

## DAIRY PIPELINE

**Department of Dairy Science**  
Blacksburg, VA 24061  
540/231-4762 Fax: 540/231-5014  
[www.vtdairy.dasc.vt.edu](http://www.vtdairy.dasc.vt.edu)

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“The recent spike in global petroleum prices and increased global demand of fertilizers has caused a run-up in fertilizer prices from their recent low in the spring of 2010.”

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### MAKE THE MOST OF YOUR SPRING MANURE APPLICATIONS

With April Showers in mind, now is probably a good time to start giving thought to your spring manure applications. The recent spike in global petroleum prices and increased global demand of fertilizers has caused a run-up in fertilizer prices from their recent low in the spring of 2010. In their most recent survey, the USDA has indicated that those prices are on the rise again after leveling off in January of this year. Those prices are summarized in the table below. With the value of one unit of nitrogen worth considerably more than a year ago, it is prudent to revisit manure strategies that will maximize the amount of nitrogen captured.

Noting that the actual nutrient content of dairy manure varies wildly, NC State figures indicate that the average total Nitrogen content of liquid dairy slurry will average around 22 lb./1000 gal. Of this figure, about 50 percent or 9 lbs., is in the form of ammonium nitrogen. Ammonium is readily plant available but also is quite prone to volatilization into ammonia.

If left unincorporated, as much as 75 percent of the ammonium nitrogen in the dairy slurry will be lost to the atmosphere as ammonia within one month. Tillage within 48 hours will reduce the amount lost to about 25 percent. Direct soil injection further stems the loss to only about five percent.

It is worth noting that even though manure injection technology has come a long way, it is far from convenient, timely and readily available. Virginia Cooperative Extension is actively involved in conducting some field research with dairymen and custom applicators in the Shenandoah Valley to determine the practicality, efficiency and effectiveness of liquid manure injection. In the short term, farmers are arguably dollars ahead to utilize light tillage at time of application and PSNT analysis to manage 2011 crop nutrient costs this year.

—John Welsh  
Extension Agent, Rockingham County  
(540) 564-3080; [jw Welsh@vt.edu](mailto:jw Welsh@vt.edu)

USDA-IL Dept. of Ag Market News Illinois Production Cost Report March 3, 2011		
Product	Average	Change (in last 2 wks)
Anhydrous ammonia	\$787.88 *	UP \$2.82
Urea 46-0-0	\$508.00*	UP \$1.82
Liquid Nitrogen 28% spread	\$339.24*	UP \$3.33
DAP (Diammonium Phosphate 18%N 26%P)	\$677.16*	UP \$0.67
MAP (Monoammonium Phosphate 11% N 52%P)	\$704.00*	UNCHANGED
Potash (Potassium)	\$586.00*	UP \$10.28
Farm diesel fuel per gallon <1000 gallons	43.38	UP \$0.23

\* Price indicated per ton



## Upcoming Activities

April 15-17—VA Beef Expo for additional details, see <http://vabeefexpo.org/>

April 16—The Little All American Dairy Show and Banquet. Contact Paula Craun ([pcraun@vt.edu](mailto:pcraun@vt.edu)) for showing details. Banquet questions may be directed to Abby Patch ([apatch12@vt.edu](mailto:apatch12@vt.edu)).

May 23—9th Annual [Hokie Cow Classic Golf Tournament](#), contact Dr. Katherine Knowlton at [knowlton@vt.edu](mailto:knowlton@vt.edu) or 540-231-4769 for details.

*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.*

“With today’s high feed costs, producers are constantly searching for ways to be more efficient and eliminate waste.”

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

## HEIFER GROWTH MONITORING – WORTH THE EFFORT

How many dairy producers know how much their heifers weigh at birth, weaning, breeding, and calving? In too many herds the first time that a weight is recorded is when a heifer calves. How accurate is that initial data? It depends on whether the animal was actually weighed as opposed to the frequently used ‘eyeball estimation.’ The adage, “You can’t manage it if you don’t measure it,” certainly applies to heifer growth.

Monitoring heifer growth, through weight and height, is an important practice for managing the heifer enterprise and the dairy herd overall. It is comparable to collecting milk production data in the milking herd. The most useful data are obtained when growth monitoring is done routinely (monthly, bimonthly), but managers are often discouraged from routine data collection because the practice can be labor intensive, and even dangerous if the handling facilities are not properly designed. However, there are many benefits that can come from collecting the information. If it is impractical to monitor growth on a routine basis, one should consider collecting data when handling heifers for other purposes (breeding, vaccinations, grouping). If all heifers cannot be weighed at a given time, a representative sample should be used to estimate group performance.

Individual heifer weights can be obtained using a weight tape, balance scales, or electronic scales. Weight tapes are very inexpensive, but may provide slightly less accurate individual information. They may also be dangerous to use if animals are not properly restrained. Electronic scales are most accurate, but are also the most expensive option. A measuring stick can be used to measure hip and/or wither heights.

Individual bodyweights can be used to manage heifer movement between groups to maintain uniformity within the group, to decide when heifers are ready to breed, to determine dosage levels when treating animals, and to make culling decisions by identifying poor performers. Collectively,

weight and height help determine if desirable growth is being achieved. For example, a longer, taller lean heifer is preferred over one that has simply fattened up with little structural growth. Growth charts are available to compare heifer growth to breed standards. As a rule of thumb, heifers reach puberty at approximately 40 percent of mature bodyweight (MBW). It is recommended to breed them when they reach 54 percent MBW. Heifers should calve with a 7-day postcalving bodyweight at 85 percent MBW. (Van Amburgh, M., and M. Meyer. 2005; Hoffman, P.C. 2007) After measuring weights on individual animals, average daily gains (ADG) should be calculated for the period of time since the last recorded weight and also for the heifer’s lifetime as shown below.

$$\text{Interval average daily gain (IADG)} = \frac{\text{Current weight} - \text{Previous weight}}{\text{Number of days in interval}}$$

$$\text{Lifetime average daily gain (LADG)} = \frac{\text{Current weight} - \text{Birthweight}}{\text{Age in days}}$$

Data should be recorded and summarized using dairy management software or a spreadsheet program. The average bodyweight of groups is important information for balancing rations for the heifer herd. Average daily gains for groups indicate whether heifers are performing at, above, or below expectations. Ration adjustments can be more accurately made when this information is available.

Monitoring heifer growth makes sense economically. With today’s high feed costs, producers are constantly searching for ways to be more efficient and eliminate waste. Growth data can help with this situation by providing information to better manage the feeding program. It is expensive to feed heifers beyond 24 months of age. Consistently monitoring heifer growth can ensure that the herd is meeting management goals for growth.

—David (Dave) R. Winston  
Extension Dairy Scientist, Youth  
(540) 231-5693; [dwinston@vt.edu](mailto:dwinston@vt.edu)

[www.ext.vt.edu](http://www.ext.vt.edu)

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