

IMPACT OF LONG TERM EARLY WEANING ON THE PRODUCTIVITY OF *BOS INDICUS* CROSS COWS

A.C. SCHLINK^{a, b}, E.M. HOUSTON^a and K.W. ENTWISTLE^c

^aCSIRO Division of Tropical Animal Production, Private Bag 3, Indooroopilly, Qld. 4814

^bPresent Address: CSIRO Division of Animal Production, Private Bag. PO Wembley, W.A. 6014

^cGraduate School Tropical Veterinary Science and Agriculture, James Cook University, Townsville, Qld. 4881

Low pregnancy rates associated with prolonged post-partum anoestrous are a major limitation to the productivity of northern Australian cattle herds (Entwistle 1983). Schlink *et al.* (1988) showed that a reduction in lactational anoestrous following early weaning significantly improved cow conception rates. The present experiment examines the effects of repeated early weaning on cow liveweight and pregnancy rates at the final weaning.

The experiment was carried out at Lansdown Research Station (19° 13'S, 146° 48'E) near Townsville. Three herds of 42, 43 and 40 cows were stratified by liveweight at the end of calving in early January, 1990 with 15/herd allocated to the early weaning strategy. Calves above 55 kg liveweight were removed from the cows at the January weighing for early weaning, whereas conventional weaning occurred in May with weighing and pregnancy testing. Mating was for a 12 week period starting in the first week of January. Only cows with a calf at foot at the annual January weighing were included in the table and by 1992, 25 early and 30 conventional weaned cows remained in this data set. Cows were identified with their calves at regular intervals from the start of calving in October each year.

Table 1. Liveweight (kg) and liveweight change between January and May (kg), pregnancy rate (%) and inter-calving interval (weeks) for early and conventionally weaned cows

Weaning strategy	1990		1991		1992	
	Conventional	Early	Conventional	Early	Conventional	Early
<i>Liveweight (kg)</i>						
January	503	492	452	478	414 ^a	438 ^b
May	500	527	505 ^a	554 ^b	452 ^a	518 ^b
Weight change	- 3 ^a	35 ^b	53 ^a	76 ^b	38 ^a	80 ^b
<i>Reproduction data</i>						
Pregnancy rate (%)					47 ^a	76 ^b
Inter-calving interval (weeks)	-	-	54	56	55	54
Means with different letters within years and rows are significantly different.						

Early weaning resulted in a significant liveweight improvement between January and May each year compared with the conventionally weaned cows. The average weight increase for the January to May period in the early weaned cows was 32 kg above that of the conventionally managed group and 34 and 79 kg for the periods January 1990 to January 1992, and January 1990 to May 1992 respectively. By the third mating, conception rate was significantly higher in the early weaned cows but there was no significant difference in the time of conception or inter-calving interval for the period of the experiment.

Continuous annual early weaning significantly improved cow liveweight and this increased liveweight was reflected in higher conception rates in the final year of the experiment. Approximately 50% of the weight advantage from early weaning was carried through to the following year in this experiment leading to these cows being 79 kg heavier at the end of the 3 year period.

This work was partially funded by the AMLRDC.

ENTWISTLE, K.W. (1983). A.M.R.C. Reviews, No. 43 (Australian Meat Research Committee: Sydney).

SCHLINK, AC., GIBSON, D.S., LIANG, Z.J. and DIXON, R.R. (1988). *Proc. Aust. Soc. Anim. Prod.* **17**: 326-9.