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Diethylstilbestrol, Zeranol or Synovex-S Implants
for Growing Steers

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Numerous experiments during the past several years have shown that implanting feedlot steers or heifers with diethylstilbestrol (DES), zeranol or Synovex results in an increase in rate of gain with improved feed efficiency. Comparisons between the three products under various conditions are more limited. Therefore, comparative effects of DES, zeranol and Synovex-S were tested in a growing experiment where steers were full-fed corn silage with 2 lb. per head daily of protein supplement for a period of about 3 months.

Procedures

The experiment involved 24 pens of steers with 6 (3 Hereford x Angus and 3 Hereford) per pen. Average shrunk weight at the beginning of the experiment was about 525 pounds.

Four implant treatments used were a nonimplanted control, 36 mg DES, 36 mg zeranol and Synovex-S (200 mg progesterone and 20 mg estradiol benzoate). Each implant treatment was administered to 6 pens of steers at the beginning of the experiment.

Diets were composed of a full feed of corn silage and 2 lb. of a protein supplement. The protein supplements were formulated to contain 32% protein using either soybean meal or urea as the supplemental source. The supplements were fortified with adequate levels of vitamin A and minerals. Chlortetracycline-sulfamethazine was included in the supplements during the first month of the experiment and then chlortetracycline for the remainder of the experiment.

The experiment was terminated after 93 days. A final shrunk weight was obtained following an overnight stand without feed and water. Feeding during the experiment was once daily in outside pens without shade or shelter.

Results

Results of the experiment are presented in table 1. Nonimplanted control steers gained 2.10 lb. daily. All implant treatments resulted in improved weight gains. The improvement amounted to 11.0, 13.3 and 13.8%, respectively, for 36 mg zeranol, Synovex-S and 36 mg DES.

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Feed consumption was slightly higher for implanted steers with an improvement in feed efficiency. The improvement over nonimplanted controls amounted to 8.2, 9.5 and 9.8%, respectively, for zeranol, Synovex-S and DES.

Rates of gain were high for a diet of corn silage and 2 lb. of protein supplement. The corn silage was of excellent quality from well-eared corn. The results were likely influenced to some extent by the initial condition of the steers and by a relatively short feeding period. However, improvements in weight gain and feed efficiency represent typical ones reported previously by several researchers for these products.

Summary

One hundred forty-four steers were used in a growing experiment and full-fed corn silage with 2 lb. daily of a 32% protein supplement. Nonimplanted control steers gained 2.10 lb. daily during the 93-day experiment. Those implanted with 36 mg zeranol, Synovex-S or 36 mg DES gained 11.0, 13.3 and 13.8%, respectively, more than the controls. Implant treatments resulted in slightly higher feed consumption but with an improvement in feed efficiency. The improvement over controls amounted to 8.2, 9.5 and 9.8%, respectively, for zeranol, Synovex-S and DES.

Synovex-S and DES resulted in similar weight gains and feed efficiency. The response from zeranol was only slightly less. Each of the three products offer a means for substantial improvements in weight gain and feed efficiency with growing-type diets as used in this experiment.

Table 1. Implant Treatments for Growing Cattle
(Feb. 6 to May 10--93 days)

	Control	Zeranol	Synovex	DES
No. of animals	36	36	35	36
Init. shrunk wt., lb.	525	525	526	525
Final shrunk wt., lb.	720	742	747	747
Avg. daily gain, lb.	2.10	2.33	2.38	2.39
Avg. daily feed, lb.	34.17	34.97	35.17	35.11
Feed/100 lb. gain, lb.	1638	1503	1482	1477