we are as an industry at this point. In research conducted in support of her masters' thesis, Beverly measured the ratio of nutrient imports to exports for 15 Virginia dairy herds. On average, nutrient imports exceeded exports by a ratio of 3:1 for Nitrogen and 1.9:1 for Phosphorus. These excess nutrients are either lost from the system, aka point source runoff, or are stockpiled on site in the form of soil nutrients. In reality, until agriculture is able to document that it has balanced its nutrient budget, it remains a valid target of those tasked with regulating water quality under the Federal Clean Water Act. Perhaps we have been misled in believing that by implementing stream fencing and building a manure pit alone, we are able to achieve zero nutrients loss. A zero balance can occur only when our farms are accountable for all the nutrients that pass through our farm gates.

> "In reality, until agriculture is able to document that it has balanced it's nutrient budget, it remains a valid target of those tasked with regulating water quality under the Federal Clean Water Act."

---John Welsh, Extension Agent, Rockingham County (540) 564-3080; jlwelsh@vt.edu

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.

Bennet G. Cassell,
Dairy Extension Coordinator & Extension Dairy Scientist, Genetics & Management