

# One Versus Two Stilbestrol Implants for Suckling Calves

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## Story in Brief

Angus steer calves which received one stilbestrol implant or two implants approximately 90 days apart weighed 15 and 53 lb. more at weaning time than nonimplanted calves. In the case of Hereford steer calves, either one implant or two implants 90 days apart resulted in a 38 lb. advantage in weaning weight. A breed difference in response to stilbestrol is suggested by the results. Two consecutive stilbestrol implants produced no undesirable results and may be of greater benefit than a single implant.

## Introduction

Much previous research at Oklahoma State University has shown an increased rate of gain from the implantation of suckling calves with stilbestrol. The average increase in weaning weight was 25 lb., with both steer and heifer calves showing a response to the treatment. Considerable variation among trials was observed; improvement in weaning weight varied from 0 to 45 lb. per head.

Feeder calf producers have been reluctant to implant calves with stilbestrol because of possible buyer discrimination against the practice. There is little basis for discrimination against implanted calves. Research at this station has demonstrated that calves which have been implanted while suckling respond to stilbestrol in the feedlot as well as calves without previous implantation. Research at the Texas Station has shown that a response to stilbestrol could be obtained in two out of three production periods (suckling, stocker, finishing). In previous experiments at this station calves have been implanted at approximately 90 days of age. One 12 mg. implant was most desirable, providing greater weight gain than one 6 mg. implant but without undesirable side effects observed at higher levels of implantation. The objective of this trial was to compare (1) no stilbestrol, (2) one 12 mg. stilbestrol implant at an early age, and (3) one early 12 mg. implant plus a second 12 mg. implant 90 days later.

## Procedure

Eighteen Angus steer calves and 27 Hereford steer calves were available for this trial. Within each breed the calves were divided into three groups on the basis of birth date. One group received no stilbestrol. The second group received one 12 mg. stilbestrol implant at an average age of 46 and 42 days for the Angus and Herefords, respectively. The third group received one implant at the same average age as the second group, plus a second 12 mg. stilbestrol implant at an average age of 131 days. Approximately 90 days elapsed between first and second implantations, and also between the second implantation and weaning. Stilbestrol pellets were implanted in the ear.

All calves were spring-dropped and out of 7-year-old cows. They grazed native pasture at the Lake Carl Blackwell Range, without creep feed, and were weaned in October. Table 1 shows a summary of dates and ages.

## Results and Discussion

A summary of gains and weaning weights is presented in Table 2. Two Hereford calves scheduled to receive two implants disappeared early in the trial. The rate of gain from birth to time of the first implant was similar for all three groups within each breed, indicating that the groups were comparable in terms of genetic potential for growth. Differences in rate of gain among the three treatments between the time of first and second implantation were small, although those calves which had received an implant tended to gain faster. All implanted calves gained considerably faster than nonimplanted calves from the time of second implantation to weaning. This was true for the calves which had received only a single earlier implant as well as those which received a second implant.

It appears that potential to respond to stilbestrol is limited in the calf at a young age, but that this potential increases with age, and

Table 1. Dates and Ages of Calves at Implantation and Weaning

Breed	Date of			
	Birth	1st Implant	2nd Implant	Weaning
Angus	2-20	4-7	7-1	10-4
Hereford	3-3	4-14	7-12	10-22
	Age in Days at			Weaning
	1st Implant	2nd Implant		
Angus	46	131		226
Hereford	42	131		233

**Table 2. Influence of 0, 1, and 2 Stilbestrol Implants<sup>1</sup> on Rate of Gain and Weaning Weight of Steer Calves**

Treatment	No. Calves	Daily Gain, lb.				Weaning Weight, lb.	Weaning Wt. Advantage Over 0 Implant, lb
		To 1st Implant	1st to 2nd Implant	2nd Implant to weaning	1st Implant to weaning		
<b>Angus</b>							
0 Implant	6	1.46	2.15	2.17	2.16	524	
1 Implant	6	1.36	2.14	2.33	2.24	539	15
2 Implants	6	1.40	2.24	2.64	2.45	577	53
<b>Hereford</b>							
0 Implant	9	1.31	1.86	2.08	1.98	507	
1 Implant	9	1.30	2.01	2.34	2.19	545	38
2 Implants	7	1.27	1.99	2.39	2.20	545	38
<b>Both Breeds</b>							
0 Implant	15	1.37	1.98	2.11	2.05	513	
1 Implant	15	1.32	2.06	2.34	2.21	542	29
2 Implants	13	1.33	2.10	2.50	2.32	559	46

<sup>1</sup> 12 mg. per implant.

further, that a pellet implanted when the calf is very young continues to release stilbestrol for a considerable period of time.

A second implant, compared to a single early implant, was of considerable value in the Angus calves, resulting in 38 lb. additional weaning weight, but was without benefit in the Hereford calves. Numbers were too limited in this trial to permit definite conclusions. The results do suggest a breed difference in response to stilbestrol, with Angus calves requiring a higher level for growth stimulation and benefiting more from a second implant.

The results of this trial suggest that one 12 mg. stilbestrol implant at a young age (40-50 days) followed by a second 12 mg. implant about 90 days later has no detrimental effect and may stimulate considerable additional gain, compared to a single implant. No side effects were observed in any of the calves in this trial.