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USING AI CALVING-EASE BULLS
ON REPLACEMENT HEIFERS

K. A. Heikes

Summary

For maximal genetic progress in a dairy, proven AI sires should be selected to use on replacement heifers. To minimize problems at calving, these sires should be selected from bulls that are breed average or better for calving ease.

Introduction

By failing to use AI when breeding heifers, many dairy producers miss a golden opportunity to increase the genetic potential of their herd. Reasons often given include lack of facilities for AI or lack of time to do proper heat detection. With the increased availability of products for estrous synchronization, AI of heifers is now much easier.

By not breeding their heifers to AI calving-ease bulls, dairy producers have 1/3 of their heifer crop each year sired by natural -service bulls that are of questionable genetic quality. In the July 1986 USDA Sire Summary for Holstein bulls, non-AI Holstein bulls had an average Predicted Difference (PD) OF -362 lb milk, -12 lb fat, and -38 \$. In comparison, active AI Holstein bulls averaged +818 lb milk, +28 lb fat, and +95 \$.

Genetics

The heifer pen on every dairy should contain the best genetic potential on the farm. By mating these replacement heifers to AI sires, even greater genetic progress can be made. DHI records indicate that the average cow has only three calves in her lifetime. By using top AI sires on heifers, the chances of having a heifer calf by a highly plus-proven bull are increased greatly.

Most dairies also experience a higher conception rate when breeding heifers rather than cows. Thus, the more costly (and higher PD) bulls should be used on heifers.

Another consideration for the use of AI sires is the ability to avoid inbreeding. By having a wide selection of calving-ease sires from which to choose, most inbreeding can be avoided.

Calving Ease Summary

The National Association of Animal Breeders (NAAB), with the help of cooperating dairy producers and DHIA, annually publishes a Calving Ease Summary

for Holstein bulls. This summary ranks bulls by expected percent of Difficult First Births in Heifers (%DBH) and gives the degree of accuracy for this estimate.

Breed average for %DBH in Holsteins is 10%. Examples are given in Table 1. By selecting bulls that are expected to be 10% or less DBH, a dairy producer should encounter fewer difficult calvings from his heifers. Remember, even bulls with 2 or 3% %DBH will have some calves that cause problems and require assistance.

The maximum %DHB that a producer sets is dictated by individual herd goals. A practical guideline to follow is to avoid using bulls that are above average (11% or higher) for %DBH. By selecting bulls that are breed average or better, dairy producers leave themselves a larger group of sires from which to select. In contrast, if only the top few calving-ease bulls of the breed are used, there is little room for selection of production or type traits.

An accuracy figure was published for the first time with the NAAB Calving Ease Summary this year (Table 1). Accuracy is the reliability that can be placed on %DBH. The closer the accuracy is to 100, the higher the reliability. As a rule, the higher number of direct comparisons a bull has, the higher his accuracy figure is for calving ease. The amount of calving ease information on a bull's sire and maternal grandsire also are used in calculating the accuracy figure.

Producers should remember that even though a bull has a high accuracy figure for calving ease and is ranked as a calving-ease bull, some difficult calvings will still be encountered. A bull with 7% DBH means just that - 7% of his calves born from first-calf heifers will be difficult births, even if the accuracy is 99%. The accuracy figure only indicates that his %DBH is an accurate ranking.

Table 1. Examples of USDA sire summary and calving-ease information for eight active Holstein AI bulls¹

Name of Bull	PD			Calving Ease	
	Milk	Fat	\$\$	%DBH	%Accuracy
A	1,531	37	152	5	63
B	1,735	50	185	6	84
C	1,682	57	194	7	100
D	1,220	38	135	9	58
E	1,197	32	124	9	82
F	1,530	36	140	11	95
G	1,545	39	156	15	96
H	2,010	35	177	17	95

¹Source: Hoard's Dairyman Bull List, Hoard's Dairyman, August 25, 1986.