

# DAIRY PIPELINE

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## THE IMPACT OF FORAGE QUALITY ON RATION COST ON FEED INVENTORY

It's spring and time for planning and planting of forages for next year's feeding program. What a producer does in the next four months has profound effects on the economy of the feeding program and the forage inventory for the coming year. One of the biggest determinants of quality of forages for many east coast farms is weather throughout the growing season. Some years the rains never seem to come and when they do it's at the wrong time. In other years, it seems like things everything falls into place for high yields and quality. For those farms with access to water for irrigation, the risk of a bad crop year can be avoided. In addition to availability of moisture, timing the harvest at optimum plant maturity is equally important. Consider the following example.

Last year's feeding program was a dream for the nutritionist, the farmer, and the cows—corn silage and barley silage were excellent quality. The next year was the pits! The weather was dry until just before the custom chopper arrived and then it rained. The corn silage was too wet and very low in energy. It had a poor fermentation and contained little starch. The only saving grace was that a good spring permitted the harvest of limited quantities of some excellent barley silage. Rations for each are shown in the table below.

Note several things about these rations which presents opportunities and challenges. The ration with good quality forage uses less corn, barley and concentrate and more corn silage. Corn and barley were grown on the

farm and purchased feed cost was \$.50 less per cow per day when good quality corn silage was available. This resulted in a reduction in purchased feed of over \$18,000 annually for every 100 cows. It also allowed a significant carryover of corn and barley stocks for the next year. One might also question whether the cows fed poor quality forage could consume 56 lb. of dry matter, so milk production might also suffer. In contrast, the cows fed the high quality ration might eat more dry matter and produce more milk. The challenge with high quality forage is that given this ration, the producer would feed 19 lb. more corn silage daily or 350 more tons of silage annually for every 100 milking cows. The producer in this example was accustomed to harvesting average quality feed and had budgeted accordingly at beginning of the fall. The nutritionist, maximized the use of the high quality silage and formulated rations which were economical, but resulted in depletion of the corn silage supply two months prior to the beginning of the harvest season.

The main message here is that changes in forage quality have a dramatic impact on expenses, income and forage inventories. Effective managers should do everything in their power to facilitate the harvest and storage of high quality forages to improve farm profit. Additionally, producers should plan to harvest sufficient forage tonnage to accommodate years when quality is high and monitor forage inventory at least monthly to... *(continued)*



Feed	As fed lb.		DM lb.		NEI %		CP%		NDF%		Cost/ton \$			
	GQ	PQ	GQ	PQ	GQ	PQ	GQ	PQ	GQ	PQ	GQ	PQ		
Barley straw	.5	1.0	.45	.9	.55	.55	4.4	4.4	71	71	100	100		
Corn silage	75	56	26.8	12.9	.75	.60	7.5	9.6	38.5	57.5	65	60		
Small grain silage	9	32	2.43	11.1	.66	.69	11.0	7.2	62.8	52.5	50	50		
Brewers grain	14	14	4.2	4.2	.70		32.8		44.1		88			
Ground corn	2	6.5	1.8	5.7	.91		9.3		9.5		200			
Ground barley	3	6.5	2.6	5.7	.88		12.9		18.9		150			
Concentrate mix	13.5	17	12.4	15.7	.81	.81	32.4	23.0	15.2	23.0	396	380		
Total			50.6	56	38.9	40	16.2	15	32.7	37	\$6.40	\$7.74		
							GQ = good quality forage PQ = poor quality forage		Purchased feed cost				\$3.54	\$4.04

## Upcoming Activities

**June 16-20, 2013**

Southeast Dairy Youth Retreat, Georgia

**June 20, 2013**

Calf Feeder Open House  
Mooreland Farms  
Mt. Sidney, VA

**June 26, 2013**

VSDA Field Day  
Vanderhyde Dairy  
Chatham, VA

**July 24, 2013**

State 4-H/FFA Dairy Youth Field Day, Wed., Clarke and Frederick Counties

*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.*

“...Virginia clearly has its work cut out in motivating farmers to make voluntary water quality improvements.”

*For more information on Dairy Extension or to learn about current programs, visit us at VT Dairy—Home of the Dairy Extension Program at: [www.vtdairy.dasc.vt.edu](http://www.vtdairy.dasc.vt.edu).*



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...assure that there is sufficient forage to account for differences in quality.

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## WHEN COMPARED TO MARYLAND...

Despite initial anxiety to changes the Chesapeake Bay TMDL might bring, most of VA's farmers breathed a sigh of relief when the Phase I Watershed Implementation Plan (WIP) revealed a strategy relying on voluntary implementation of Best Management Practices (BMPs). Compared to the approaches of other states within the Chesapeake Bay watershed, VA's approach is notably more hands-off. In particular, MD had been and continues to be more willing to take a regulatory tone. To illustrate the difference between MD's and VA's approaches to water quality with the farming community, we will focus on the concept of Nutrient Management.

MD has been more willing to place farmers under Nutrient Management Regulation dating back to the passage of its Water Quality Improvement Act (WQIA) of 1998. The Agricultural Nutrient Management Program requires all farmers grossing more than \$2,500 a year, or livestock producers with eight or more Animal Units (8,000 lbs) to follow a nutrient management plan for both nitrogen and phosphorus. Farmers are required to maintain their plans and submit an annual Implementation Report (AIR). Failure to comply can result in fines and penalties up to \$2,000/year and a loss of Maryland Department of Agriculture (MDA) cost-share grants.

The MDA 2012 Annual Report on the Nutrient Management Program noted varying degrees of compliance. Of the farm operations requiring a NMP, all but 22 of the 5,433 farms had submitted plans. The MDA also collected \$10,700 in fines against 43 farmers for late or missing AIRs in 2012. Nutrient management specialists with MDA conducted random audits on about 12% of Maryland's farms finding only about 65% of them to be in full compliance with major nutrient management provisions.

In October of 2012, Maryland further revised its nutrient management regulations to help meet nutrient management goals spelled out in its Chesapeake Bay TMDL WIP. These changes are expected to be phased in over several years and:

- Require incorporation of manure nutrients into the soil within 48 hours of application.

- Establish new limits on fall nitrogen applications to small grains.
- Require planting of cover crops on all fallow acreages receiving fall manure applications.
- Require establishment of a 10 to 35 ft “no fertilizer application zone” adjacent to surface water and streams.
- Require farmers to use pasture-based management practices approved by SWCD to protect streams from livestock impacts.

VA's nutrient management policy is a stark comparison. Through its Virginia Pollution Abatement permits, only livestock operations exceeding 300 animal units are required to have a nutrient management plan. These farms are required to maintain their plan, keep records and are subject to an annual site visit by DCR or DEQ staff depending on location within the state. Farms below the 300 animal unit are required to have a plan only if they receive state or federal cost-share funds. Agricultural lands receiving nutrients from poultry litter or bio-solids are also required to have a NMP. While VA's nutrient management regulations are comparable to their MD counterpart, they do not **require** cover crops, manure incorporation, buffer zones or livestock exclusion. The VA WIP notes that it will need to have 90% of the state's farm acres under nutrient management to achieve its agricultural waste load allocations. The Virginia Department of Conservation and Recreation (DCR) recently released its progress update for the Programmatic Two-Year Milestone ending in December 2013. With a goal of recruiting 75% of the Commonwealths unpermitted dairies under nutrient management, DCR estimated that only 25% have current documented NMPs.

One could defend VA's current situation with the notion that it's not where we are now, but where we will be in 2025 that matters most to the EPA when grading the Bay states on their progress under the Chesapeake Bay TMDL. Having said that, VA clearly has its work cut out in motivating farmers to make voluntary water quality improvements.

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