

THE DIGESTIBLE ENERGY AND NITROGEN INTAKES OF HORSES GRAZING OAT/VETCH PASTURES

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This study evaluated the potential of oat/vetch pasture to support the nutritional requirements of intensively grazed 500 kg riding horses.

Oats (*Avena sativa* cv. Marloo), 40 kg/ha and vetch (*Vicia atropurpurea* cv. Popany), 20 kg/ha were direct drilled with superphosphate (50 kg/ha) into 4, 0.5 ha red brown earth paddocks on the Adelaide Plains in May 1992. Individual horses were introduced to each of the paddocks on 3 August 1992 and grazed until 18 September 1992. During 2, 7 day periods, apparent digestible energy and nitrogen intakes were calculated from digestibility estimates obtained from acid insoluble ash measurements of pasture and faeces (Vogtmann *et al.* 1975) and total faecal collections. Samples plucked from where animals grazed were deemed to be representative of the diet of each animal. The horses were weighed at the start and the end of each 7 day grazing period.

The calculated digestible energy content of the diets in August and September were 17.2 and 15.4 MJ/kg dry matter respectively. Digestible energy intakes of 276 MJ/day and digestible nitrogen intake of 500 g/day (Table 1) supported gains of 0.5 kg/day in August. However horses lost weight at the rate of 0.4 kg/day in September when daily digestible energy and nitrogen intakes declined to 191 MJ and 319 g respectively.

Table 1. The mean (± sem) dry matter intake, digestible energy intake and apparent digestible nitrogen intakes of horses grazing oat/vetch pasture

Date	Dry matter intake (kg/day)		Digestible energy intake (MJ/day)		Digestible nitrogen intake (g/day)	
20-27 August	16.2	(0.9)	276	(15.8)	500	(47)
3-10 September	11.7	(3.7)	191	(69.0)	319	(126)

The liveweight loss cannot be accounted for by a lack of pasture availability since dry matter availability increased from 2.1 t/ha in August to 4.7 t/ha in September. It is concluded that under the conditions of this study liveweight gain was achieved on oat/vetch pasture for only a short period in spring when horses grazed 0.5 hectare paddocks.

VOGTMANN, H., PFIRTER, H.P. and PRABUCKI, A. (1975). *Br. Poult. Sci.* **16**: 531-4.