

A Preliminary Note on the Effect of Implantation of Stilboestrol and Hexoestrol on the Growth and Carcase Characteristics of Beef Steers and Young Wethers

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Stilboestrol and hexoestrol pellets† have been implanted subcutaneously behind the ear of beef steers and young wethers finished under irrigation and dry land grazing conditions. Treatments with 145 steers in experiments 1, 2, 3 and 4 respectively were with stilboestrol 24 to 48 mg; stilboestrol and hexoestrol both at 24 and 36 mg; stilboestrol and hexoestrol at 36 mg; and hexoestrol at 30 and 60 mg. Initially steers averaged respectively 24, 33, 38 and 20 months of age and weighed 1044, 949, 1095 and 921 lb. Treatments with 62 sheep in experiments 5 and 6 were with hexoestrol at 15 and 30 mg; and hexoestrol at 15 mg respectively. Initially wethers averaged respectively 18 and 28 weeks of age and weighed 67 and 56 lb. Experiments 1, 2, 5 and 6 commenced in the spring of 1956 while numbers 3 and 4 commenced in the autumn of 1957.

(i) *Cattle*.—Liveweight gain was increased by treatment in all experiments. Generally the greatest response was apparent in the early post treatment period. In experiments 1, 2, 3 and for the lower level of treatment in number 4, this was at 42, 107, 78 and 112 days respectively at which time increased gains of 0.7, 0.4, 0.5 and 0.2 lb per day were recorded.

This added gain of 42, 40 and 29 lb in experiments 2, 3 and 4 was retained by the treated steers when finally weighed respectively 248, 141 and 142 days post treatment. However treated animals in experiment 1 subsequently lost some of the initial gain. At 132 days they were only 19 lb heavier than untreated controls. In experiment 4 the animals treated at 60 mg level continued to increase their lead over controls at 0.5 lb per day throughout the full 142 day period. Carcase data from experiments 1 and 4 have been analyzed at time of writing. Treatment increased carcase weight by 8 lb. in experiment 1 and by 16 and 32 lb at the two levels in experiment 4. Carcase yield, expressed as a percentage of the final liveweight, was not significantly affected by treatment.

The effect of treatment on muscle and fat in the carcase was estimated by measuring the depth of the "eye" muscle, *longissimus dorsi*, and of the overlying fat as outlined by Kneebone *et al.* (1950). In each analysis the actual measurements were adjusted to a mean liveweight common to all treatments at the beginning of the experiment. Increases in "eye" muscle depth of 3, 6 and 14 per cent. and decreases in fat thickness of 5, 9 and 29 per cent. were recorded in the treated groups of experiments 1 and 4 respectively. Treated carcasses scored lower for intramuscular fat or "marbling". The omentum (caul fat) weight was also less. However no visual difference was apparent in amount of channel fat, or colour and texture of fat or muscle.

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†Pellets were made up at 12 and 15 mg of the hormone. They were furnished by Bootes Pure Drug Company (Australia) Pty. Ltd.