

THE PERFORMANCE OF CALVES FED DIFFERENT CONCENTRATES WHILE MILK REARED AT PASTURE

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The feeding of formulated concentrate mixes to dairy replacement calves prior to weaning is now an accepted practice on northern Victorian dairy farms (Moran 1995). It is important that such concentrates be made as palatable as possible to stimulate their intakes during milk rearing and allow for early weaning of calves off milk by about 6 weeks of age. The following study was undertaken to assess the performance of calves, pre and post weaning, while fed one of 5 concentrates at pasture.

Five herds of Friesian calves, each of 5 heifers and 5 bulls, were individually fed 4 L milk from buckets once daily between 2 and 7 weeks of age, together with *ad libitum* concentrates. Calves were allocated to herds on the basis of date of birth, sex and liveweight. Each herd was run in a separate paddock, containing 0.09 ha of irrigated white clover-based pasture, periodically offered limited hay, and shifted to a different paddock every 7 days in a 5 paddock rotation. *Ad libitum* water and shelter were provided in each paddock.

The concentrates were rolled barley (BAR), standard Bunge calf pellets (STA), Bunge pellets plus 8% molasses (MOL), textured calf starter (TEX) and "high bypass protein" pellets (BYP containing additional processed protein meals). The BAR contained 9.4% crude protein (CP) and 12.3 MJ/kg DM of metabolisable energy (ME), and the 4 formulated concentrates contained 22 to 24% CP and 11.5 to 12.5 MJ ME/kg DM. Concentrate intakes and liveweights were monitored every 7 days between Weeks 3 and 13 of the study, conducted during spring and summer 1994.

Table 1. Pre and post-weaning concentrate intakes (kg DM/day), growth rates (kg/day), and liveweights (kg) at weaning and 12 weeks of age in calves at pasture fed barley (BAR) or one of 4 formulated concentrates STA, MOL, TEX, BYP.

	BAR	STA	MOL	TEX	BYP
<i>Pre-weaning (Weeks 3 -7)</i>					
Concentrate intake (kg/day)	0.14	0.43	0.39	0.37	0.35
Growth rate (kg/day)	0.51	0.61	0.54	0.65	0.63
Weaning liveweight (kg)	61	62	61	63	64
<i>Post-weaning (Weeks 7 to 13)</i>					
Concentrate intake					
Weeks 7 to 10 (kg/day)	1.06	1.66	1.70	1.72	1.69
Weeks 11 to 13 (kg/day)	2.34	3.31	3.14	3.48	3.11
Growth rate (kg/day)	0.73	1.14	0.99	1.21	1.08
12 week liveweight (kg)	85	97	89	105	98

Calves fed the rolled barley consistently had the lowest concentrate intakes and, after weaning, the poorest growth rates. Apart from this, there were few differences in the intakes of the 4 formulated concentrates (Table 1). Only the TEX-fed calves attained the 100 kg target liveweight for 12 week old Friesians (Moran 1995), although calves fed STA and BYP nearly achieved it.

MORAN, J.B. (1995). *Proc.Aust.Ass. Cattle Vet. Conf.*, pp. 123-34.