

EFFECT OF NUTRITIONAL TREATMENT DURING PREGNANCY ON
CALVING PERFORMANCE IN HEREFORD HEIFERS

G.A. KROKER* and L.J. CUMMINS**

Calving difficulty in beef heifers is an important cause of calf loss (Entwistle 1983). This paper describes a study of the effect of nutrition at two stages of pregnancy on calf birth weight and calving difficulty.

A herd of 16-month-old heifers was artificially bred over a 6 week period to a single Hereford bull. At pregnancy diagnosis 64 heifers (mean stage of gestation 73 days, mean liveweight 295 kg) were allocated at random to 1 of 4 nutritional treatments in feedlots. These were either a high (H) or low (L) plane of nutrition during mid pregnancy (days 74 to 148 of gestation) or late pregnancy (days 149 to 278 of gestation). The 4 treatment groups were therefore HH, HL, LH and LL, each with 16 heifers. H cattle were fed pasture hay ad libitum and 5 kg oats/head/day. L cattle were fed pasture hay to restrict weight gains to less than 0.5 kg/head/day. Heifers were inspected at least twice daily during calving, and assistance was provided where necessary.

TABLE 1 Dam liveweight changes and calving data

Plane of nutrition	Mid pregnancy		Late pregnancy	
	High	Low	High	Low
Dam liveweight changes, kg+	89	25	83	27
Calf birthweight, kg Males	33.8(21)	31.5(12)]*	35.9(15)	30.6(18) *
Females	28.7(11)	27.9(20)	29.0(17)	27.3(14) ns
No. heifers assisted at birth	10	4 ns	11	3 *
No. stillbirths	8	3 ns	9	2 *
No. assisted births resulting in stillbirth	4	2 ns	6	0 *

+ Weight change over mid or late pregnancy, as specified:

0 = no. of calves; * $P < 0.05$; ns = not significant

A high plane of nutrition during late pregnancy was associated with heavier calf birth weights, particularly in male calves, and increased calving difficulties. Nutritional treatments during mid pregnancy were imposed for a shorter period but had similar effects (though statistically significant only for pooled birth weight data). Effects of mid pregnancy appeared additive with those of late pregnancy. Male calves were heavier at birth than females ($P < 0.05$), and were involved in 11 of 14 assisted births and 7 of 11 stillbirths.

It is suggested that to minimize calving difficulties, beef heifers should be fed to gain weight at a low rate throughout pregnancy, and attempts should be made to avoid high weight gains at any stage.

ENTWISTLE, K.W. (1983). Australian Meat Research Committee Review 43 : 1.

* Department of Agriculture, Box 125, Bendigo, Vic. 3550.

** Pastoral Research Institute, Box 180, Hamilton, Vic. 3300.