WEIGHT CHANGES OF CALVES WITHIN SEVEN DAYS OF BIRTH

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The recording of birth weights is desirable for the calculation of average daily gains. There is also a need to select against high birth weights as an aid to prevention of dystocia (Strachan and Wythes, 1976). Daily measurements during the calving season however are time consuming and costly. Less frequent measurements would allow considerable saving and be more attractive to stud breeders.

Six hundred calves of five different breeds (Africander x Hereford/Shorthorn (BR), Brahman x Hereford/Shorthorn (BX), Hereford x Shorthorn (HS), BR x BX and BX xBR) were weighed during 1975 and 1976 within 24 hours of birth and again at some time within seven days of birth. Weight change was analysed by the method of least squares using a model which included the fixed effects, breed, dam age, age of calf (days), years and sex, and all first order interactions and birth weight as a covariate.

The effects of calf age and years were highly significant and sex significant. All interactions were non-significant. Heavier calves at birth gained significantly less weight than lighter calves ($b=0.0621$ $P<0.01$). Within breed regressions were similar. The least squares constants for gain from day of birth expressed as a percentage of the mean birth weight are shown in Table 1.

Table 1. Gain from day of birth expressed as a percentage of mean birth weight.

	Age in Days							
	1	2	3	4	5	6	7	8
Gain (%)	-6.8	-6.5	-5.8	-1.2	0.6	4.5	9.8	5.5

Calves lost weight rapidly during the first day and then maintained their lower weight for the first three days. Gains were rapid from the third day onward. Weighing calves every three days would therefore underestimate calf birth weights by about 6%. However, weighing calves within 24 hours of birth would presumably also contain errors ranging from zero to 6.8%.

REFERENCE

STRACHAN, R.T. and WYTHES, J.R. (1976). *Qld. Agric. J.* 102: 3, 227-231.