

## DAIRY PIPELINE

Volume 30, No. 2 February 2009

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"In times of declining milk prices it is easy to "cut-corners" and "save a little here and there," by not keeping the mineral supplement feeders full to all groups of cattle, but one must consider the potential long term impacts."

### DON'T SKIP THE LITTLE THINGS

We've all heard the theory of limitation in reference to plant nutrients and productivity—that old illustration of a barrel that can only hold as much water as the lowest "stave" allows. We commonly relate this analogy to soil fertility and assign the staves as N, P, K, PH, etc. This same analogy can be used in reference to the functionality of

the dairy cow and assign not only protein and energy to the "staves," but also Ca, P, Mg, etc. In times of declining milk prices it is easy to "cut-corners" and "save a little here and there," by not keeping the mineral supplement feeders full to all groups of cattle, but one must consider the potential long term impacts. These may include reduced fertility and consequent increases in

	Dry Cow		Fresh	Milk Cows		
	Early	Close-up	0 to 21d	Early	Middle	Late
	22 to 80d	80 to 200d	>200d			
DMI (lbs)	30	22	>35	53	48	44
<b>Major Minerals in % of DM</b>						
Ca	0.6	0.7 (*1.0)	1.0	0.9	0.7	0.6
P	0.26	0.3	0.45	0.4	0.36	0.32
Mg	0.16	0.3 (*0.4)	0.33	0.3	0.25	0.2
K	0.65	0.65	1	1	0.9	0.9
Na	0.1	0.05	0.33	0.3	0.2	0.2
Cl	0.15	0.15 (*0.8)	0.3	0.25	0.25	0.25
S	0.16	0.2 (*0.4)	0.25	0.25	0.22	0.22
<i>*When anionic salts are used: mineral/anionic salts (%)</i>						

\* Adapted from "Nutrient Utilization in the Dairy Cow" Illini DairyNet. By Dr. Mike Hutjens (April 2003)

days open and days to first calving. Reduced feed efficiency in relation to milk production can have an all too familiar impact on a dairy operations bottom line. Just as we submit soil samples for testing before fertilizing and liming a field, we should test forages and home grown feeds before feeding them to dairy cows. The table to the left details the mineral requirements for cows at various stages of lactation and production.

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"... the dairy industry can work together to solve problems that we confront."

Photo courtesy of Flickr.com

### PHOSPHORUS STUDY UPDATE

The Virginia Phosphorus Feeding Incentive Program has now been underway for three years with the first herds that started in January 2006 finishing the project. The program has now had 160 herds complete enough samplings to have at least one yearly summary of phosphorus feeding levels. There was a reduction of phosphorus fed and thus excreted of 2.65 lbs. per cow per year or 32.6 total tons per year in the 24,522 cows in these herds. In addition approximately \$100,000 has been approved for incentive payments and \$118,719 in free feed testing has been spent in support of better feeding

management to reduce environmental pollution potential from dairy farms. Over the next two years the remainder of the herds on the project will be completing. Some lessons learned are:

1. Nutritionists and dairymen are not hesitant to remove inorganic sources of phosphorus from rations if P requirements are met.
2. Forages and pastures do not always have low levels of phosphorus.
3. High corn prices appear to have increased the use of high phosphorus by-product feeds in 2008.

## Upcoming Activities

**Feb 10 — Dairy Management Institute—First Session:** ( new attendees only)  
Data due: March 4  
Second Session: Mar 24 (all participants)  
Contact Beverly Cox for details (540) 483-5161.

**Reminder for Farm Transition Series:**  
Jan 26, Feb 2, Feb 9, Mar 2, Mar 9. Beverly Cox for details (540) 483-5161.

**Feb 12 — 2009 VSDA Annual Meeting** — Hotel Roanoke

**Feb 18– 20—Virginia State Feed Association Conference & Nutritional Management “Cow” College—Roanoke, VA**  
for more information, contact Bob James at (540) 231-6870 or [jamesre@vt.edu](mailto:jamesre@vt.edu) or visit [www.vtdairy.dasc.vt.edu](http://www.vtdairy.dasc.vt.edu)

**Feb 18 —DHIA Workshop—** 10:00–3:00, Southwest VA Higher Learning Center, Abingdon, VA. Contact Kathy at (800) 367-3442 to register.

**Mar 18 —DHIA Board/Annual Meeting—** 10 a.m., Litton-Reaves Hall, Blacksburg, VA .

*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.*

4. Ration modification to select low phosphorus feeds is not typically done.

I want to say thanks to those of you that have participated or are currently participating in this project. It demonstrates that the dairy industry can work together to solve problems that we confront. Federal

(Natural Resources Conservation Service) and state (Department Conservation and Recreation and Cooperative Extension) agencies along with Virginia Tech have worked closely on this project to the mutual benefit of all.

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## STRATEGIES FOR IMPROVING REPRODUCTIVE PERFORMANCE: (PART TWO OF FOUR)

Heat Detection presents a real challenge on modern dairy farms. The simple answer to heat detection has always been to spend more time watching cows for signs of heat. The problem is that there are many tasks competing for time around the dairy. Add the fact that the modern dairy cow only shows heat for about 8 hours and heat detection can be a real challenge. None of this changes the fact that in order to avoid losing cows from semen deficiency, cows must be found in heat. There are three ways to improve heat detection.

The first way is to put more emphasis on heat detection. There are many ways to accomplish this goal. One person on the farm must be put in charge of heat detection. The old saying “if it’s everyone’s job it’s no one’s job” is apt when it comes to heat detection. While everyone can help with heat detection, having one person who is ultimately responsible will improve the program’s success rate.

The second option to improve heat detection is to use one of the timed artificial insemination (TAI) protocols like Ovsynch. Since all synchronized cows are inseminated, heat detection for that cycle will be 100%. One of big misconceptions in TAI protocols is that they eliminate heat detection. While they do eliminate heat detection for the cycle the cows were synchronized, as many as 70% of these cows will likely not conceive and thus will be coming in heat 18-23 days later.

The final method of improving heat detection is to simply put a bull in with the cows. Bulls are often considered to have 100% heat detection. When young, fit, and healthy this fact is close to true. The problem with bulls on dairy farms is that they must be managed to ensure that they maintain healthy feet and legs and are free of other health problems. The most common mistakes with bull breeding herds are having too few bulls for the number of cows and not monitoring bulls for health problems.

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*Bennet Cassell*

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