

THE EFFECT OF TRENBOLONE ACETATE ON LIVEWEIGHT CHANGES AND PREGNANCY RATES IN ZEBU CROSSBRED HEIFERS GRAZING TROPICAL PASTURES

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Trenbolone acetate (androst-4, 9(10), 11 trien-3-one, -17 acetate) (TBA) is one of the few anabolic compounds available for use in female cattle. Best (1972) demonstrated that the growth rate of pasture fed *Bos taurus* heifers was increased by 38% when treated with TBA. However, Heitzman et al (1977) reported that TBA caused anoestrus in dry dairy cows. The present study used Zebu crossbred heifers to examine the effect of TBA on liveweight gain and pregnancy rates.

Ninety-six Zebu crossbred heifers about two years of age were grazed as one group on a tropical pasture consisting of predominantly *Heteropogon contortus*. The data was recorded during a period of below average summer rainfall between 1 February and 26 April, 1983. The heifers were randomly allocated to a control group or to be treated with 300 mg of TBA as a subcutaneous implant in the dorsal surface of the ear. The date of implantation coincided with the commencement of first mating and five 3 year old *Bos indicus* crossbred bulls were added to the herd for a 13 week mating period. Liveweight gain was recorded over an 84 day period and pregnancy rates were established by rectal palpation.

TABLE 1 The response to Trenbolone acetate treatment of Zebu heifers grazing tropical pastures for 84 days

	Treatment		Significance	SE mean
	Control	Trenbolone		
Initial live weight (kg)	236.1	240.7	NS	3.64
Liveweight gain (kg/d)	0.96	1.05	**	0.02
Pregnancy rate (%)	74	40	**	0.06

** Significantly different ($P < 0.01$)

The mean improvement in liveweight gain ($P < 0.01$) of the heifers treated with TBA was 9% or 7.4 kg. A possible explanation for this response being smaller than that obtained by Best (1972) is that the controls in the present experiment grew 30% faster than those reported by Best (1972). In addition the latter results were for 57 days of treatment and the response in the present experiment at 57 days was 13%. The differences in pregnancy rates observed in the present experiment are likely to be due to an hormonal effect per se of TBA. Heitzman et al (1977) observed that anoestrus in dry cows lasted up to 100 days after treatment with TBA. The duration of anoestrus depended on the phase of the oestrus cycle at implantation. However, only six animals were used in this study and pregnancy rates were not reported.

These results show that TBA improved growth rates of pasture fed Zebu crossbred heifers by 9%. However, pregnancy rates for heifers treated with TBA were lower than the untreated controls. The long term effect of TBA on fertility, gestation, parturition and lactation is the subject of continuing investigation.

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