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

VirginiaTech
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DAIRY PIPELINE

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"It is imperative to utilize all resources efficiently in today's volatile market."

"With feed costs on many farms at over $6.00 per cow per day DME has become one of the vital measures to ensure the economic health of the dairy farm."

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The Black Gold of Dairy

As I write, spot prices for fertilizer are over $1000 for urea and potash while DAP (Diammonium phosphate) prices have soared in excess of $1300. For anyone involved in agriculture, these are scary figures. The good news is that you have homegrown fertilizer at your disposal.

While in the past disposing of manure may have seemed more of a liability than an asset, that is not true in today's world. Now each 1000 gallons of manure provides roughly $39 in nutrients. For a 4000 gallon truck, that represents $156 in nutrients per load. Keep this in mind as you decide where to spread manure this fall.

It is important to use this resource to its fullest potential. By submitting soil samples now you can determine where manure can be used most efficiently. The best part about soil samples is they are FREE! Your local extension office has soil sample boxes and submittal forms available upon request. Instructions for proper sampling can be obtained online at http://www.soiltest.vt.edu/soiltest.html.

Dr. Mark Alley, Virginia Tech Extension Specialist in Crops and Environmental Science, also recommends submitting multiple samples per field this year. Careful review of these analyses may allow fertilizer rates to be varied within fields as a cost saving mechanism.

In combination with soil sampling, it is important to have your manure analyzed as well. A manure analysis allows you to allocate your manure where it is needed most (based on soil sample reports). Again, sampling bottles are available through your extension office and there is no charge for testing.

It is imperative to utilize all resources efficiently in today's volatile market. Manure application is no exception. Potential returns on investment for sampling soil and manure are huge if purchased fertilizer is reduced by manure application. Take the time, submit samples, and save on fertilizer expense.

—Beverly Cox,
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What is DME?

DME stands for Dry Matter Efficiency. If you have read Dr. Mike Hutjens' articles in Hoard's Dairyman, you'll know he has been writing about DME for several years. DME is calculated by taking the pounds of milk produced per cow per day and dividing it by the pounds of dry matter intake per cow per day (see table 1 for recommendations). To make a more accurate determination of DME fat corrected or energy corrected milk should be used instead of actual pounds of milk produced per day[1]. With feed costs on many farms at over $6.00 per cow per day DME has become one of the vital measures to ensure the economic health of the dairy farm. DME is positively correlated with increased milk production negatively correlated with increases in days in milk (DIM) (Britt et al 2003). Reproduction is an important component of maintaining low DIM. This is particularly true for herds that used to be on rBST. The use of rBST decreased the importance of getting cows bred in a timely manner since supplemented cows had a greater persistency of milk production.

As temperatures cool off this fall and the work tempo slows a bit it is important to make sure that emphasis is placed on the dairy farm reproductive program. Inseminating cows in a timely manner is the key to improving reproductive performance on your dairy farm. This time of year most dairy

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Upcoming Activities

Oct 8-9 Mid-Atlantic Dairy Grazing Conference and Organic Field Day—agenda and printable brochure available at: http://www.wvu.edu/~agexten/upevent.htm or contact Becky Casteel for more information at (304) 293-6131

Oct 28 Calf College—Twin Oaks Farm, 9:00–2:30; Martinsville, VA Contact Beverly Cox (540) 483-5161 or Bob James (540) 231-4770 for more information.

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.

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 Cassell

Bennet G. Cassell
Dairy Extension Coordinator
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farms have lots of cows approaching or just past the Voluntary Waiting Period (VWP). All cows on a dairy should have been inseminated by the time they reach 100 DIM. There are two ways to ensure that this happens. Heat detection can be improved on the dairy farm or one of the synchronization protocols that involve timed artificial insemination (TAI) can be utilized. Many farms use a combination of these two programs. You can do this by watching for heats and enrolling any cows that have not been inseminated by 85-90 DIM in a TAI synchronization protocol. Timely re-insemination of cows found open at herd check is also key to ensuring that your herd does not suffer from semen deficiency. Timely re-insemination of cows can be accomplished by improving heat detection or re-enrolling cows found open in a timed artificial insemination protocol.

Herd DME value	Interpretation
> 1.6	Excellent
1.4-1.6	Good
1.2-1.4	Room for improvement
< 1.2	Needs immediate attention

Table 1

Remember your nutritionist can play a role in improving your DME but you and your veterinarian play key roles as well by ensuring that you have good forage quality and a successful reproductive program in place.

[1] Energy-corrected milk formula:
(12.82*fat (lb))+(7.13*protein(lb))+(0.323*milk (lb))

3.5% fat-corrected milk formula:
(0.4255*milk (lb))+[16.425*((fat%/100)*milk(lb))]

—John Currin,
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Herds on the Virginia Phosphorus Feeding Incentive Program ending their second year

Selected Virginia dairy farms started testing their feeds and receiving information on phosphorus feeding in 2006 and 60 farms have now completed the second year of the project. These 60 have submitted enough samples (minimum 5 per year for year two) and have now received their summary information and payment eligibility if they were feeding within 125% of their herd's requirement. To date, participating herds have qualified for more than $90,000 in incentive payments.

Some lessons learned from the project:

- Nutritionists and dairymen are not hesitant to remove inorganic sources of phosphorus from rations,
- High corn prices appear to have increased the use of high phosphorus by-product feeds in 2008,
- Forages and pastures do not always have low levels of phosphorus, and
- Ration modification to select low phosphorus feeds is not typically done because of price relationships.

This project continues for a total of three years with the third year being one of feed testing and phosphorus intake calculation but no incentive payments. More herds will be completing their second year in the next few months. We hope to further study the economics of reducing phosphorus levels considering such things as phosphorus based nutrient management plans, phosphorus availability in feeds, and availability of ethanol by-products (distillers grains).

> "To date participating herds have qualified for more than $90,000 in incentive payments."

—Charlie Stallings
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