

Understanding Calving Difficulty

The "will to calve" is a variable in the behavior of pregnant females at calving time. Lack of effort at time of parturition is observed most often in first-calf heifers. Some heifers will work hard and persistently to give birth (usually with success) while others will strain a few times and quit trying.

Failure to work hard at birthing a calf is a heritable trait, as evidenced by the fact that a majority of the daughters of one bull will display this fault while the daughters of another bull used in the same herd will keep trying until a calf is delivered. Obviously, the bull whose daughters exhibit this faulty behavior must be culled.



Bob Long

Maternal instinct is a characteristic of females that is often taken for granted, yet a close examination finds this behavior quite amazing. A newborn heifer calf can be removed from the mother at birth and kept in complete isolation from other cattle. When this calf matures sexually she can be artificially inseminated, conceive, and after a normal gestation period, lie down and give birth. She will then get up, claim the offspring, clean it off, get it up, allow it to nurse, stay and protect it. The complexity and subtlety of the hormone interactions which control this behavior is mind-boggling.

A well developed maternal instinct is an important asset in a breeding herd. Nothing is more discouraging to a herdsman than to have a cow give birth to a live calf and refuse to claim it. The extra time and labor required to pen such a cow with her calf (which she may kill or injure) and force her to allow the calf to nurse for three or four days is intolerable—and then she may not claim it.

Also, in severe weather (either hot or cold) if an unattended cow fails to claim and care for her newborn, a dead calf is the result.

Another of the many factors which contribute to calving difficulty is breed effect. Reference here is not to crossbreeding where bulls of a breed of large mature size are mated with females of a small breed, but rather to the degree of calving difficulty within a breed. A breed which consistently experiences calving difficulty in first-calf heifers when mated with bulls of the same breed has a serious problem and should be avoided.

A distinct difference exists between *Bos taurus* cattle (British and European breeds) and *Bos indicus* cattle (Zebu and Zebu influenced breeds) as to size of calf at birth. The females of Zebu breeds, such as the American Brahman, Indu Brazil, Nellore, Gyr, Sahiwal and Red Sindhi, have the ability to produce a calf small at birth regardless of the size or genetic potential for growth of the bulls with which they are mated. The physiological basis for this phenomenon is not understood but it results in very little calving trouble among Zebu females. This is a tremendous advantage.

Another condition which can cause trouble at calving time is the abnormal presentation of the calf. Instead of the typical upright, head extended over the forelegs presentation, a calf may have the head turned back or one or both forelegs back. Also, a breech presentation — hind legs first — may occur or, in this case, one or both hind legs back.

These conditions make birth impossible. The calf must be pushed back through the pelvis and the position corrected. There have been a few reports that such abnormal presentations are hereditary, but a genetic effect has not been substantiated. Since this condition occurs infrequently it is probably a chance happening and of little concern in selection programs.

The next column will be devoted to the effect of the calf's sire upon calving difficulty.

About Our Columnist

Robert Long was born and reared on a livestock farm in Ohio. He received a bachelor of science degree from Ohio State University as well as master of science and doctor of philosophy degrees from Oklahoma State University. He held teaching and research appointments at Oklahoma State and the University of Kentucky before becoming chairman of the animal science division at the University of Georgia, a post he held for 11 years.

In 1967 he joined Ankony Angus Corporation as vice president for research and development and became executive vice president and chief operating officer. In 1976 Long joined the faculty at Texas Tech University where he was chairman of the animal

science department. He is currently professor emeritus, having retired as of January 1992, but remains active as a writer, lecturer and consultant to the beef cattle industry.

Long has lectured on the breeding, feeding, management and marketing of beef cattle in beef producing countries throughout the world. He has assisted major meat packers in the United States, Argentina and Brazil by training cattle buyers.

The animal scientist has also served as a consultant for various purebred and commercial breeders as well as feedyard operators. He has judged beef cattle at all major national shows in the United States and Canada and at most state fairs. Most recently, Long was the

keynote speaker for the Australian Beef Improvement Association's national convention in September 1993.

Long's research projects have been concerned with skeletal size and muscularity of feeder cattle as they affect feedlot performance and carcass characteristics, and the use of identical twins resulting from embryo splitting to study the effects of caloric density of diet upon efficiency of production. He is a member of the American Society of Animal Science, Phi Kappa Phi, Alpha Zeta, Gamma Sigma Delta and Sigma Xi. Long was the 1991 recipient of the Beef Improvement Federation's Pioneer Award.

