

## **Cool Dry Cows While They Eat**

Dr. Donald E. Pritchard  
NCSU Extension Dairy Specialist

Over the last few years considerable research attention has been given to various topics affecting dry dairy cows. Several areas of nutrition management that affect nutritional balance and health during the dry period and subsequent early post partum period have been researched. The length of the dry period required for a cow to produce the maximum amount of milk for the two associated lactations, as well as over her productive life has been looked at. The effect of regulating the number of hours of light that dry cows receive daily on milk production the next lactation has been studied. Several research projects have studied various udder health management regimes during the dry period. How to treat existing intramammary infections during the dry period, how to reduce the number of new infections that occur during the dry period through the use of antibiotic infusions or teat sealants, and the importance of monitoring the somatic cell counts of cows as they freshen are topics that have been investigated and reported in the literature.

In the Journal of Dairy Science June 2006 issue, a report on another dry cow management topic was published. In the article, researchers from California reported on their study of the effects of adding a shade cloth cover and fans over a dry cow feedbunk area which already had a sprinkler system for cooling the cows as they ate. In the study, conducted in a large California dairy, 524 Holstein cows were randomly assigned during the last three weeks of their dry period to either a pen in which the feedbunk area had over it just a sprinkler system to cool the cows while they ate, or a pen which contained a sprinkler system plus a shade cloth cover and fans. Both pens had shade covered resting areas for the cows to use as they chose to. Data on various parameters were recorded from June 20 – October 20, 2002.

The researchers found that the cows in the pen with the sprinkler system plus the shade cover and fans produced an average of about 3 lbs more milk per day for the first 60 days of their subsequent lactation than did cows in the pen with just the sprinkler system to cool them. During the study period the average daily ambient temperature under the shade/fans covered feedbunk area was about 2.3°F cooler than was the average temperature in the pen without the shade/fans (79.5 vs 77.2°F). The temperature humidity index (THI) in the feedbunk area of the shade/fans pen was above 72 for 48% of the days of the trial, versus 60% of the days in the pen without the shade/fans. Since a THI value above 72 is considered to be an indication of heat stress in cattle, the cows in the pen without the shade/fans were under more stress during their late pregnancy period, a critical time for many physiologic functions.

The researchers calculated the projected economic returns of installing and maintaining the shade covers and fans to a dry cow feedbunk area that already had a sprinkler system. They determined that an additional profit of at least \$8.92/cow/year from just milk sales could be realized. Other economic benefits associated with cow health issues were not estimated.

While all producers should consider the results of this study as they review how they handle their dry cows, those who dairy in regions of the country where the THI often gets above 72 should give special attention to the report. Improved milk production and profitability could result from making a relatively small investment in keeping dry cows shaded and cooler while they are at the feedbunk.