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

VirginiaTech
College of Agriculture and Life Sciences

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DAIRY PIPELINE

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

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"Regardless of the economic conditions it's important to remember that the goal is to produce milk at the greatest economic return per cwt of milk produced."

Photos courtesy of Flickr.com

How will you feed your herd in 2008?

Who would have expected the conditions we've seen in 2007 and 2008? Milk prices exceeded $25/cwt. Corn and soybean prices reached record or near record highs and we experienced a drought which lead to depressed forage yields and reduced forage quality. The next 12 months should be interesting! These conditions provide a strong stimulus for us to seriously examine the economics of our feeding program. Regardless of the economic conditions it's important to remember that the goal is to produce milk at the greatest economic return per cwt of milk produced. This means that we must look at both costs and returns. As an example, when corn prices exceeded $5.00/bushel and soybean meal $350/ton, it was tempting to feed less. However, this was not a good decision when milk prices exceeded $25/cwt. As we face new challenges for 2008 consider the following factors in guiding your long and short term planning decisions.

Long Term:

►**Forage quality is especially important.** Strongly consider forage varieties yielding more digestible nutrients. The BMR varieties of corn and other forages used for silage have been developed with higher whole plant digestibility. This results in improved intake, less grain (corn) feeding and potentially healthier cows producing milk with higher components. What about reduced tonnage and crop knock down? Research has yielded new varieties that address these problems quite well. One can expect similar yields and standability characteristics of conventional varieties.

►**Grouping cows.** When BST was more widely used there was less incentive to group cows because we could reduce the drop in production experienced by cows in late lactation. One group TMR herds were also easier to feed and manage. However, with higher feed costs and more variation in daily milk yield there's more incentive to group cows. Premium ingredients can be utilized in rations for fresh and or high production groups where an economic return from more milk, higher components or improved health justifies their expense. Suggested minimum groups are:

- *Fresh cows – First 2 -3 weeks of lactation.*
- *High production.*
- *Low production/ late lactation cows.*

►**Environment.** What are conditions like where the cows eat? Consider the following:

- *Is there protection from sun, wind, rain?*
- *Will added ventilation or cow cooling improve intake and cow comfort?*
- *Does the bunk surface encourage intake or should it be resurfaced?*

Short Term:

►**Forage test routinely.** Monthly testing of corn silage is advised, with more frequent testing as herd size or expected variation in the forage quality increases. Use wet chemistry for initial samples and less expensive NIR testing when less variation is expected. Starch levels should be measured in all corn silage samples.

►**Group cows.**

Does this sound like a broken record?

►**Make wise purchasing decisions.**

- *Become informed about market trends.* Subscribe to information services which provide timely, brief reports on market trends. This information will also help you negotiate in an informed manner with your feed supplier. Most milk marketing cooperatives provide such information to their members. Read it!
- *Develop relationships with several feed suppliers.* Their long term goal is for your continued profit (and theirs)! A little competition is good for everyone. However loyalty to good service and reasonable pricing will encourage the supplier to stick with you when times are tough economically. A good supplier will relay market trends to you in a timely fashion and help you manage feed costs. Don't switch suppliers at the slightest burp in feed prices on one supplier over another.

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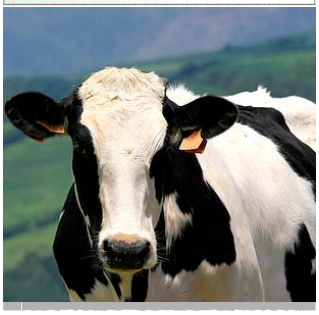
Upcoming Activities

Dairy Cattle Reproduction Workshop—April 8— 10:00-1:00, Montezuma Hall Contact Rockingham County Extension for details (540) 564-3080

Virginia Tech Little All American—April 19

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 one week prior to the event.



"Often, the most expensive component of treating a lactating dairy cow is the cost of the discarded milk ."

• *Evaluate the relevance of ingredients.* What is the cost of each ingredient? What does it provide to the ration? What are the benefits of continued inclusion in the ration and the risks of economic losses if it's removed from the ration? What are the limitations to higher, economical production for the herd? If somatic cell count exceeds 350,000 or days in milk exceed 225 for the group it's unlikely that some premium priced ingredients will elicit an economical return. Ingredients with marginal returns for mid to late lactation cows and in lower producing herds include: amino acid supplements, probiotics and fat supplements.

►**Control shrink.** Losses for forages and some commodities can exceed 25% of the delivered quantity.

• *Manage the silo face by using a facer or shaving the face from the side with the unloader.*

• *Control weeds around silo bags by spraying with herbicides or using electric fencing to discourage animal damage to bags.*

• *Use gravity flow bins for high priced ingredients that are not used rapidly.*

• *Train feeders to minimize dropping excessive amounts of forages or commodities while loading mix wagons.*

►**Consider the purchase of feed management software.** These technologies enable managers to monitor loading and feeding accuracy as well as shrink. Once deliveries of commodities or grain mixes are entered into the inventory, the system will deduct amounts utilized as cows are fed thereby enabling a comparison of what the cows receive to what was delivered. They also provide a convenient way to track dry matter intake of groups of cows within the herd and relay it to the nutritionist.

Ultimately it's important to remember the three rations that exist on the farm.

1. The ration that has been formulated and delivered to the feeder. Were the appropriate ingredients selected? Did you provide good information to the nutritionist?

2. The ration that was delivered to the cows. Are loading and mixing instructions clear for the feeder? Did he/she mix the ration as instructed and deliver appropriate amounts to the group?

3. The ration that the cow consumed. Was there sorting? How does the dry matter intake compare to that specified from the nutritionist? Did you communicate this information back to the nutritionist?

Strive to make sure that they are all the same.

When facing the challenges of high feed prices, don't make rash decisions, instead evaluate some of these key factors involved in successful feeding management.

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

REDUCING MILK LOSSES FOLLOWING PENICILLIN USE IN LACTATING DAIRY COWS

Penicillin is an antibiotic commonly used in lactating dairy cows. It was approved many years ago and the label calls for a dose of 1cc/100 pounds of bodyweight once a day. At this dose the label recommendation is 48 hours for milk withdrawal and 10 days for slaughter withdrawal.

Current recommendations are much higher than those doses found on the label. Veterinarians commonly recommend doses of 3-5cc/100 pounds of bodyweight once or twice a day. Such doses lead to prolonged withdrawal times which in turn require much more milk to be discarded. These extended withdrawal times have long been a source of frustration for farmers. Often, the most expensive component of treating a lactating dairy cow is the cost of the discarded milk (see table 1).

FARAD (Food Animal Residue Avoidance Database) is a government sponsored organization that reviews scientific data and makes recommendations for appropriate withdrawal times for drugs that are used in an extra-

Milk Production during treatment (per day)	Cost of Penicillin (3.5cc/100# BW once a day for 3 days)	Value of discarded milk (Milk value= $18/ 100#)	Total cost of treatment
30 pounds	$6.50	$43	$49.50
50 pounds	$6.50	$72	$78.50
70 pounds	$6.50	$100	$106.50

Table 1.

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label manner. In order to reduce the extended withdrawal times seen in cows treated with extra-label doses of penicillin FARAD makes the following recommendations based on a review of the scientific studies:

For milk withdrawal:

4cc / 100 lbs body weight once a day for 5 days: milk withdrawal of **120 hours**

but **ONLY** if the following criteria are met:

1. The dose is given IM and not SQ.
2. The volume of injection does not exceed 15 mls per site.

Giving Penicillin subcutaneously (SQ) or injecting larger volumes per injection site results in prolonged milk withdrawal times. Because of the expense associated with shipping adulterated milk I still recommend that farmers test milk with an on-farm test at 4-5 days after the last treatment before putting milk from the treated cow back in the tank.

Following the above recommendations will help eliminate unnecessary extended withdrawal times of 7-14 days. Use of penicillin at doses greater than those found on the label represents extra-label drug use and should only be used by or on the advice of a licensed veterinarian.

—John Currin
Extension Dairy Veterinarian
(540) 231-5838; jcurrin@vt.edu

"Record high feed prices, soaring fuel prices and continued ethanol attention is driving the daily feed cost through the roof on most dairy operations."

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
& Extension Dairy Scientist,
Genetics & Management

"AUDIT!".....YOUR NUTRITION PROGRAM

"Audit" isn't a word we like to hear *anytime*, especially during tax season! However, the "audit" that I am referring to is that of standing back to evaluate your entire dairy herd nutrition program, from calves to the lactating cows. Record high feed prices, soaring fuel prices and continued ethanol attention is driving the daily feed cost through the roof on most dairy operations. Signs of softening milk prices dictate that we control our feed cost/cwt. Obviously the two approaches are to manage feed prices and/or to increase milk production.

It is always good to get an outside opinion, and this is a good time to call your Virginia Cooperative Extension Dairy Agent and ask them for assistance in "auditing" your dairy nutrition program. Below are just a few items to consider and discuss with your nutritional consultant.

►Check the grind size of your ground corn. Cracked corn or coarser ground corn has lower processing cost but is not as efficiently used by dairy cattle. Grinding corn finer increases the surface area available for digestion. By decreasing the grind size you may be able to improve the energy utilization, increasing milk production with the same amount of corn. The table below summarizes performance of cows fed either cracked or ground corn.

	Cracked Corn	Ground Corn
Milk (lb/d)	69.2	75.3

** Farmland Industries, 2006*

►Consider digestibility when selecting corn silage varieties. Before selecting the variety to plant this spring, see how it compares to other varieties in a digestibility index such as Milk2000 (information available with extension). The table below shows the performance of cows fed either brown midrib corn silage (a mutant corn variety that is naturally more digestible but potentially lower yielding) or regular corn silage. I am not recommending everyone plant their entire farm to brown midrib corn—but do consider digestibility when planting this years corn.

	Brown midrib Corn Silage	"Regular" Corn Silage
Milk (lb/d)	91.7	85.6

** Journal of Dairy Science Vol. 82, No. 1, 1999.*

►Harvest winter cover crop as a forage. Small grain forage harvested in the pre-boot stage has about 20% crude protein (varies with how much N fertilizer applied), and 30% ADF. At the milk stage, CP averages 12%, and 35% ADF. In the milk stage, small grains typically have about 10% less energy than corn silage but 3 to 4 percentage units more CP than corn silage. When harvested in the boot stage, dry matter yields should range between 1.5 and 2.5 tons per acre. When harvested at the milk stage, yields range from 3 to 4 tons per acre.

-M. Chase Scott, Extension Agent, Southwest Virginia
(276) 223-6040; miscott1@vt.edu