Dear Dairy Producer,

55th Annual North Carolina Dairy Conference
The North Carolina Dairy Conference is scheduled for February 15 and 16 at the Holiday Inn on Jake Alexander Blvd. in Salisbury. If you haven’t received a registration form, they are available at the Rowan County Cooperative Extension Office.

As always, the annual dairy conference includes the dairy foods safety and quality conference, the North Carolina Dairy Youth Foundation Board meeting, the NC ADA/SUDIA Board meeting, North Carolina Dairy Producers Association Annual Meeting and Board Meeting, numerous educational and research seminars, and a trade show.

Out-of-County Tour
Our annual Out-of-County Tour will be Friday, February 24. We’ll meet in the Cleveland IGA parking lot at 9 a.m. and travel to Myers Brothers Inc. at Hamptonville. They milk around 800 head and raise about 800 heifers in a really unique heifer barn. Their heifer raising program has been very successful. Myers’ have been part of many interesting research trials and are currently part of a sexed semen trial. They are very happy to share their thoughts, both good and bad, on their experiences.

We also plan on stopping at a local Amish general store in the Hamptonville area and then traveling to one of the local wineries. We’ll be back in Cleveland probably pretty close to 4 p.m.

It should be a fun and educational day. The Rowan County Cooperative Extension van is reserved for the trip, however, please call the Cooperative Extension office (704-216-8970) to let us know how many are planning on going.

Calendar
April 22: State 4-H Dairy Quiz Bowl and Skillathon contests, Iredell County Cooperative Extension Office. We’re currently practicing every Tuesday and Thursday at the home of David and Cheryl Correll, 1475 Woodleaf Barber Road, Cleveland. All youth are welcome to participate.

May 6 or May 13: Spring dairy judging clinic.
June 16: Dairy Night at the Kannapolis Intimidators.
June 26: State 4-H Dairy Judging Contest.
July 10-14: Southeastern Dairy Youth Retreat; Jonesville, NC Holiday Inn.
August 2: Rowan County Junior Dairy Show
August 3-4: Iredell District Junior Dairy Show
Quality Differences Between Grass Hay Stored as Dry Round Bales or Wet Wrapped Round Bales
From Michigan State University’s Beef Cattle Research Update

High humidity in the Appalachian region of the eastern U.S. requires producers harvesting hay as large dry round bales (80-85 percent dry matter) to wait two to three days between mowing and baling. Storing hay as wet wrapped round bales (40-60 percent dry matter) can reduce time between mowing and baling to one to two days. Reduced time increases leaf retention and decreases field losses. In this study, seven West Virginia forage producers harvested grass hay as either dry round bales or wet round bales that were cut from the same field on the same day.

- Wet round bales contained significantly higher levels of crude protein (12.1 percent vs. 10.79 percent), soluble protein (6 percent vs. 2.2 percent), and net energy for maintenance (0.51 Mcal/lb vs. 0.42 Mcal/lb), than dry round bales.
- Wet round bales also tended to contain higher levels of available protein (11.1 percent vs. 9.7 percent), Total Daily Nutrients (56.8 percent vs. 52.2 percent), net energy for gain (0.26 Mcal/lb vs. 0.17 Mcal/lb), digestible protein (68.8 percent of crude protein vs. 55.4 percent of crude protein), and lower levels of lignin (indigestible fiber) (7.2 percent vs. 8.5 percent) compared to dry round bales.

The researchers concluded that the economic impact of the improved quality of wet round bales only covered the cost of the plastic wrap. They also concluded that in order to maximize the value of wrapping high moisture hay, it is necessary to harvest at earlier stages of growth so that improvements in forage quality will pay for the additional machinery, labor, and material cost.

However, my thinking is that making wet round bales requires fewer trips (tedding) across the field, therefore less time, fuel, and machinery wear and tear. Not to mention how much more convenient and easier it is to make higher quality hay with the wet round bales in the spring when the rain patterns can make harvesting quality hay a real challenge. Instead of needing four to five days of good weather to get a hay field made, only one or two days are needed. These factors, combined with the nutritional advantages of wet round bales, have to make producers think strongly about wet round bales.

Practices That Might Impact Udder Health
Dr. Donald E. Pritchard, NCSU Extension Dairy Specialist

In the December 2005 issue of the Journal of Dairy Science there were two research reports that producers might want to factor into the management decisions they make.

The first study conducted by researchers from Pennsylvania and Ohio compared the bacteria populations in clean and recycled sand used for bedding in dairy facilities. Bedding samples were collected in both the winter and summer from commercial dairies that were using either clean sand or recycled sand. The composite samples were sub sampled and analyzed for dry matter percent and cultured for the types and numbers of bacteria present. The researchers reported that “The results from this study suggest that bacterial populations and numbers were similar for both clean sand and recycled sand in either summer or winter.” They further stated that either type of sand could safely be used to bed free stalls, as the number of coliform and Klebsiella spp. in both sand types were below the generally accepted thresholds thought to cause mastitis. The researchers did find, however, that there was a high level of Streptococcus spp. in both sand types on day 1 after sand was placed in the stalls, and persisted through day 7 in both the winter and summer. Why this occurred is unknown, and further study is needed into the effects of sand source, particle size and other management factors on Streptococcus spp. populations in the sand. Producers who are either already using or are considering using sand as bedding should keep this finding in mind.

The second study published, also from Ohio researchers, looked at various physiologic and immune system responses to feeding selenium from two different sources (inorganic or organic). In this study dry and early lactation cows were fed diets containing either selenite or selenized yeast at the 0.3mg/kg of dry matter level. In all the parameters measured (blood, serum, colostrum, milk), the feeding of selenized yeast resulted in higher levels of selenium. This finding would suggest that the immune systems of cows consuming the selenized yeast diet should have been more effective at killing bacteria. This was not the case, however. When blood neutrophils were isolated and used in an in vitro kill assay of Escherichia coli 487 there was no difference in kill rate response due to the selenium source fed the cows. Other researchers have also reported no response difference in kill rate of Staphylococcus aureus by neutrophils of cows fed the two types of selenium. So, while the elevated serum levels of selenium may provide other health benefits to both cows and their new born calves, this study suggests that feeding organic selenium appears to provide minimal, if any, increase in resistance (immune system response) to bacteria invading the mammary gland and causing new udder infections. Producers should discuss the pros and cons or necessity of feeding organic selenium with their feed consultant and veterinarian before incorporating the use of it into their cattle diets.
An Update On Milking Frequency
Dr. Donald E. Pritchard
NCSU Extension Dairy Specialist

More than two years ago I wrote an article about the effects of different milking frequencies on dairy cows. In that article I highlighted some of the latest research that compared doubling the milking frequency for the first 3 to 6 weeks of lactation (4x versus 2x, or 6x versus 3x). At that time, most of the reports showed an average increase of 6 pounds milk daily for the entire lactation from doubling the milking frequency during just the early lactation period. This practice appeared to be more profitable than milking 3x for the entire lactation. However, the research had been conducted with relatively small numbers of cows, with most of them being housed in tie stalls, and not in large commercial herds. Recently the results of a study that looked at the impacts of doubling the milking frequency in a large commercial herd was published in the Journal of Dairy Science, and the results do not support the findings of earlier research.

Researchers at the University of Arizona studied the effects of 6x milking for different time periods at the beginning of lactation before switching to 3x for the remainder of the lactation, and compared the results to milking 3x for the entire lactation. The study was conducted in a large commercial Arizona dairy during mainly winter months. They found that milking 6x for either 7, 14, or 21 days and then switching to 3x did not result in any short or long term increase in milk production. It was further found that doubling the milking frequency for 1 to 3 weeks did not affect dry matter intake, body condition scores, milk components, reproduction, mastitis, lameness, digestive disorders, respiratory issues, or retained placenta. The researchers concluded that more research was needed to determine milking regimens that would yield optimal sustained production responses.

There were, however, two differences between the 6x and 3x groups that may have had an impact on milk production. First, it was noted that the 6x cows had to walk a total of over 4,800 feet daily to go to and from the milking parlor, while the 3x group’s daily treks to and from the parlor totaled only about 1,000 feet. Secondly, the 3x group was out of its pen an average of 3.25 hours a day, while the 6x groups were away from their pens an average of 6.5 hours a day. These two differences between the 3x and 6x groups suggest to me that the 6x cows may not have been receiving enough rest and rumination time daily to produce the additional milk that was expected. I base this supposition on the information presented by Dr. Richard Grant from the W.H. Miner Agricultural Research Institute in Chazy, New York at dairy producer meetings, and also published in the October 25, 2005 issue of Hoard’s Dairyman and other publications.

Dr. Grant believes that lactating cows need 12-14 hours a day of resting time to produce at their maximum potential. This amount of time is needed daily to increase blood flow to the mammary gland for producing milk, increase the feeding and rumination activity, reduce stress on feet, reduce lameness, reduce overall fatigue stress and improve general health. Based upon animal observations, Dr. Grant contends that cows need about 8-9 hours a day for eating, drinking, and other activities such as grooming, estrous, interaction, etc. Add to that value a minimum of 12 hours resting time needed daily, and you are left with only about 3-4 hours a day for cows to be out of their pen for milking or other functions. Since the 6x groups of cows in the Arizona study were out of their pens for over 6 hours a day, the time they had available for resting (rumination and making milk time) was reduced to less than 10 hours a day. This reduced amount of resting time could have had a significant impact on the milk production performance of the 6x groups, and should be considered when interpreting the results of this study. The logistics of how cows are grouped and handled in large herds may need to be revisited if the potential benefits of doubling the milking frequency in early lactation are to be realized.

All producers with herds housed in free stalls, regardless of the milking frequency being followed, should determine the amount of time each day that cows are kept away from their feed and resting area. Calculate the total daily amount of time spent moving cows, time spent standing in the parlor holding pen, time spent in the parlor, and time required to perform other functions such as herd health check. Add to that total amount of time 8-9 hours for cow maintenance/personal time, and then determine how much time is left for resting each day. If there isn’t at least 12 hours as Dr. Grant contends are needed, then consideration should be given to making the changes required that will give cows the daily resting time they need to perform to their maximum potential.
Farmers can expect tax breaks on some purchases in 2006

RALEIGH – Farmers will see a tax break beginning Jan. 1 on the purchase of certain farm equipment and supplies thanks to changes in the state tax law made by the N.C. General Assembly during its 2005 session.

The following items that were taxed at a rate of 1 percent, will now be exempt from sales and use tax:

* Farm machinery, attachments, repair parts and lubricants applied to farm machinery sold to farmers;
* Containers sold to farmers to be used for planting, cultivating, harvesting, curing, packaging or transporting farm products for sale;
* Metal flues for use in curing tobacco;
* Bulk tobacco barn or rack, parts and accessories attached to the barn or rack;
* Grain, feed or soybean storage facility;
* Sales of horses or mules to farmers for use in planting, cultivating, harvesting or curing farm crops or in the production of dairy products, eggs or animals;
* Sales of fuel other than electricity to a farmer for use in planting, cultivating, harvesting or curing farm crops or in the production of dairy products, eggs or animals;
* Sales of semen purchased for use on animals held or produced for commercial purposes;
* Sales of potting soil sold to a farmer for use in planting, cultivating, harvesting or curing farm crops, or in the production of dairy products, eggs or animals.

Eligible farmers should complete and submit Form E-595E, Streamlined Sales Tax Agreement Certificate of Exemption, to vendors in order to document that the property being purchased is exempt from sales and use tax. Farmers needing to obtain an exemption number should complete and submit Form E-595EA. Both forms are available online at www.dor.state.nc.us/downloads/sales.html or by calling toll-free at (877) 252-3052. Vendors who have exemption certificates on file from customers prior to Jan. 1, 2006, are not required to obtain new certificates from customers.

For more information, contact the N.C. Department of Revenue toll free at (877) 252-3052.