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Effect of Culling Open Cows on Reproductive Performance

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Summary

The reproductive performance of a herd of Polled Hereford cows was evaluated over an eight year period. Culling cows the first time they were open would not have improved the future calving rates in this herd. The cost of replacing an open cow should be compared with the cost of maintaining an open cow. Thus, more improvement in reproduction can probably be made through good nutrition and management than by culling cows found open only once.

Introduction

Cattlemen and researchers over the years have discussed the advantages and disadvantages of culling open cows. Seldom is it possible to look back on an uncullled herd to see what changes culling would have made. Our Polled Hereford cow-calf research herd was established in 1966, and all cows and heifer calves were kept through 1975 calving unless they failed to breed two continuous years. Thus, we were able to look back over the eight years to see what changes would have occurred had culling been practiced.

Experimental Procedure

Polled Hereford breeders of Kansas, Oklahoma, Missouri, Illinois and Pennsylvania donated cattle from 34 herds to start our original herd. All heifer calves have been kept to build the herd to its present size of over 200 head. Records of cows found open by palpation were removed from this study (but retained in the herd), leaving a selected group represented in table 4.1. That precluded using any heifer calves from "culled" cows that later bred in the selected group. Reproductive performance of cows that were open after the first breeding season and heifers later produced by them were also evaluated.

Results and Discussion

Calf crop in the selected group ranged from 68% the first year to an expected 93% this year, with an average of 85%. The low calf crop the first year may have resulted from variation in previous management, age, and condition of the original cows. The 93% calf crop expected this year assumes no cow deaths or abortions. Of the 64 cows open just once, only 11 (17%) were open a second time during the eight years, giving a 95% calving rate after being found open once (table 4.2). Heifers produced by cows found open one or more times had an 89% calf crop (table 4.3), similar to that of the selected group. As expected, the poorest calf crop was from the younger cows (table 4.4). Few 6 to 10 year old cows were open.

Conclusions

1. More improvement in reproductive performance probably can be made through good nutrition and management than through culling cows found open only once.
2. Cows that are open once are just as likely to calve each season thereafter as young heifers.
3. Heifers produced by cows open once had as good reproductive performance as heifers from cows that did not miss calving.
4. The cost of replacing an open cow should be compared with the cost of maintaining the open cow, considering age and value of individuals.
5. Young cows are most likely to be open, emphasizing the need for special care in their nutrition and management.

Table 4.1. Reproductive Performance When Open Cows Were Always Culled.

Year	Cows with bull	Open cows culled	Death loss	Cows calving	Calf crop, %	Heifer replacements
1967-68	41	12	1	28	68	13
1968-69	41	9	0	32	78	20
1969-70	52	8	1	43	83	18
1970-71	61	5	1	55	90	21
1971-72	76	11	1	64	84	25
1972-73	89	8	4	77	87	20
1973-74	97	11	5	81	84	27
1974-75	108	8	0	100	93 ^a	--
Overall	565	72	13	480	85	

^aBased on palpation.

Table 4.2. Reproductive Performance of Cows Open Once.

Item	Number
Cows	64
Total breeding seasons	207
Calves produced	196 (95% calf crop)
Cows open a second year	11 (17% of 64 cows)

Table 4.3. Reproductive Performance of Heifers from Cows Open One or More Times.

Item	Number
Heifers	62
Total breeding seasons	192
Calves produced	171 (89%)

Table 4.4. Calving Percent by Age Groups After Previously Culling Open Cows.

Age at breeding	Calving %
1	84
2	83
3	88
4	90
5	86
6-10	95