

DAIRY PIPELINE

Maximizing forage intake is a way to improve nutrient balance on dairy farms. Maximizing the amount of forage in the ration not only can improve cow health but reduces the need for supplemental feeds that are typically high in phosphorus (P). For instance, soybean meal contains .7% P (dry basis) compared to .3% for alfalfa. Simply supplying more protein with alfalfa will reduce the need for more soybean meal and result in lower ration P. Also, many by-product feeds contain high concentrations of P. Feeds such as whole cottonseeds (.6%), brewers grains (.67%), and distillers grains (.83%) are good examples. Using more forage in the ration can reduce the need for these feeds. The fact that most forage is grown on the farm using recycled nutrients in manure makes it a desirable practice for net reduction of nutrients onto the farm and subsequently into the soil where accumulation can occur with possibility of water contamination. To maximize forage in the ration a complete forage analysis should be conducted every month to monitor quality and correct rations as needed. A complete analysis would include dry matter, crude protein, fiber (ADF and NDF), estimated energy, plus minerals on a less regular basis. Many reports will give protein solubility and in some cases an estimated degradability. Also a fermentation profile can be obtained with pH and acids reported for fermented feeds. This can give an idea of how complete the fermentation was and how stable it might be over time. Another measurement that is being used increasingly is NDF digestibility. This measurement can be used to more correctly estimate the energy content of the forage because fiber is an important contributor of energy in forages including corn silages. Corn silage is relatively low in P containing .26%. In order to use the maximum forage, attention is needed pre and post harvest. Forage quality needs to be measured periodically with the latest techniques available to improve the estimates of energy content, and supplementation can sometimes be reduced with no loss of milk yield.

-- Charles C. Stallings
Extension Dairy Scientist,
Nutrition and Forage Quality
(540) 231-3066 email: cstallin@vt.edu

Do you have protocols in place on your farm? Protocols are important documents in a dairy herd health program. Protocols should be in place for vaccination programs, reproductive programs, and sick cow treatment programs. There are several important steps involved in implementing protocols on your farm.

1. Develop the protocols. You should have a meeting with all key personnel. These personnel should include farm owner(s), herdsman, consultants, herd veterinarian, and any other key personnel.
 - a. Ex. Have a meeting with the herdsman, herd veterinarian and any consultants on the reproductive program for the herd.
2. Communicate the protocols. Communicating protocol to personnel doing the actual work is very important. Have a meeting with all the people that will be doing the actual work and give them an opportunity to supply input and know what is expected of them.
 - a. Ex. If the treatment protocol for treating toxic mastitis involves administering IV medications, and some of the farm personnel responsible for doing treatments cannot administer IV medications, the protocol will have to be changed or the personnel will need to be properly trained.
3. Write it down. Records should be kept of all procedures performed. These can be simple paper records, records kept on farm computer, data entered through DHIA. Health records can now be downloaded to Raleigh. If you are entering health data for your herd make sure your DHIA tester has this option turned on so any consultants you work with can download and evaluate this data.
 - a. Ex. It appears that the vaccination program is not working and needs to be changed because weaned calves are developing respiratory disease. In reality due to corn harvesting the calves did not get the vaccines they were supposed to get pre-weaning.
4. Evaluate the protocols. Once you have protocols in place make a plan to review them on a regular

basis to see if they are accomplishing the goals set out or if they need to be changed.

a. Ex. At last months herd check 30 cows were administered prostaglandins and put on the list to watch for heats and breed when seen in heat. If only 10 cows were found in heat and inseminated within the next 2 weeks, a different protocol for handling open cows may need to be established.

-- John F. Currin

Extension Dairy Veterinarian
(540) 231-5838 email: jcurrin@vt.edu

Raw milk bulk tank analysis. For a producer struggling with milk quality or mastitis issues, a bulk tank analysis is a good starting point to pinpoint possible problem areas. A bulk tank analysis should not be used to replace quarter milk samples when attempting to solve a mastitis problem, the results will identify the predominant types of bacteria in the bulk tank. A bulk tank analysis includes a standard plate count (SPC), a preliminary incubation count (PI), a lab pasteurized count (LPC), a somatic cell count (SCC), and a bulk tank milk culture (BTM). A high SPC (>15,000) may indicate poor udder preparation or intramammary infections (mastitis). A high PI (>30,000) indicates improper sanitation of equipment or cows, dirty equipment or cows, or contaminated water. A high LPC (>200) indicates poor cleaning of equipment or bulk tank. A high SCC (>200,000) indicates mastitis and you should review milking procedures, improve sanitation of cattle housing areas, and check for proper equipment function. The BTM culture gives an actual count of the various species of bacteria present in milk. One of the best uses of BTM cultures is to indicate the presence of *Staph. aureus*, and *Strep. ag.*, two indicators of mastitis. To ensure accurate results a proper sample must be taken from the bulk tank and delivered to the lab in a timely fashion (within 48 hours). The bulk tank should be agitated for at least 5 minutes (longer for larger tanks) and a sanitized dipper used to collect the sample. The sample should be refrigerated or kept on ice until delivered to the lab. Using these results, your veterinarian, field representative, or state inspector can then determine what steps to take to resolve the problem.

-- Alan G. Grove

Extension Area Dairy Agent
Valley of Virginia
(540) 564-3080 email: agrove@vt.edu

**** Upcoming Activities****

State 4-H/FFA Dairy Youth Field Day
Harrisonburg

August 5

Raymond L. Nebel
Dairy Extension Coordinator
and Extension Dairy Scientist, Reproduction