

Texas Dairy Matters

Higher Education Supporting the Industry

RE-EVALUATE REPRODUCTION

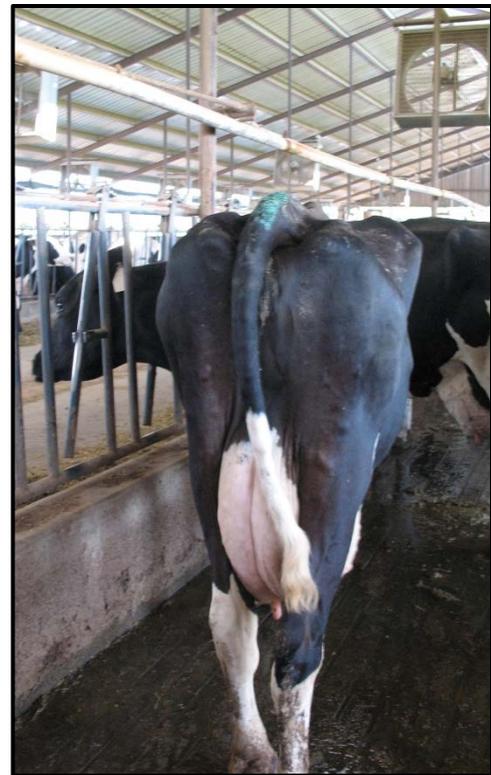
Ellen Jordan, Ralph Bruno, Kevin Lager, and Todd Bilby
Extension Dairy Team
Department of Animal Science
Texas A&M AgriLife Extension Service
The Texas A&M University System

Over the last several decades, fertility of dairy cows has declined. A recent study by the Animal Improvement Program Laboratory (**AIPL**) indicates the historical decline stopped and conception rates, days to last breeding, and calving interval have actually started to improve.

The AIPL study, based on Dairy Herd Improvement (**DHI**) data, provides national and regional averages for a number of reproductive parameters. These numbers provide producers an opportunity to compare their herd's performance to the average and to set new goals. For this analysis, Texas herds are considered part of the Southeast region, while New Mexico herds are categorized as Southwest.

Several factors may contribute to the improvement in reproduction. From a genetic perspective, productive life (**PL**) was added to genetic evaluations in 1994 and daughter pregnancy rate (**DPR**) was added in 2003. These two additions allowed selection for improved fertility.

On the management side, one very significant change that has occurred is the development of synchronization programs. Nationally, 17 % of herds are definitely or probably synchronized, while 10 % of Southeast and 17 % of Southwest herds adopted synchronization programs according to the AIPL study. The Southeast has the lowest adoption rate of any region in the nation.



As might be expected, the adoption of synchronization appears greater on first service. In 2006, just over 1 million breeding records were available to calculate days to first breeding. Of those, approximately 51 % were not synchronized, 9 % were possibly synchronized, 33 % were probably synchronized and 7 % were definitely synchronized.

For Holsteins, the average days to first breeding has improved from 92 days in 1996 to 85 days in 2007. The trend for Jerseys isn't as well-defined, but went from 85 days in 1996 to a peak of 88 days in 1998 and 1999, to 83 days in 2007.

On a national basis initially, the conception rate for first breeding and all breedings declined by 7 percentage points, but improvement during recent years has occurred. In 2006, the mean conception rate for first breeding was 31% nationally; while it was only 26% in the Southeast, but 33% in the Southwest.

As would be expected with a declining conception rate, the actual number of breedings required to obtain a pregnancy increased. Nationally, on average 2.5 breedings are required to obtain a pregnancy. In the Southeast, 2.7 breedings are needed, while only 2.4 are used in the Southwest.

The actual calving interval for Holsteins peaked at 428 days in 2001, and has since fallen to 422 days in 2006, which is still 12 days longer than it was in 1996. The average calving interval for Jerseys was 398 days in 1996. It spiked to a 415 day average in 1999 and had fallen to 410 days by 2006.

Pregnancy rate (**PR**) was calculated by AIPL based on days open as $PR=100(0.25)(233-\text{days open})$. The days open was limited to include only animals with 50-250 days open; therefore may be higher than reported by record keeping systems that do not exclude animals with extended days open. Nationally, the pregnancy rate was 24.9 %, while the Southeast average of 22.2 % was lower and the Southwest (28.3 %) was higher than average.

Take time to evaluate whether you too are seeing improvements in herd fertility. If not, consider whether you have adopted the genetic and management tools now available to improve herd reproduction. Work with your consultants to determine how to incorporate these technologies into your herd. Finally, re-define your goals to be "above average".

Reference

Norman, H.D., J.R. Wright, S.M. Hubbard, R.H. Miller, and J.L. Hutchison. 2009. Reproductive status of Holstein and Jersey cows in the United States. *J. Dairy Sci.* 92:3517-3528.

<http://texasdairymatters.org>

October, 2009

The Texas A&M AgriLife Extension Service provides equal opportunities in its programs and employment to all persons, regardless of race, color, sex, religion, national origin, disability, age, genetic information, veteran status, sexual orientation, or gender identity.

The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating