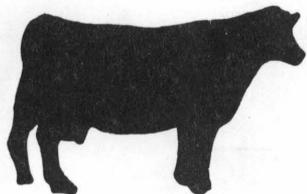


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dairy guidelines

EXTENSION DIVISION VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY BLACKSBURG, VIRGINIA



Calving Difficulty

Can you select against it?

V.P.I. & S.U. LIFE

AUG 3 1979



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DG 87

July 1979

Calving difficulty refers to a prolonged or troublesome calving. It is commonly called dystocia. Economically, difficult calvings are costly to dairymen because of their effect on the health of both dams and calves. Until recently, however, little data have been available to study this problem. Now research has been completed, and a national program has been initiated to evaluate A.I. sires on the ease of birth of their progeny. The facts behind the program and the use of this information should be of interest to all dairymen.

Information on calving difficulty is obtained from dairymen by A.I. organizations. The difficulty of each birth is scored one to five by the dairymen from "no difficulty" to "slight difficulty" to "extreme difficulty." About one-third of all births from heifers have been classified as needing assistance from the herdsman. Births were significantly easier from dams who had calved at least once. Male calves and large calves were associated more frequently with more difficulty, while size of the dam had no effect on dystocia, even within each age group. Small cows had no more difficulty than did larger cows of the same age. Calf size itself indicated that largest calves were male, from large dams and older dams. Some herds, more than others, experienced difficult calvings more frequently.

Genetically, calving difficulty and size of calf are closely related. Though they are controlled by many of the same genes, size of calf accounts for only a portion of the variation in calving difficulty. The sire of the calf can have an effect on the ease of the calf's birth, but the heritability of calving difficulty is low (.10). That means that differences among dams in calving difficulty will not be passed to their offspring. Neither will bulls rated low in calving difficulty necessarily sire sons low in calving difficulty. Dams who were small calves did not experience more than average difficulty calving.

Calving difficulty evaluations of sires are being reported by several studs. These are standardized nationally, with three measures reported.

1. Effective number of progeny. This is the number of calvings for a sire which can be compared directly to calvings from other sires in the same herd, year, and season. These are mini-contests between bulls for ease in calving.
2. Probability of siring easier than average births of progeny. A bull with a probability of 50% is expected to have similar incidences of both easy and difficult births. A probability of 80% indicates that births of an infinite number of progeny will mostly be trouble-free compared with stud average.

3. Expected percent difficult births in heifers.
 Heifers have the most trouble calving. Therefore, the expected percent difficulty in heifers can help identify problem sires. Difficulty is defined here as a code 4 or 5 birth, those requiring a fair amount of assistance. Table 1 indicates a convenient classification of the percentages, but remember that there is no real magic in 10 or 20%.

Table 1. Classification of bulls.

% Expected Difficult Births	Interpretation
0 - 10	Less than average difficulty
10 - 20	Average difficulty
20 up	More than average difficulty

Freeman and Berger, Iowa State

It is important to note that these calving ease evaluations are computed separately for each stud. Therefore, a bull worse than average in one stud may be better than the average bull in another. This will not happen frequently, but there is currently no way to compare bulls from different studs.

How should you use Calving Ease information?

In one study, bulls were evaluated and assigned to four groups by calving ease of their progeny from heifers. Subsequent calving difficulties were then recorded and are summarized in the following table.

Table 2. Summary of subsequent calvings from heifers. (Calves born after bulls' initial rating)

Bull Group (Initial Rating)	% Requiring at least some assistance	% Requiring at least considerable assistance
1. 25% Least Difficulty	22	10
2. 25%	28	12
3. 25%	34	19
4. 25% Most Difficulty	40	22

Pollak and Freeman, Iowa State

It is apparent from this chart that the calving difficulty expected from groups of sires is not as predictable as we would like. We would conclude that:

1. No selection of sires for calving ease is necessary for breeding milking cows.
2. Selection against sires rated worse than average in difficulty is recommended when breeding heifers. It is too restrictive, however, to use only "easy-calving" sires on heifers.