Observations On Increasing Pay-Weight of Calves From Angus And Hereford Cows By Combining Several Known Management Practices

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Story in Brief

Angus and Hereford cows produced straightbred calves not implanted with stilbestrol the year previous to this study with a weaning weight of 420 pounds at 186 days for steers and 399 pounds at 193 days for heifers.

In this study Charolais crossbred heifer calves produced within the same group of cows averaged 607 and 536 pounds at 263 and 216 days of age. The Charolais crossbred steer calves, implanted with stilbestrol, averaged 719 and 552 pounds at 269 and 209 days.

The observations summarized in the report indicate that several known management practices (crossbreeding, stilbestrol implantation, weaning at an older age) can be combined to greatly increase pay-weight of calves

Introduction

The cow-calf operator has been caught in a serious cost-return squeeze in recent years. Cattle prices are now at a level similar to those of 20 years ago, and for most of the past 20-year period cattle prices have been considerably below those of 1951. During the same 20-year period many costs of production have doubled or tripled. Obviously, net returns have decreased.

One soultion to the cost-return squeeze is to increase the total dollar value of calves at weaning. If the increase in total dollar value of calves at weaning exceeds any accompanying increase in costs of production, a greater net return will result.

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This report shows the increase in weaning weight of calves which resulted from crossbreeding, implanting steers with stilbestrol, and weaning calves at an older age.

Procedure

A total of 85 Angus and Hereford cows had been previously involved in an experiment in which cows were bred to bulls of the same breed to produce straightbred calves, implanting calves with stilbestrol was not practiced, and the calves were weaned at 6 months of age. For the purposes of the observations reported herein the cows were bred to Charolais bulls, steer calves were implanted with stilbestrol, and the calves were weaned at an older age.

Cows were 5 to 7 years old when they produced the calves summarized in this report. A portion of the cows (12 Angus and 16 Hereford) had calved in late spring 2 years previous and were held open for 7 months and bred to calve in November and December (fall calves). The other cows calved in January, February and March (spring calves). Cows were pasture-bred to four Charolais bulls. Three of the bulls were 16 months old at the beginning of the breeding season, while the other bull was a 4-year-old.

The fall calves received pelleted alfalfa meal as a creep-feed for a 106-day period from January 8 to April 24; the total intake per calf during this period was 46 pounds. Spring calves were not creep-fed. Each steer calf received one 12-milligram implant of stilbestrol in the ear in April. Heifer calves were not implanted. Fall calves were weaned September 2, spring calves September 22, 1971.

Results and Discussion

The excellent reproductive performance of Angus and Hereford cows producing crossbred Charolais calves is shown in table 1. No calves were pulled. One calf was stilborn and another died shortly after birth, for a total loss at calving of only two calves out of 85 cows. Part of the freedom from calving difficulty can be attributed to the fact that all cows were mature. In addition, the bulls which were used were not extremely large, rugged bulls, but rather were medium-sized, neat-fronted Charolais bulls. They were definately of a type less suspect to cause calving difficulty than coarser kinds of bulls.

Birth weight of the Charolais crossbred calves ranged from 55 to 110 pounds and averaged 78 pounds, which was 8 pounds heavier than straightbred calves produced by the spring-calving cows the previous year. This was less increase in birth weight than would be expected from

Table 1. Reproductive Performance of Angus and Hereford Cows Producing Charolais Crossbred Calves

Breed of cow and season of calving	No. cows	No. calves pulled	No. calves lost at birth	No. calves weaned	Birth weight of calves, lb. Charolais crossbreds Bulls[1] Avg.	Bulls[1] Range	Heifers[1] Avg.	Heifers[1] Range	All calves[2]	Previous year as straightbreds[2]	No. cows rebred
Angus											
Fall	12	0	0	12	70	61-73	72	64-83	73	--	11
Spring	34	0	0	33	76	56-94	75	60-87	77	67	33
Total	46	0	0	45	74	61-94	74	60-87	76	--	44
Hereford											
Fall	16	0	1	15	84	67-110	74	65-89	81	--	16
Spring	23	0	1	20	78	70-98	77	55-89	79	76	22
Total	39	0	2	35	81	67-110	76	55-89	80	--	38
Both breeds											
Fall	28	0	1	27	78	61-110	73	64-89	77	--	27
Spring	57	0	1	53	76	56-98	76	55-89	78	70	55
Total	85	0	2	80	77	56-110	75	55-89	78	--	82

[1] Actual birth weight.
[2] Adjusted to a bull equivalent by multiplying heifer weight by 1.048.

some Charolais bulls, and offers additional explanation for the freedom from calving trouble which was observed. Birth weight of calves from Angus cows increased more than that of calves from Hereford cows, compared to the previous year when calves were straightbreds.

Weaning weight information is summarized in Table 2. The adjusted weaning weight of Charolais crossbreds compared to straightbreds produced by the same cows the previous year provides some indication of the benefit gained by the use of Charolais bulls for crossbreeding. The advantage for the Charolais crosbreds was 70 and 55 pounds for Angus and Herefords, respectively, and an average of 65 pounds for all calves. Since the calves being compared were not produced in the same year, it should be recognized that a year effect (weather, grass conditions) could also have been involved. In addition, the cows were 1 year older in this trial.

It is particularly interesting to consider actual weaning weights in comparison to weights the previous year. The spring-calving cows produced straightbred calves the previous year with a weaning weight of 420 pounds at 186 days for steers and 399 pounds at 193 days for heifers. In contrast, the actual weaning weight of spring calves (both breeds combined) in the present calf crop was 552 pounds at 209 days for steers and 536 pounds at 216 days for heifers. These advantages in weaning weight included benefits of crossbreeding, implantation of steers with stilbestol, and a slightly older weaning age.

Especially dramatic were the actual weaning weights of the fall calves, which benefited from the same items as the spring calves plus considerably more age. The fall calves were about 9 months old (266 days) when weaned. Although the dams of these calves had the advantage of a 7-month rest before being rebred to produce these calves, they were possibly at some disadvantage from the standpoint of producing fall calves. The fall steer calves (both breeds combined) averaged 719 pounds at weaning, an advantage of 167 pounds over the spring steer calves. The fall and spring steer calves gained 2.38 and 2.27 pounds per day, respectively, from birth to weaning. Perhaps the fall calves, being older, were able to utilize summer grass more effectively and/or received more benefit from stilbestrol. The fall steer calves gained approximately 2.41 pounds per day during July and August, at an age between 7 and 9 months. An excellent ration would have ben required to produce a comparable rate of gain had the calves been weaned at 7 months of age, and surely the cost of gain would have been higher. Fall heifers with a weaning weight of 607 pounds were 71 pounds heavier than spring heifers.

These results suggest that consideration should be given to weaning fall dropped calves at an older age than sometimes practiced to realize maximum calf gain from forage. This would be particularly desirable for

Table 2. Weaning Performance of Angus and Hereford Cows Producing Charolais Crossbred Calves

		Weaning weight of Charolais crossbreds							Weaning weight previous year as straightbreds		
		Actual							Actual		
		Steers		Heifers[2]		All calves					
	No. calves	Age, days	Wt., lb.	Age days	Wt., lb.	Age, days	Wt., lb.	Adjusted,[3] lb.	Age, days	Wt., lb.	Adjusted,[2,3] lb.
Angus											
Fall	12	269	710	268	631	268	664	512	---	---	---
Spring	33	212	561	219	543	216	552	515	192	407	445
Total	45	226	596	233	569	230	582	515	---	---	---
Hereford											
Fall	15	269	726	259	585	264	651	509	---	---	---
Spring	20	204	536	211	524	208	530	511	187	410	456
Total	35	232	619	232	550	232	581	510	---	---	---
Both Breeds											
Fall	27	269	719	263	607	266	657	510	---	---	---
Spring	53	209	552	216	536	213	543	514	190	408	449
Total	80	229	606	233	560	231	582	513	---	---	---

[1] Implanted with stilbestrol
[2] Non-implanted.
[3] Adjusted to a 205-day, steer, mature dam, no stilbestrol basis. Adjustment was made for stilbestrol by multiplying weights of implanted calves by 0.95, based on previous research which indicated an average benefit of 5 percent in weaning weight from implanting with stilbestrol.

a producer who finishes his calves for slaughter, because he could capitalize on cheap gains and would not be concerned with a possible discount for heavy calves. Feedlot gains subsequent to weaning heavy calves might be costlier, but total gain would very likely be cheaper.

This trial did not involve a controlled comparison to demonstrate the value of implanting suckling calves with stilbestrol. However, much previous research at this station has shown that implanting steer calves with stilbestrol results in an average of 25 additional pounds at weaning.

At weaning the steer calves from this study were either placed in a feedlot or on a stocker program previous to being placed in a feedlot. Their postweaning performance will be reported later.

Conclusions

The observations herein reported suggest that several known management practices can be combined to greatly increase the pay-weight of calves.