

THE PERFORMANCE OF INDUCED CRYPTORCHIDS AND STEERS

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During the past two years there has been much controversy over the use of Diethylstilbestrol (DES). First, oral consumption of DES by livestock was banned and then a year later it was prohibited as an implant. In January of 1974 the U.S. Court of Appeals ruled that the Food and Drug Administration had acted illegally in banning DES. The current status of DES and other growth promoting compounds is even more confusing. Therefore, it seems necessary to seek alternative methods of achieving the increase in cattle gains and feed efficiency that DES produced.

One alternative is feeding bulls. However, bulls are more difficult to manage, have trouble grading, and develop undesirable secondary sex characteristics. The new bull grading system, whereby bulls under 16 months of age are termed "bullock", has been in use since July 1, 1973. Whether this new category has been successful is yet to be determined.

Inducing cryptorchidism may be a way to alter bulls so that the undesirable characteristics of bulls are decreased while rate of gain and increased efficiency are retained. Cryptorchidism is accomplished by pushing the testicles into the body cavity and placing a rubber band around the empty scrotum. The empty sac will then fall off and the testicles will remain in or next to the body cavity. It is most desirable to get the testicles inside the body cavity as far as possible.

EXPERIMENTAL PROCEDURE

Male calves of the 1972 and 1973 calf crops were allotted to five treatments: (1) male cryptorchid at birth, (2) steer at birth and 6 mg of DES, (3) steer at birth, (4) steer at 60 days, and (5) cryptorchid at 60 days. The DES implanted steers also received 15 mg implants at 60 days, upon entering the feedlot, and after 80 days on feed. In 1973, DES implants were banned so Zeranol implants were substituted at a rate of 36 mg per implant.

Suckling gain, post-weaning gain and feedlot performance have been evaluated. Yield grade and USDA grade were also recorded at slaughter.

RESULTS AND DISCUSSION

Preliminary data on the 1972 calf crop were reported in the 15th Annual Beef Cattle Day Report (OSU Sp. Rep. 384). At 60 days of age the steers receiving DES were the heaviest and the two groups of steers (non-implanted) were the lightest.

Feedlot performance and carcass data are presented in Table 1. In the feedlot the animals were fed a ration consisting of barley, and a high protein supplement in addition to a limited hay ration. The two lots of cryptorchids gained more rapidly than the three pens of steers. Steers implanted with DES gained only slightly less than the cryptorchids.

Both implanted steers and cryptorchids were more efficient in feed conversion than were the two lots of non-implanted steers. The cryptorchids were slightly more efficient than the DES implanted steers. The cryptorchids and implanted steers required 34 fewer days on feed to reach a marketable weight.

None of the cryptorchids were marbled sufficiently to grade Choice, while 5 implanted steers and all but 2 of the non-implanted steers graded Choice. All of the cryptorchids had a yield grade of 2. The implanted steers were fatter than the cryptorchids but not as fat as the steers that received no implants. All of the cryptorchids did, however, have sufficient conformation to score as Choice.

The cryptorchids were graded as steers and brought steer prices. Price received for Choice was \$0.725 per pound while Good brought one cent less. Based on this price spread, the cryptorchids brought more money than the steers even though none of them graded Choice. The Average price received for implanted steers was comparable to that received for cryptorchids. However, nearly half of the implanted steers graded Choice and those sold for one cent more per pound. Cryptorchids returned more cash per animal than the steers. When feed and yardage costs are subtracted from the selling price, the amount returned per animal further favored the cryptorchids since they spent less time on feed and gained more weight per pound of feed.

The same 5 treatments were applied to calves of the 1973 calf crop. Zeranol was implanted instead of DES. Data in Table 2 show that the cryptorchids have performed similarly to 1972 calves. When the calves were weighed at 50 days of age there was a 26 pound difference in average weight among groups. Steers implanted were the lightest but also the youngest. Animals were stratified by treatment at birth so that ages would be approximately the same. However, there was an 11-day difference between the average ages of treatments 2 and 3. Treatment 1, 4 and 5 animals averaged 3, 5 and 8 days older, respectively, than those in treatment 2.

At weaning, the implanted steers were again the lightest group. However, among all treatments suckling gains were similar. After 84 days in the feedlot the cryptorchids had the highest daily gains and were more efficient than the three groups of steers. Thus far, Zeranol has not produced the increase in gain and efficiency that was observed with DES. As the amount of energy is increased in the finishing ration, the implanted steers may improve in their production.

Preliminary data indicate that:

1. Cryptorchids gain more rapidly than steers and as well as DES implanted steers;
2. Cryptorchids gain more efficiently than steers and as well as DES implanted steers;
3. Cryptorchids produce carcasses with superior yield grades;
4. At 1000 - 1100 pounds cryptorchids do not have enough marbling to grade USDA Choice.

These observations pose several questions. Do factors 1 through 3, above, make up for the loss in carcass grade? Will cryptorchids always be graded as steers or as bulls or "bullocks"?

Table 1. Feedlot performance and carcass data of 1972 calves.

Treatment	On feed weight 11-15-72	Final weight	Days on feed	Ave. daily gains	Lb. of feed per lb. gain	Carcass grades No. of Good Choice	Ave. yield grade	Ave. warm carcass weight	Ave. price rec'd per head*
Crypt, birth	483	1118	218	2.91	6.10	8 0	2.00	655	\$468.13
Steer + DES	500	1081	218	2.66	6.65	4 5	2.44	627	451.61
Steer, birth	433	918	252	2.17	7.11	1 7	2.57	576	416.43
Steer, 60 days	459	964	252	2.26	6.92	2 7	2.67	603	435.66
Crypt, 60 days	476	1063	218	2.69	6.19	9 0	2.00	631	451.00

* based on \$0.725 for Choice (price per pound of warm carcass) and \$0.715 for Good.

Table 2. Average weights and daily gains of 1973 calves during various intervals.

Treatment	50 day weight	Ave age	Ave daily gain	Weaning weight days	Ave daily gain	Wt. on 11-7-73	Post weaning daily gain	Wt. on 1-30-74	Ave daily gain	Lb. feed per lb of gain
Crypt at birth	168.1	50	1.62	378.8	1.94	466.2	1.12	632.8	1.98	7.23
Steer + Zeranol	153.8	47	1.58	359.4	1.89	449.4	1.15	585.6	1.62	8.27
Steer at birth	179.0	58	1.68	389.8	1.92	476.0	1.11	620.8	1.72	7.99
Steer at 60 days	170.2	52	1.61	376.4	1.91	466.7	1.16	599.1	1.58	8.36
Crypt at 60 days	179.2	55	1.78	388.0	1.97	477.6	1.15	649.6	2.05	6.75