

## EARLY WEANING OF BEEF HEIFER REPLACEMENTS CAN IMPROVE SUBSEQUENT MILK PRODUCTION

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Johnsson and Obst (1980) highlight the conflict between obtaining satisfactory joining weights of heifers at 14 months of age to achieve high conception rates and the penalties in subsequent mothering performance if high weaning weight heifers are selected as replacements. In this project early weaning is being tested as a management technique that might restrict the level of nutrition of autumn born replacement heifers in the normal preweaning period.

During August, 1979 102 Hereford heifers raised on their dams from birth were randomised into three groups. Heifers in group 1 were left on their dams until eight months of age. Groups 2 and 3 were weaned at five months and confined to 10 per cent of their paddock during spring to restrict their growth from 5 to 8 months. Hay was cut from 40 per cent of the remaining area of these paddocks and was fed back in the Autumn of 1980 to allow a moderately high (Group 2) or low (Group 3) growth rate from 8 to 14 months of age. Group 1 heifers were grazed at a moderate rate during this period. Liveweight gains were 0.68, 0.67 and 0.67 kg/day from 0 to 5 months, 1.12, 0.47 and 0.36 kg/day from 5 to 8 months and 0.33, 0.56 and 0.45 kg/day from 8 to 14 months for groups 1, 2 and 3 respectively. All heifers were joined as one herd in May 1980 at 14 months of age to four Hereford bulls and have grazed at pasture as a single group since. Milk yield was estimated as described by Johnsson and Obst (1980).

TABLE 1 Growth performance and first lactation production of Hereford heifers

	Management system (0 - 14 months)		
	1-Control	2-Early wean/supp.	3-Early wean/control
Heifers/treatment	32	35	35
Weaning age (mth)	8	5	5
Heifer live weight-8mth (kg)	242a <sup>+</sup>	178b	168c
Heifer live weight-14mth (kg)	293a	264b	238c
Calving %	81	83	74
Dystocia %	20	14	12
Calf birth day (day of year)	68a	66a	80b
Calf birth weight (kg)	27.7	29.1	30.0
Milk yield (litres/24hr)	4.2a	4.9b	4.1a
Weaning %	72	80	69
240-day calf live weight (kg)	239	253	248

+ Means in a row with different notations differ significantly ( $p < 0.05$ )

While group 2 heifers produced heavier calves at birth (+4%), higher early lactation yield (+17%) and heavier calves at weaning (+6%) than did group 1 (Table 1), differences were not as great as those recorded by Johnsson and Obst (1980) for artificially reared heifers. However, Johnsson and Obst (1980) recorded lower calving rates and more dystocia in their low nutrition heifers (Table 1). Our results indicate that it is commercially possible to obtain beef heifer replacements possessing good fertility and mothering ability if heifers are managed to achieve low to moderate weaning weights and moderate to high preweaning weights.

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