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Evaluating the Breeding Potential of Yearling Bulls

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Summary

Two years of research with nine herds indicated one of two yearling bulls with a herd usually will sire most of the calves. In six of the nine cases, the bull we pre-evaluated as most sexually active was the sire of most of the calves, so a brief pre-breeding libido evaluation may help estimate breeding potential. In data from one herd the bull dominant as a yearling continued to be dominant as a two-year-old.

Our data also indicated active breeding yearling bulls easily breed more than 20 to 25 cows during their first breeding season.

Introduction

In a typical cow-calf operation, bulls are often not used until they are at least two years old or younger bulls are paired with older bulls. Recently, cattle breeders have attempted to make greater use of yearling bulls.

A year ago (Report of Progress 320) we reported results from using yearling bulls with four herds. In all four herds, one yearling bull sired more than 90% of the calves, with the number of calves sired by the dominant bull ranging from 21 to 36.

Recent research abroad and in the United States has indicated the breeding capabilities of a bull can be determined before he is used. To test that concept, we evaluated the libidos of bulls in 1977, then paired a high- with a low-libido bull. The pre-determined high libido bull sired most (more than 90%) of the calves in three of the four herds.

To further evaluate the potential of yearling bulls and accuracy in predicting libido, we continued the study.

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Experimental Procedure

Purebred Hereford, Polled Hereford, Angus, and crossbred Simmental yearling bulls raised at the KSU Purebred Beef Unit were studied to determine if we could predict their breeding potential.

The procedure was as follows:

1. Semen quality of each bull was determined by electro-ejaculation, then, bulls with questionable semen quality were eliminated.
2. Bulls were held in a teasing pen in view of a heifer in heat for 10 to 15 minutes.
3. After teasing, one bull was turned into a pen with a cycling heifer and the time required for mounting and copulation was recorded.
4. When a bull did not breed a heifer in 20 minutes, he was removed and held in an adjoining teasing pen another 20 to 40 minutes, then placed in another pen with a different heifer in heat and

his

breeding activities again observed and recorded.

Within a month after evaluation, a high libido bull of one breed was paired with a low libido bull of another breed to simplify determining the sire of resulting calves. Both bulls were turned out with a herd of 35 to 40 mature cows. Four commercial ranches and the Southeastern Kansas Branch Experiment Station cooperated in the evaluation.

Two bulls paired as yearlings in 1977, were again paired as two-year-olds in 1978, and run with 40 cows on a commercial ranch in Central Kansas.

Results and Discussion

Where the same pair of bulls ran together two breeding seasons, the bull dominant as a yearling was again dominant as a 2-year-old. As a yearling he sired 94.1% of calves (32); as a 2-year-old, 88.2% (30) of calves, refuting the idea that heavy use of yearlings will reduce their later breeding capabilities.

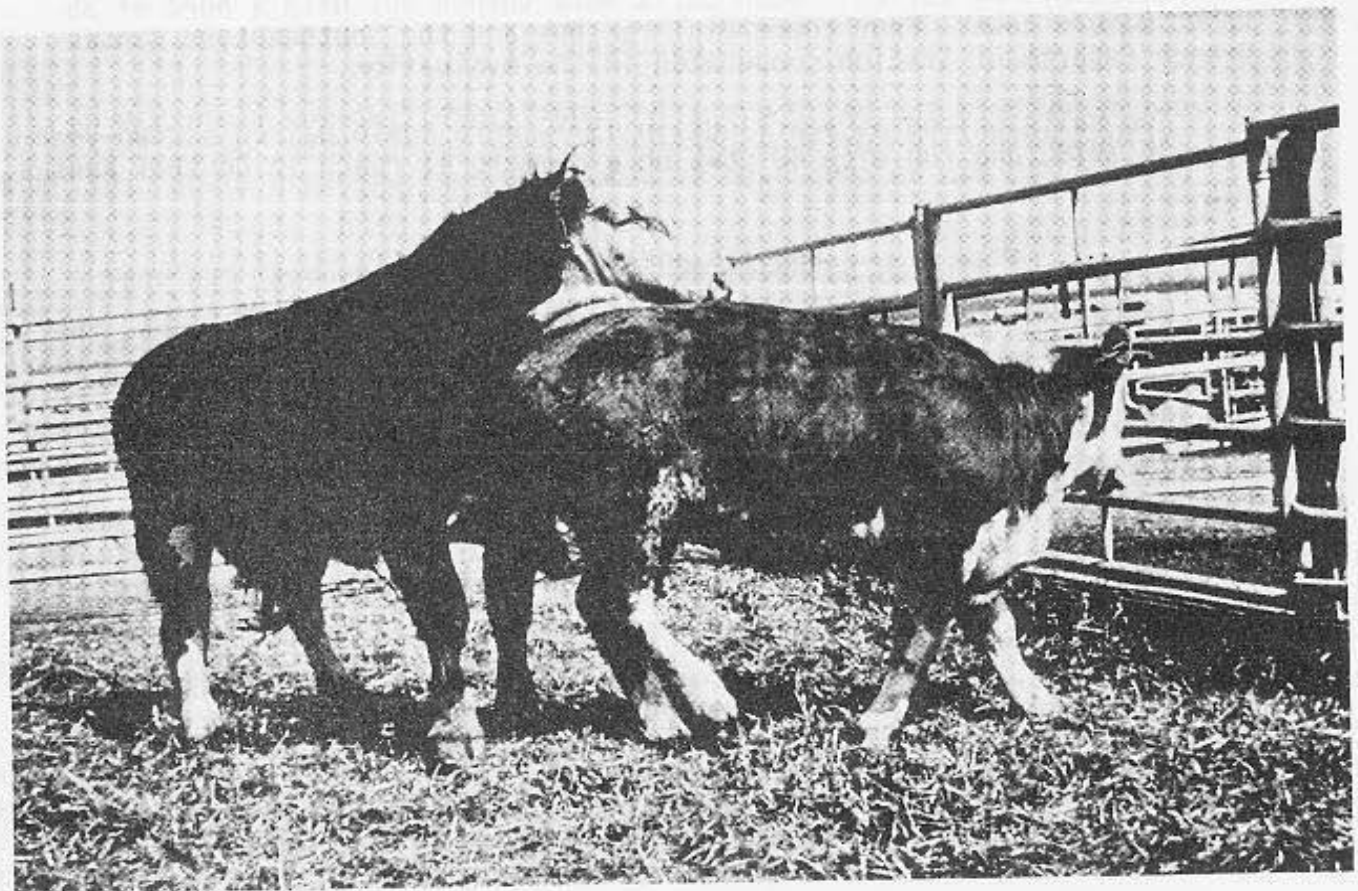
Unlike the previous year where one bull always sired more than 90% of calves, the dominant bull sired from 56.5% to 86.2% of the calves. In three of five herds the pre-determined high-libido bull sired most of the calves.

In herd 5, yearling bulls sired only 13 calves, although they ran with 31 heifers and cows. The dominant bull developed foot problems early in the breeding season, and the less dominant bull was not able to compensate, resulting in a poor conception rate.

Table 8.1. Results from using pre-evaluated yearling bulls in commercial cow herds.

	Herd				
	1	2	3	4	5
No. calves sired by yearling bulls	32	23	29	29	13
Calves by dominant bull (No.)	71.8% (23)*	56.5% (13)	62.1% (18)*	86.2% (25)	76.9% (10)*
Calves by less dominant bull (No.)	28.1% (9)	43.5% (10)*	37.9% (11)	13.8% (4)*	23.1% (3)

*Evaluated as the dominant sire.



High-libido bulls were the most successful breeders.