

Indicators of Longevity

by **TROY SMITH**, *field editor*

Are longer postpartum intervals and higher rebreeding rates of early-calving cows associated with longevity? Many veteran cow-calf producers would affirm that, and research has demonstrated a

relationship between a cow's ability to consistently calve early and the length of her productive life.

"Identifying heifers that calve early in the calving season may be the simplest method to improve longevity and profitability in any herd, but especially in

commercial herds," says Eric Mousel, chair of the Department of Agricultural Sciences at Northwest Missouri State University.

Mousel talked about the effects of heifer calving date during the Applied Reproductive Strategies in Beef Cattle symposium (ARSBC) Dec. 3-4 in Sioux

Falls, S.D. He cited results from a study based on data collected from producers involved in South Dakota Integrated Resource Management groups, as well as 21 years of heifer data collected at the Roman L. Hruska U.S. Meat Animal Research Center (USMARC) at Clay Center, Neb.

According to Mousel, the longevity of South Dakota heifers calving in the first 21 days of the calving season was 24% greater than for heifers calving during the second 21 days of the season. The longevity of USMARC heifers calving during the first 21 days was 7% greater than for heifers calving during the second 21-day period and 12% greater than heifers delivering calves during the third 21 days of the season.

"Not only does this suggest that there are significant differences in longevity and, likely, profitability of replacement-heifers, based on their ability to get pregnant early in the breeding season and thus calve early," said Mousel, "but the differences may be more pronounced in some heifer groups than others."

Mousel said data from calves born to USMARC heifers suggests replacement heifer calving date does affect productivity and profitability. Calving date influenced the weaning weight of their first six calves. The total pounds of weaning weight produced and the average weaning weight were greater for calves born to heifers delivering in the first 21 days of the calving season. Analysis of the data also suggests the average return per female is higher for those that calve early.

"From the standpoint of profitability," added Mousel, "heifers that calve in the first 21 days of the calving season may represent as much as 75% of future income."

While producers may try to capitalize on the effects of early calving by choosing their oldest and heaviest heifers as replacements, Mousel warned that those heifers do not always reach puberty earliest, nor do they always initiate reproductive cycles before younger and smaller heifers.

The relatively low heritability of reproduction traits has made selection through use of genetic technology slow, but Mousel suspects future advancements may occur through the use of genetic markers for fertility. It is likely, he said, that a heifer's age at first calving may be the best phenotypic indicator of fertility, and early-calving heifers may be the most promising population to use for discovering genetic markers for fertility.

Mousel spoke during Monday's ARSBC session focused on how to profit from reproduction. For more details, visit the Sioux Falls 2012 newsroom at www.appliedreprostrategies.com to view the PowerPoint slides and proceedings paper submitted by Mousel to accompany his presentation. Audio of the presentation will be available.