Stilbestrol Implants for Fall Calves

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Stilbestrol implantation of beef cattle has been used in many management systems. Both feeding and implantation of stilbestrol have been generally accepted as means of increasing live weight gain and feed efficiency. The response to stilbestrol administration is considerably less for cattle fed for little or no gain such as is found under many wintering conditions. Stilbestrol has increased gains of yearling steers grazing native grass during the summer.

Tests at Oklahoma and at least 10 other experiment stations have shown that the weight gain of suckling calves can be increased by the use of stilbestrol implants. In our 13 tests with spring calves, the average increase in gain has been 29 lbs. An implant of 12 mg. has been accepted as standard for suckling calves. At this level certain calves may exhibit side effects such as high tail-heads and elongated teats. Also, noticeable swelling of the external genitalia of heifers has been reported. In current tests the value of stilbestrol implants for fall calves is being studied. A level of 6 mg. of stilbestrol is being tested to determine if it will result in increased gains without producing any noticeable side effects in some of the calves.

Procedure

A total of 272 calves born in October, November, and December has been used in four trials to study the value of ear implants of 6 mg. and 12 mg. of stilbestrol. The cows were high quality grade Herefords which were allowed to graze the native grass pastures yearlong. The cows and calves were also used in different nutrition and management studies at the Lake Blackwell experimental range area. In the first year, one-half of the calves were creep-fed and the cows were fed at a high or low level of supplemental winter feed. During the other three years all cows were fed an average of 2½ lbs. of pelleted cottonseed per head daily during the winter. In the second trial, one-fourth of the calves were creep-fed until weaning and the remaining three-fourths were creep-fed only until spring. In trials three and four one lot of calves was not creep-fed, one lot was creep-fed until weaning, and three lots were creep-fed only until spring. Within each of the feeding treatments within each year, calves of like sex were divided into lots. Those in Lot 1 served as controls. There was no Lot 2 in the first trial. In the remaining trials the calves in Lot 2 were implanted with 6 mg. of stilbestrol. In all four trials the calves in Lot 3 were implanted with 12 mg. of stilbestrol.

The calves were weighed and those in Lots 2 and 3 were implanted in March or April. They were left with their dams in native grass pastures, weighed every month, and weaned in July of each year.

Table 1.—Stilbestrol Implants for Fall Calves.

Lot Number Stilbestrol Implant, mg[1]	1 0	2 6	3 12
	Steers		
Number of calves	62	39	55
Average gain per calf, lbs.			
1958 (98 days)	233	---	260 (27)[2]
1959 (108 days)	224	240 (16)	240 (16)
1960 (128 days)	240	245 (5)	253 (13)
1961 (97 days)	214	230 (16)	231 (17)
4-year average	228		246 (18)
3-year avg. (1959-61)	226	238 (12)	241 (15)
	Heifers		
Number of calves	40	38	38
Average gain per calf, lbs.			
1959 (108 days)	191	208 (17)	222 (31)
1960 (128 days)	224	221 (-3)	240 (16)
1961 (97 days)	207	218 (11)	212 (5)
3-year average	207	216 (9)	225 (18)

[1] Implants furnished by Charles Pfizer and Co., Terre Haute, Indiana.
[2] Figures in parentheses are increased gain of implanted calves compared to those not implanted.

Results

The response to stilbestrol implants has been nearly the same for both sexes (Table 1). The greatest increase in gain occurred in the first trial where only steers were implanted. This 27 lbs. was a 11.6 percent increase. The gains of steers have been increased an average of 18 lbs. or 7.9 percent in the four trials. During the last three trials, level of implant was studied and the increased gain of the steers was nearly equal for both levels. The 6 mg. implant increased gains 12 lbs. (5.3 percent) and the 12 mg. implant increased gains 15 lbs. (6.6 percent).

The average increase in gains of heifers was 9 lbs. (4.3 percent) for the 6 mg. implant and 18 lbs. (8.7 percent) for the 12 mg. implant. These increased gains are considerably less than the 29 lbs. or 12.6 percent increases for spring calves which were recorded in earlier tests.

Observations as to general appearance of the calves were recorded. The implanted calves were given a slightly higher average feeder grade. There were no noticeable side effects in those calves implanted with 6 mg. of stilbestrol. Some of the calves implanted with 12 mg. were identified as having increased teat length, elevated tailheads, or swollen vulva. However, many calves which were not implanted were identified by experienced cattlemen as having noticeable side effects.

As was found with spring calves, the implantation of suckling calves did not have any detrimental effect on subsequent feed-lot gains. The two-year average 128-day feed-lot gains were 267, 262, and 265 lbs. for those not implanted as calves, those implanted with 6 mg. of stilbestrol and those implanted with 12 mg., respectively. All calves were implanted with 24 mg. of stilbestrol at the beginning of the feedlot period.

Summary

Weight gains of fall calves have been increased an average of 10 lbs. by implanting with 6 mg. of stilbestrol and 18 lbs. by implanting with 12 mg. of stilbestrol. There was only a small difference in gain response of steers and heifers. Implanting calves did not have any detrimental effect on subsequent feed-lot gain.

Carcass Composition as Influenced by Animal Age[1]

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Introduction

The age of the beef animal at slaughter is an important feature influencing carcass composition. At birth, the carcass possesses a high percentage of lean with little fat. However, as age advances, the percent lean decreases and fatty deposition increases. Since lean (muscle) is the principle product of the beef industry, effort should be made to slaughter the animal at a time when muscle development is at its maximum. This would seem to be at an age when the animal slows down in muscle development and fat deposition tends to be more rapid. Generally, lean meat is produced more efficiently than fat. However, the age at which maximum muscling and efficiency of growth occur is not generally known.

Some evidence tends to indicate that all parts of the animal body do not mature at the same rate. Consequently, muscular development of the various wholesale cuts can be reached at different age levels. One may conclude that the most appropriate age to slaughter would be when the majority of the high priced cuts reach a point of maximum development or maximum development which is economically feasible.

This report is devoted to providing information on the absolute and relative differences which exist in carcass composition between young females and their aged counterpart. A comparison of data from animals varying in age should provide information for a sounder approach to more detailed research related to the optimum slaughter age.

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