

EFFECT OF GRAIN SUPPLEMENTATION AND ANTHELMINTIC ON GROWTH OF DAIRY WEANERS GRAZING IRRIGATED SETARIA

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Slow growth of the weaned calf increases heifer age at first calving. Tropical pastures are of moderate digestibility but are capable of high dry matter yields. High stocking rates with supplementation may improve pasture utilization without affecting animal growth rate. In high rainfall areas internal parasites reduce growth of calves while responses to anthelmintic treatment are more variable in drier climates.

Forth-eight Friesian weaners were stratified on age, weight and sex in a replicated randomized block experiment at Ayr Research Station. Treatments were (i) stocked at 8.25 weaners/ha, 0.5 kg maize/day; (ii) 8.25 weaners/ha, 1.0 kg maize/day; (iii) 10.75 weaners/ha 1.0 kg maize/day; (iv) 10.75 weaners/ha, 1.5 kg maize/day. Pastures were irrigated, *Setaria cv. Kazungula* fertilized with 336 kg nitrogen/ha/annum. Anthelmintic (Nilverm 4cc/50 kg Max dose 10cc. Tetramisole hydrochloride - manufactured by I.C.I.) was applied to half the animals in each treatment.

Anthelmintic increased weight gains to 5/8/76 ($P < 0.05$) with no further effect (Table 1). With 1.0 kg grain/day, the 30% higher stocking rate gave an almost significant reduction of 8% in growth rate and increased gain/ha by 21%. Animals gains were increased and stocking rate effects removed with grain (Table 1). Growth rates were lowest in winter and highest in spring, independent of grain level.

TABLE 1: Effect of stocking rate, grain supplementation and anthelmintic on growth of Friesian weaners.
(Means are covariance corrected for birth date).

Stocking rate	Grain level kg/d.	livewt kg 20/2	Gain kg/d. 20/2-5/5	Gain kg/d. 5/5-5/8	Gain kg/d. 5/8-17/12	Livewt kg 17/12	Gain kg/d. 20/2-17/12
8.25	0.5	103.9	0.37	0.22 ^a	0.64	238.6	0.45
8.25	1.0	102.3	0.41	0.35 ^b	0.68	259.0	0.52
10.75	1.0	104.2	0.41	0.33 ^b	0.61	247.7	0.48
10.75	1.5	105.5	0.47	0.30 ^{ab}	0.69	260.6	0.52
S.E.		4.87	0.032	0.028	0.033	8.15	0.021
Drench		102.8	0.45 ^b	0.34 ^b	0.66	256.6	0.51
Nil		105.2	0.38 ^a	0.26 ^a	0.65	246.4	0.47
S.E.		3.44	0.022	0.020	0.024	5.79	0.015

Animal growth followed the seasonal pattern observed by Deans et al. (1976). Our animals were weaned during the wet season and growth rates were lower. Even when fed 1.5 kg grain/day, calves did not achieve desired growth rates during the wet season. Overall growth was insufficient for heifers to be mated at 15 months. Grain increased animal gains and allowed higher stocking rates to be used. Early growth rates were improved with anthelmintics. It is uncertain whether initial growth was limited by nutrition or climatic stress. Further work is necessary to improve gains in the immediate post weaning period, particularly when animals are weaned in the wet season.

DEANS, H.D., CHOPPING, G.D., SIBBICK, R., THURBON, P.N., & STOKOE, J. (1976). Proc. Aust. Soc. Anim. Prod. 11:449.

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