GROWTH PROMOTANT (REVALOR®) INCREASED LIVEWEIGHT GAINS WHILE MAINTAINING DESIRABLE CARCASE TRAITS IN FEEDLOT FINISHED STEERS

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Hormonal growth promotants (HGP) are widely used in cattle finishing systems, particularly the feedlotting section. While increased liveweight gain has been well documented (Heitzman 1980), the effects on carcase traits are less clear. In this study, we treated steers with the HGP Revalor® to examine this issue. Steers were finished in a feedlot at Millmerran Qld, in a typical short term programme for the domestic market.

Sixteen groups of 6 weaner steers were consigned from individual owners to form one group for feedlot finishing. Breeds varied between groups and ranged from straightbred *Bos taurus* to *Bos taurus/Bos indicus* crosses. All steers received a range of appropriate health treatments prior to feedlot entry. After 8 days on an introductory ration, the steers were weighed and three were selected at random within each team of 6 for treatment with Revalor® implants. The steers were fed as 1 group for a further 61 days till slaughter on a ration of maize silage, rolled cereal grain and feedlot concentrate. Liveweights were taken prior to slaughter and car-cases were weighed and measured using the AUS-MEAT chiller assessment system for fat depth at P8 and rib sites, eye muscle area, marbling, meat colour, muscle texture and firmness, fat colour and pH. Data were analysed using ANOVA (Payne *et al.* 1987) and results are presented in Table 1.

Table 1. Means (with SED) for liveweight (kg) at start of treatment and at slaughter, liveweight gain (kg and kg/day), carcase weight (kg), dressing percentage (%), eye muscle area (cm^2) and fat depth (mm) for steers given HGP Revalor® or left untreated

Measurement	Untreated	Treated	SED
Liveweight at start	280	280	4.4
Liveweight at slaughter	377[aA]	399[b]	5.9
Average total gain	98[a]	120[b]	3.4
Average daily gain	1.6[a]	2.0[b]	0.06
Carcase weight	195[a]	208[b]	3.0
Dressing percentage	51.9	52.1	0.38
Eye muscle area	59.1[a]	63.9[b]	1.13
Fat depth - P8	12.6	12.5	0.64
Fat depth - rib	5.4	5.6	0.37

[A] Different superscripts within rows indicate significant differences ($P < 0.05$).

The significantly higher liveweight gains in treated steers resulted in heavier final liveweights and carcase weights after 69 days on the feedlot ration. The treated steers also had greater eye muscle areas, consistent with their increased carcase weights. There were no significant differences between treated and untreated groups in the mean fat depth (either at the P8 or rib measurement sites), marbling score, meat colour, muscle texture and firmness, fat colour or pH.

We would expect the higher growth rates of HGP treated steers to result in less subcutaneous fat deposition giving leaner carcases when slaughtered at similar ages. However these results showed that treatment with HGP Revalor® resulted in significantly higher growth rates but no reduction in the level of subcutaneous fat deposition. HGP Revalor® treated steers were heavier at slaughter but still met the same market specifications for fat depth, giving higher gross dollar returns.

HEITZMAN, R.J. (1980). *In* "Protein Deposition in Animals", (Eds P.J. Buttery and D.B. Lindsay) pp. 193-203. (Butterworths: London).

PAYNE, R.W. and others (1987). "GENTSTAT 5 Reference Manual" (Clarendon Press: Oxford).