



Cow Camp Chatter

by **RON TORELL**, long-standing educator and advocate of agriculture

Gestation and dystocia

Oftentimes, when a first-calf heifer experiences calving difficulty we automatically cast all the blame on the immediate sire of the calf. We may forget that the sire contributes only half of the genetic merit. The pedigree of the dam determines the other half. If the dam's pedigree is stacked with growth and large-birth-weight sires and dams, this is likely to influence calf delivery as a first-calf heifer. Conversely, if the dam's pedigree is stacked with calving-ease sires and dams, one would expect shorter gestations, lower birth weights and less dystocia.

Information about gestation lengths of specific bulls are revealed when breeding and calving dates are documented from pasture-bred

registered operations and/or artificial insemination (AI) breeding programs. Averaged together, the gestation length for all breeds of cattle is 283 days. The range is 279 days for Jersey up to 292 days for Brahman. On the average, the

Continental breeds of Charolais, Simmental and Limousin exhibit gestation lengths of 289 days. English-bred cattle such as Angus, Shorthorn and Hereford exhibit shorter gestation lengths of 281, 282 and 285 days respectively. Within these breeds, the average gestation

length may vary an additional 12 days on either side of the average for the breed.

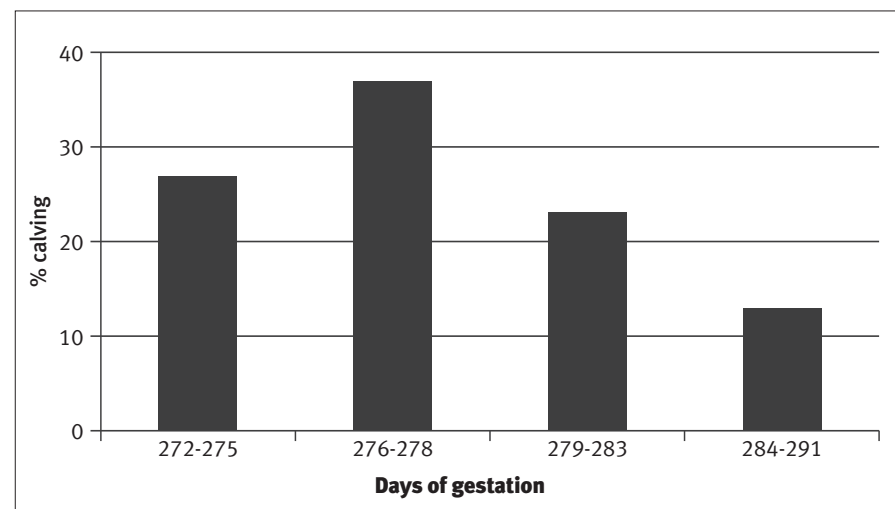
Take, for example, the following AI calving data obtained on registered replacement heifers recorded over the course of 10 years from a northern

Nevada ranch. During this time frame, a total of 202 head of properly developed and nutritionally sound registered-Angus replacement heifers were Aled to 12 different high-accuracy calving-ease Angus sires. An AI success rate of

69% resulted in 140 AI pregnancies. Actual calving dates were recorded and compared to the 283-day gestation table. Any calves born after the 283-day gestation mark were DNA confirmed or denied to be from the AI sires.

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Fig. 1: Gestation length of 140 Angus heifers



During the 10-year period,

- 37% of the calving-ease AI-sired calves were born between 276 and 278 days of gestation (see Fig.1);
- 27% were born between 272 and 275 days of gestation;
- 23% were born between 279 and 283 days of gestation; while
- only 13% were born between 284 and 291 days of gestation.

The average gestation length on all 140 of these calves was 279 days, four days less than the 283-day average. The range was from 272 days clear out to 291 days. By the time these heifers had reached day 283 of gestation, delivery of the AI-sired calves was 87% complete.

If a calf is born at 275 days gestation vs. the average of 283 days, that cow will usually have an easier delivery and will automatically have an additional eight days postpartum before the breeding season.

Sires used at the Nevada ranch were obviously short-gestation, calving-ease and low-birth-weight bulls, as only a light pull was required on less than 3% of the AI-sired calves. Many of these assists were due to an abnormal presentation of the fetus and not due to excessive birth weight. Ninety-one percent of the calves weighed less than 80 pounds (lb.) at birth. As birth weights increased to more than 80 lb., so did the assist rate.

Research has shown that there is an 80-lb. birth-weight threshold relative to dystocia in first-calf English-bred heifers. During the last 10 days of gestation, 1-1½ lb. of birth weight per day may be added to the size of the fetus. Within a five-day extended gestation, as much as 8 lb. could potentially be added to the birth weight of a calf. This could mean the difference between an unassisted birth or a dystocia situation.

In addition to genetics and gestation length, there are several environmental and nutritional variables that also may contribute to dystocia. Many calving-ease sires are calving-ease partially because they are short-gestation. This theory held true with the Nevada cattle. Second- and third-generation short-gestation and calving-ease-sired heifers tended to have even smaller calves at birth with shorter gestations. This would support the idea that true calving-ease sires are stacked with calving-ease in their pedigree, not simply the immediate sire.

In an effort to reduce dystocia on first-calf heifers, the process of selecting for smaller-birth-weight calves over several generations may come at

the price of reduced growth potential. Additionally, very small newborn calves do not have the body capacity to withstand severe weather nor the gut capacity to fully utilize the milking ability from the dam. As is true with most genetic selection tools, moderation is the best course of action.

A big advantage of short-gestation bulls is an increased postpartum interval before

breeding and quicker breed back for the cows. Research clearly shows that young cows and those cows who have difficult and slow deliveries require additional days postpartum to cycle and rebreed. If a calf is born at 275 days gestation vs. 283 days, that cow will usually have an easier delivery and will automatically have an additional eight days postpartum before the breeding season.

That's enough for this month. A special thanks to my wife, Jackie, for her part in writing "Cow Camp Chatter." As always, if you would like to discuss this article or simply want to talk cows, do not hesitate to contact me at 775-385-7665 or rtbulls@frontier.com.

