

## **Reproductive Performance Decline in U.S. Dairies**

The reproductive performance of U.S. dairy herds is tracked by following herd averages of specific parameters related to reproduction. The use of herd averages to estimate reproductive performance has its limitations, but these averages serve as a guide for evaluating an important area of management in dairy production. According to information from cow records processed at the DHI Computing Services, Inc., Provo, Utah reproductive performance in U.S. cows has decreased markedly in the last decade.

The days open of herds processed in Provo have increased from 128.2 days in 1989 to 149.7 days in 1998. This is an increase of 21.5 days, 15 days of which have occurred since 1994. It is interesting to note that rBST was introduced into the marketplace in February 1994. There are two schools of thought on a possible relationship between rBST and the increase in days open. Because cows milk for a longer period when on rBST, producers have a longer time to get cows pregnant. The relationship may be based on management decisions that are difficult to objectively quantify. On the other hand, there may be a physiologic relationship between increased milk production, negative energy status and decreased reproductive performance that could be seen as a drawback to the use of rBST.

Investigations at the University of Florida by William Thatcher and colleagues have studied reproductive performance and rBST with a model using the Ovsynch/TAI program. Lactating dairy cows (n=403) with body condition scores > 2.5 were injected with gonadotropin-releasing hormone at 63 days in milk followed 7 days later with PGF2a. 48 hr after PGF2a, cows received a GnRH injection. They were inseminated 16 hrs later. Cows treated with rBST at the initiation of the Ovsynch/TAI program had higher pregnancy rates than control animals at day 27 and day 45 postbreeding. In this model it seems that rBST is not responsible for reduced reproductive performance when energy status (as indicated by body score) and estrous detection (eliminated by timed synchronization program) were controlled.

Despite these results, dairy producers can not fail to address the trend of increase in days open. The Thatcher study indicates that blame can not be placed entirely on the possible drawbacks of rBST use. If the increase is due to management decisions, the consequences of these decisions should be scrutinized. Decreased reproductive performance has a detrimental impact on the herd despite the increase in DIM. Good cows with high genetic merit may be culled due to reproductive failure that is avoidable. Replacement heifers are expensive and pose biosecurity threats to the herd. If the three primary factors that influence days open are days in milk (DIM) at first breeding, efficiency of heat detection and fertility, each individual factor must be managed to optimize reproductive performance. Detailed evaluation of each factor must be made: nutritional status at each stage of pregnancy and milk production, components of the diet, estrous detection, post partum evaluation for complications, treatment of postpartum problems, handling of semen, and time of insemination.

The Colorado Dairy News will focus on the topic of improving reproductive performance in the next few issues with a series of informative articles and standard operating procedures with which to monitor management decisions. The first in this series of Standard Operating Protocols deals with Monitoring Fresh Cows and Heifers. Please review this protocol with your herd veterinarian. It will save you time and money in the long run.