

BENEFITS OF REARING DAIRY HEIFERS TO ACHIEVE HIGH TARGET WEIGHTS AT CALVING

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Numerous trials, as summarised by Moran (1996), have indicated substantial production benefits could result from better growth rates in dairy heifer replacements. In December 1993, the Macalister Research Farm (MRF) commenced a four year demonstration to promote the adoption of improved systems of heifer rearing on dairy farms.

The main aim of the project was to compare the performances of two comparable groups of heifers, which were reared to reach different liveweights at calving.

Of the 77 heifer calves born at MRF in August/September 1993, all were numbered in chronological order and reared together. Shortly after weaning in late November 1993 the calves were split into two groups with even numbers in one group and odd numbers in the other. One group was sent away to be reared under contract to reach a minimum mean liveweight of 480 kg at calving, at about two years of age. The control group was reared at home as in previous years and was expected to average 450 kg a head at calving. Both groups joined the herd at MRF at calving and were managed identically from then on.

Growth rates of both groups of heifers were monitored regularly up to calving. Since then, their productive and reproductive performances as milking cows have been monitored over two full lactations.

The average liveweight at weaning of both groups of calves was 101 kg. The well reared group then grew steadily at close to the targeted rate to a mean liveweight of 496 kg at calving. Growth of the control group was irregular to a mean 414 kg at calving. Subsequent performances of both groups are presented in Tables 1 and 2.

Table 1. Average production of milk (L) and fat and protein (kg) of well reared and less well reared heifers in their first and second lactations

	First lactation (95/96)			Second lactation (96/97)			Lifetime performance (to date)		
	Milk	Fat	Protein	Milk	Fat	Protein	Milk	Fat	Protein
Well reared	4,691	203	149	4,805	202	160	9,496	405	309
Less well rd.	4,245	184	136	4,568	195	149	8,813	379	285

Table 2. Survival of well reared and less well reared heifers in their first three years

	Number of heifers/cows in group					Average calving date	
	Dec 93	Aug 95	Jun 96	Jun 97	Oct 97	1996	1997
Well reared	37	31	27	23	23	Aug 29	Sept 7
Less well rd.	40	37	35	29	26	Aug 31	Sept 5

After two lactations, the heavier heifers had outproduced their lighter counterparts by 683 litres per cow. This represented a response of 8.3 litres to each additional kg liveweight at calving, which was lower than had been anticipated. The value of the additional milk was \$188.50, at 1996/97 prices, and was still sufficient to have justified more attention to the rearing of the lighter group.

The survival rate of animals in both groups was disappointing. Most culling was caused by failure to get in calf or poor production in early lactation. While numbers were too small for firm conclusions, the results do not indicate any tendency for lighter heifers to be poorer survivors or less fertile.

MORAN, J.B. (1996). *Proc. Aust. Soc. Anim. Prod.* **21**, 71-81.