The Effects of Shorter Dry Periods  
Dr. Donald E. Pritchard  
NCSU Extension Dairy Specialist

Dairy producers are always looking for ways to improve the profitability of their businesses. One management practice that has been reviewed, researched, and modified on many farms within the last decade is the length of dry period to give cows between lactations. The traditional practice of allowing a 60-day dry period has been shown to not be necessary for all cows. Keeping cows in production longer during their life in the herd by shortening their dry periods can improve lifetime profitability.

Many research reports have been published about the optimum dry period length for cows. Most have concluded that primiparous cows (1st lactation) need a 50-60 day dry period between their first two lactations. But, multiparous cows (older) can do well with 35-45 day dry periods. The reasons for the different recommended lengths for the two age groups are many, but include time needed for regeneration of the mammary secreting tissue, time required for body growth, and diet changing effects on the cows.

Recently another research group reported on their dry period length studies in the December 2007 issue of the Journal of Dairy Science. Their report gave additional support for varying the dry period length of cows, and presented some of the resulting performance and metabolic effects of varying dry period lengths.

The researchers divided cows into primiparous and multiparous groups, and then assigned cows in those two groups to receive either a 35-day, 42-day, or a 56-day dry period. While the resulting groups each contained only from 16 to 21 cows, the results on the parameters measured are interesting.

As expected, the primiparous cows in the 35-day group produced less milk than cows in the other two dry period length groups. The reduction occurred in the third month of lactation, and may have been the result of insufficient time for milk secreting cell turnover between the first and second lactations. The average daily milk yield of multiparous cows was not different between the 35-day and 56-day groups. Multiparous cows in the 42-day group produced less milk than cows in the other two groups. The researchers hypothesized that this may have been caused by nutritional stress associated with frequent and sudden diet changes as the dry cows were moved between far-off and close-up pens.

Another finding was that cows in both age groups having a 42-day dry period had a lower pregnancy rate and required more services per conception than did cows in the 35-day and 56-day groups. These results may also be associated with the frequent and sudden diet changes that cows in this group experienced. Additional research is needed on this relationship between dry period length, diet changes, and reproductive performance.
The researchers also collected body condition scores on all cows at dry-off, at calving day, and at 15 weeks of lactation. They found that cows in the two longer dry period groups gained more body condition during the dry period than cows in the shortest dry period group. During the 15 week postpartum period the 35-day dry cows maintained their body condition better than the other two groups. The results suggest that cows, especially the multiparous cows, which are over conditioned near the end of their lactation should be candidates for a 35-day dry period. They will be more likely to not gain any more weight while they are dry.

The results from this study give further credence to the recommendation that one dry period length should not be applied to all cows in a herd. Each cow should be evaluated and managed according to her age and body condition near dry-off. Some cows will be candidates for a 35-day dry period (milk them longer), while others will require the 56 days dry. Since the 42-days dry cows in this study did not perform as well as the other two groups, producers should perhaps consider avoiding, if possible, the in-between dry period lengths.