

Easing into Spring - Limousin's Calving Ease Advantage

by Benjie Lemon

ENGLEWOOD, CO-Spring is here and many the nation's cowherds are in the peak of calving season. It is a time of great optimism and excitement as new calves, and the result of the previous year's genetic selections, arrive. However, any level of excitement quickly disappears when having to face the unwanted headaches associated with calving difficulty (dystocia).

Millions of dollars are lost annually in the beef industry due to dystocia. The most prominent losses occur due to the death of the calf at time of calving. Other losses, also have a direct effect on the operation, and include: increased labor, veterinary costs, delayed rebreeding and more open females. Calves from hard births are also more likely to experience health problems, which result in higher medicine costs.

"Calving is important to us from a labor perspective" says Tom Christensen, manager of Baur Farms, a 1,000 cow commercial herd from Van Meter, Iowa. "In addition to the cows, we farm a considerable amount of ground with a total of only three employees. Calving ease has got to come first for us."

In the University of Minnesota Extension Bulletin titled, "Minimizing Calving Difficulty in Beef Cattle," Dr. Pete Anderson groups the many causes of dystocia into two general classifications. First are those factors affecting size and shape of the calf, such as birth weight, and sex of the calf. The second classification includes those factors affecting the ability of the dam to give birth, such as age of dam, pelvic area and body condition score. The interaction between these factors ultimately determines the incidence of dystocia.

The most common cause of dystocia is that the fetus is too large in relationship to the cow's pelvic opening. It is inevitable that occasional dystocia will occur due to abnormal presentation (breech birth, head or foot back, etc.). Given today's technologies and management tools, cattlemen can help minimize dystocia through selection.

Reams of technical papers are available on the topic. All of which confirm "big, dead calves don't grow." Christensen says, "If you don't keep them alive, it doesn't matter how much potential for growth they have."

Research at the U.S. Meat Animal Research Center (MARC) in Clay Center, NE, has shown that calves experiencing calving difficulty are about four times as likely to be born dead or die within 24 hours of birth than those born without difficulty. MARC data also confirms that virtually any level of dystocia causes a delay in a female's ability to return to estrus, thereby contributing to a higher incidence of open and later calving cows during the next calving season.

When designing a sound crossbreeding system, nearly all business minded cattlemen with British-based cowherds depend upon Continental breeds to add muscle to their calves. Given the close genetic relationship between birth weights and growth traits, cattlemen must be continually mindful of the fine balance between the two.

Placing too much emphasis on minimizing birth weight often results in reduced weaning and yearling weight. On the other hand, too much emphasis on increasing weaning and yearling weights can easily result in higher birth weights. Finding the balance between the two is a challenge cattlemen face every breeding season. Fortunately, by selecting bulls on the basis of both their birth weight EPDs and growth EPDs, individuals can be identified which calve easily and grow rapidly.

Over the years, Limousin has gained a favorable reputation for their calving-ease, calf vigor and overall survivability. Research from a 1988 Oklahoma State University Agricultural Experiment Station study confirmed, "Limousin sired calves were 4 to 8 pounds lighter and caused cows less calving difficulty when compared to Charolais, Chianina, Maine Anjou or Simmental sired calves." The findings on birth weight and calving difficulty showed a distinct advantage for Limousin compared with most other popular Continentals.

The most recent data from MARC continues to support the calving ease attributes of Limousin in comparison to other major Continental breeds. Limousin recorded a 6% lower incidence of calving difficulty and a 10 pound lighter birth weight compared against the average of Gelbvieh, Simmental and Charolais. (See Table 1.)

Table 1. Breed Differences in Maternal Traits

Breed	Cow Weight (lb)	Cow Hip Height (in)	Calf Birth Weight (lb)	Calving Difficulty (%)	12-hr Milk Yield (lb)	Biological Efficiency* At 3,500 DMI	Biological Efficiency* At 7,000 DMI
Limousin	1,213	52.4	86.4	15.7	10.2	33	42
Angus	1,094	49.6	74.7	8.8	9.3	39	17
Charolais	1,349	53.9	98.1	19.5	10.5	27	45
Gelbvieh	1,266	53.9	95.2	21.5	12.7	29	36
Hereford	1,091	50.0	79.4	16.5	6.7	30	13
Simmental	1,272	54.3	94.2	23.9	13.1	26	42

* Grams of calf weaned per kilogram of dry matter intake per cow exposed

Sources: USDA-ARS Technical Bulletin, 1999 and Jenkins and Ferrell, JAS 72:2787, 1994

Continually striving for improvement, Limousin breeders have focused selection pressure to maintain the breed's sensible birth weight advantage while bending the curve on growth traits.

"We really search for those curve bender bulls, or those bulls with low birth weight EPDs and good growth numbers," says Christensen. "Last year we did a pretty good job with birth weights on the Limousin sired calves averaged 74 pounds on steers and 72 pounds on the heifers, and all those calves grew really well."

As can be seen in the accompanying graph (Figure 1, source: NALF International Limousin Genetic Evaluation 2001) of genetic trends, over the last 10 years, the genetic trend for growth traits within the Limousin population have steadily increased, while gestation length has declined and birth weight has maintained a sensible level. This curve bending fact is a testament to the power of sound genetic selection.

Recently, NALF has taken the process of evaluating calving-ease to the next level and developed prototype EPDs for calving-ease. These genetic predictions were expressed in units of likelihood of an unassisted birth, where higher EPDs are favorable. Genetically there are two "types" of calving-ease which are of interest. The first and most obvious type involves the question of genetic differences in the ease with which offspring (of a sire or dam) are expected to be born. This is called direct calving-ease.

The second type of calving-ease involves genetic differences in the ease with which daughters (of a sire

or dam) are expected to give birth. This is called maternal calving-ease.

The two types of calving-ease are easier to understand if thought of as either traits of the calf or traits of the dam. Direct calving-ease is a trait of the calf, while maternal calving-ease is a trait of the dam.

Though not yet in production, Limousin EPDs for calving-ease promise to be an excellent tool for cattlemen to use in conjunction with other management tools to more effectively select for high levels of calving-ease and at the same time high levels of growth and other traits.

Based upon the big picture of every-cow calf enterprise, dystocia and all the many losses associated with it, weigh heavily on an operation's ability to be economically efficient. Consequently, high levels of calving ease with the most muscle growth efficiency make Limousin genetics well suited to enhance production efficiency.

Limousin is the largest Continental breed registry in the United States. Limousin is the leader in Muscle Growth Efficiency and is the ideal complement to British cross cows. For more information, contact www.nalf.org.

Limousin Genetic Trends

