

DAIRY PIPELINE

Volume 31, No. 6 September 2010

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



“Failure to test DM’s can lead to serious mixing errors.”

Commercial products are named in this publication for information purposes only. Virginia Cooperative Extension does not endorse these products and does not intend discrimination against other products which also may be suitable.

WHAT’S THE “DRY” MATTER?

Aside from physical appearance, the simplest way to begin evaluation of forage quality on the farm is measurement of dry matter. The forage test provides this measure but what happens when forage quality or weather changes quickly? Weather is known to affect weight of ingredients in the total mixed ration (TMR). For example, when it is raining and corn silage from a horizontal silo is loaded into the mix wagon, less corn silage dry matter is added than the weigh indicator shows due to weight of the extra moisture. Failure to test DM’s can lead to serious mixing errors.

Using a Moisture Tester is a simple, on-farm way to perform dry matters on forages. A forage sample could be sent to a forage testing lab, but the delay in delivery of results makes the information of little value. By utilizing a Moisture Tester, results are available within an hour or two of obtaining the sample. Follow these steps to assure accurate results.

1. A representative sample of the forage needs to be obtained. It’s best to do this at a time when significant quantities of silage are removed from the face during feeding.
2. Obtain a weight of the wet sample using the basket and scale.
3. Place the basket on the heater and plug the appliance into the wall.
4. Set a timer for an hour and weigh the dried sample on the scale.
5. Divide the “wet” weight by the “dry” weight to calculate %DM.
6. Use the new DM% to make adjustments to the ration.

Obtaining accurate dry matter percentage of forages allows for proper adjustment of the ration.

Over the past year, dry matter of forages at the Virginia Tech Dairy has been monitored on a weekly basis. Forage tests on our corn

silage indicated that DM% of our corn silage was 35%. A ration calling for 60 lb. of silage would contain 21 lb. of DM. However, heavy rains during the evening added a great deal of moisture to the silo face. A

quick measure of DM% prior to feeding revealed that DM% had dropped to 29%. If the feeder had failed to make adjustments for the added water, 60 lb. of silage would contain only 17.4 lb. of dry matter! To provide the same amount of dry matter the feeder would need to add over 72 lb. of the silage!

Rapid changes in dry matter also occur when there are changes in fields or varieties of forage. These changes can be quite rapid in bags and upright silos as well as for hay crop and small grain silages. The conscientious feeder watches forages while the mix wagon is loaded for differences in appearance and obtains new estimates of DM% before mixing the next load. Managers can also become more proactive by sampling each cutting and field of forage. Changes can be noted by marks on the outside of silo bags to warn the feeder when to expect a change. Adopting a proactive approach to measuring DM% enables the manager to anticipate changes and make adjustments in a more timely manner thereby preventing drops in production.



Example of Moisture Tester
(Koster Crop Tester)

—Brittany Stewart

VT Graduate Student, Dairy Management
bstewart@vt.edu

(Ms. Stewart is a graduate student with Dr. Bob James.)

Upcoming Activities

Sept 23-26: State Fair Dairy Show—For more information contact Beverly Cox at becox@vt.edu or (540)483-5161

Sept 24: Junior Dairyman's Contest— For more information contact Dave Winston at dwinston@vt.edu or (540) 231-5693.

Oct 11-13: 8th Mid-Atlantic Dairy Grazing Conference & Organic Dairy Field Day, Wytheville Meeting Center— For more information contact Chase Scott at miscott1@vt.edu or (276) 223-6040.

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.

“Feeding programs need to be adjusted now to account for the reduced forage inventory and quality.”

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.



Charlie Stallings,
Dairy Extension Coordinator &
Extension Dairy Scientist,
Nutrition & Forage Quality

MANAGING DROUGHT

Unfortunately much of Virginia has suffered severely from early and prolonged bouts of high heat and drought this summer. Feeding programs need to be adjusted now to account for the reduced forage inventory and quality.

1. Sample forages for nutrient and nitrate content prior to feeding. Energy and protein content of drought stressed silage can differ significantly from normal silage. Nitrates can also accumulate in drought stressed corn, particularly in fields with heavy manure application or high nitrogen fertilization.
2. Determine accurate forage inventory. Measuring silo density provides accurate estimates of total silage inventory. Contact your local dairy extension agent for more information on tools to measure densities. Work with your nutritionist to determine maximum daily feeding amounts based on these inventories.
3. Allocate forages based on nutrient requirements of different groups. Older heifers, far off dry cows, and late lactation animals can successfully utilize lower quality forages. Reserve highest quality forages for early lactation and high producing groups.
4. Price additional forages to extend your inventory. Lower quality forages for fill and extenders may suffice if quality homegrown forages are available for high producers. However, purchasing high quality forages for high producing groups may be necessary if quality homegrown forages are not available. Both economics and the nutritional needs of your herd will determine the most cost effective solution.

5. Work with your nutritionist to identify high fiber byproducts to replace some forage. Recommendations are to feed at least 40 percent of ration dry matter as forages. Byproducts with high fiber content can replace the remainder of fiber needs. Economics and nutritional needs should drive the decision on which byproducts to include.
 6. Market excess animals to reduce total feed requirements and provide cash flow for additional feed purchases. More aggressive culling of problem animals, particularly while cull prices are strong, also reduces feed needs. Calculate the breakeven production for cows in your herd and cull unproductive animals. The Wisconsin Center for Dairy Profitability has a spreadsheet tool to help calculate breakeven production for your herd. This tool is accessible at <http://cdp.wisc.edu/Decision%20Making%20Tools.htm>; scroll midway down the page to the file 'Cull.xls'. Contact your local dairy extension agent if you do not have internet access.
- Plant cover crops that can be harvested in the spring for forage if needed. Select varieties based on potential yield in your area and quality of feed produced. These can be used as emergency crops if necessary or killed down.

Remember that drought corn with high nitrates also produces more silo gases; use caution after filling silos. Contact your local dairy extension agent for additional assistance.

—Beverly Cox, Extension Agent,
Franklin County
(540) 483-5161; becox@vt.edu

www.ext.vt.edu

Extension is a joint program of Virginia Tech, Virginia State University, the U.S. Department of Agriculture, and state and local governments.

Virginia Cooperative Extension programs and employment are open to all, regardless of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. An equal opportunity/affirmative action employer.