

compared with the carcass weight obtained at slaughter, and the difference taken as the gain made by the animal. It is important to realise that this method gives only an estimate of the carcass gains made; the comparison can only be a relative one between groups, and the real or absolute gains of each group may have been rather different.

**Two-year-old Steers**

A summary of the results of some of the two-year-old cattle in the trial is given in Table 5. As the farm conditions varied greatly, it is necessary to consider each farm separately.

TABLE 5—CARCASS WEIGHT GAINS BY TWO YEAR OLDS IN FIELD SCALE TRIALS WITH HEXOESTROL, 1958-59

	Farm A			Farm B			Farm C			Farm D			Farm E		
Days on trial	118			134			124			133			139		
Treatment (mg of hexoestrol)	—	30	45	—	30	45	—	30	45	—	30	45	—	30	45
Number of steers	9	9	9	8	11	11	12	13	11	10	11	12	8	8	7
Gain in carcass weight (lb)	160	175	200	170	190	195	120	145	145	160	185	165	155	185	165
Percentage increase in carcass gain of treated/control steers	100	109	125	100	112	115	100	121	121	100	116	103	100	119	106
Total carcass score (maximum, 100)	57	59	61	61	58	58	58	57	57	63	62	63	62	60	60

**Farm A**

The 27 cattle on Farm A were killed 118 days after implantation. The 45 mg dose of hexoestrol added 40 lb in estimated carcass weight, or 25 per cent more than in the untreated steers, while the 30 mg dose added 15 lb or an extra 9 per cent. No side effects were observed, except that some of the 45 mg-treated group produced a dark-cutting meat. Total carcass scores reveal the two treated groups to be slightly superior in overall quality and this was mainly due to the production of more meaty carcasses.

**Farm B**

On Farm B the cattle were selected for slaughter by the farmer as they became "finished" in condition, and there was some indication that the two treated groups, especially those dosed at the 30 mg level, reached a marketable state sooner than the untreated group. The 45 mg dose gave a slightly increased gain over the 30 mg and both treatments had increased gain of 12 to 15 per cent over the control group. Carcass scores of the two treated groups were the same, 58 marks out of 100, but were three less than those of the untreated steers. It is possible that some of these animals were either implanted when too young or that they were kept on treatment too long. Whatever the cause, the treated carcasses lost a number of marks by being too lean for present requirements.

**Farm C**

Again there was an indication from the marketing of Farm C cattle that the treated groups were finished slightly before the untreated steers. Increased gains made by the two hexoestrol treatments were the same,

each treated group having a 21 per cent increase over the control group. A number of the carcasses from the 45 mg group showed considerable side effects, such as dark-cutting meat and a staggy appearance which produced relatively heavy fore ends and an elevation of the tail head with consequent depression of the loin region. Total carcass scores of the two treated groups were only one mark less, however, than those of the untreated group; the side effects were counteracted mainly by increased muscle

**Farm F**

Ninety-seven days elapsed between implantation and slaughter of cattle from Farm F. The gains of cattle were the lowest of any in the experiment and yet the 30 mg and 45 mg treated groups had increased carcass gains of 30 per cent and 35 per cent respectively over the controls. Fat distribution was definitely superior in the two treated groups and total carcass scores of these two groups were two marks higher than those of the controls. Severe side effects were apparent in the 45 mg group, but were absent in the group which received the smaller dose.

**Farm G**

On Farm G increase in carcass gain was shown only by the group which received 30 mg; the 45 mg group showed no increase over the control group. Carcass-quality assessments were not obtained for these cattle. The small increased carcass gain from the smaller dose and the absence of an effect from the 45 mg dose were probably due to the rather poor feeding conditions on this farm, but the numbers in each group were also small.

content and by a better fat distribution.

**Farm D**

Farm D stock were slaughtered 133 days after implantation. The 30 mg dose produced the greatest gain, with an increase of 16 per cent over the controls, whereas the 45 mg dose gave only a 3 per cent increase. No side effects were seen in either of the treated groups and the total carcass scores were very similar. Meatiness of the carcasses of the two treated groups was better than that of the controls and fat cover and fat distribution got higher scores.

**Farm E**

Cattle from Farm E were slaughtered 139 days after beginning of the treatment. The smaller dose of hexoestrol increased carcass gain by 19 per cent compared with 6 per cent for the 45 mg dose. The fore ends of the carcasses of both treated groups were proportionately heavy and there was evidence of dark-cutting meat from the steers treated with 45 mg. Thus the two treated groups had a lower total carcass score than the control group.

**Three-year-old Steers**

Results for some of the three-year-old cattle in the trial are given in Table 6.

**Results of Trials**

These field trials with hexoestrol can be summarised as follows: Under good feeding conditions there have been increases in carcass weights from both the 30 mg and 45 mg doses of hexoestrol. These increases have ranged from 10 per cent to 33 per cent over untreated cattle. Some of the responses from 45 mg have been superior to those from 30 mg and some have been inferior. Most important, the 45 mg dose induced in many of the cattle side effects which were not apparent in cattle dosed with 30 mg. Therefore it can be concluded that for two- and three-year-old Aberdeen Angus steers, at least, the smaller dose, 30 mg, is probably the optimum for commercial application. This dose is likely to give as good weight gains as would the larger dose and the possibility of side effects is minimal.

**LESSONS OF TRIALS**

There is still much to be learnt about the use of sex hormones in meat production, but several interim recommendations can be made in the light

TABLE 6—CARCASS WEIGHT GAINS BY THREE YEAR OLDS IN FIELD SCALE TRIALS WITH HEXOESTROL, 1958-59

	Farm F			Farm G		
Days on trial	97			103		
Treatment (mg of hexoestrol)	—	30	45	—	30	45
Number of steers	10	10	10	7	6	6
Gain in carcass weight (lb)	100	130	135	145	155	145
Percentage increase in carcass gain of treated/control steers	100	130	135	100	107	100
Total carcass score (maximum, 100)	53	55	55	—	—	—