FACTORS AFFECTING THE WEIGHT OF SUCKLED FOALS

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Growth curves obtained from housed foals (Hintz et al. 1979) may be inappropriate for Australian foals which are born and suckled at pasture. This study aimed to determine what factors affect the growth of suckled foals at pasture in order to develop a pasture based system for horse production.

During 1983/84, the live weights of 172 suckled foals were monitored on two thoroughbred studs and one stockhorse stud. Horse data were analysed by regression analysis. Agronomic data were also collected. There was no difference between studs on mare weights ($551.0 \pm 11.3$ kg) or mare age ($9.78 \pm 0.40$ yrs). Foal weight at any given age was affected ($P \leq 0.01$) by foal age, mare weight, month of birth, and mare age. Although colts had significantly older mares ($10.34 \pm 0.40$ yrs) than fillies ($8.89 \pm 0.38$ yrs), the effect of foal sex on foal weight was inconsistent. Mean foal growth rates were greatest in foals aged 0-75 days ($1.233 \pm 0.40$ kg/d) than foals aged 25-100 days ($1.01 \pm 0.70$ kg/d) or 100-200 days ($0.97 \pm 0.08$ kg/d). The effect of month of birth on foal weight may be explained in part by pasture availability and/or quality on the early lactation performance of mares.

The results of this study indicate that high quality pastures can support lactating mares and high growth rates in suckled foals.

**THE INFLUENCE OF NITROGEN SUPPLEMENTATION ON THE INTAKE OF MOLASSES BY SHEEP**

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Elliott et al. (1984) showed that maximum intake of low quality roughages by sheep is attained when the rumen ammonia ($NH_3-N$) concentration is approximately 70 mg/l and intake of roughages is not further stimulated by including formaldehyde-treated casein in the diet.

Two experiments were designed to examine the influence of (i) rumen ammonia concentration and (ii) the inclusion of formaldehyde-treated casein in the diet on the intake of molasses by sheep. Five rumen cannulated wethers were offered a latin square designed experiment, 100 g oat bran chaff and ad libitum molasses solutions (900 g molasses + 100 g urea solution) containing 0, 10, 20, 30 and 40 g urea/kg. The sheep were then fed the diet containing 30 g urea/kg molasses plus 100 g of casein (treated or untreated).

Maximum intake of the molasses solution occurred when it contained 30 g urea/kg and this was associated with a rumen $NH_3-N$ concentration of 67 mg/l. Supplementation with formaldehyde-treated casein did not affect molasses intake. These results are similar to those reported by Elliott et al. (1984) for low quality forage diets.


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