

Three observations may be made concerning the trends discernible at this stage:—

- (a) The advantage of good rearing over poor rearing when cattle are subsequently fed from first calving on a high even level of nutrition is of a relatively small order (plus 14 lb. B.F.). This is maintained to the three-year-old stage (plus 19 lb. B.F.).
- (b) The advantage of good rearing as compared with poor rearing when cattle are subsequently fed unevenly under uncontrolled-grazing conditions is substantial in the first season (plus 46 lb. B.F.), but becomes a disadvantage in the second season in three-year-olds (minus 19 lb. B.F.).
- (c) The advantage of good rearing combined with subsequent even feeding over poor rearing and subsequent uneven feeding is substantial in two-year-olds (plus 59 lb. B.F.), but is reduced at the three-year-old stage (plus 38 lb. B.F.).

These trends must be viewed with caution in view of the small numbers involved so far and the unknown effects of differential culling. Culling rates in low-low and high-low groups have been higher to date than in milking cattle on the controlled-grazing farm.

Live-weight Changes.—The following table sets out the mean live weights of each group at the end of the season (30th May), the figures being corrected for pregnancy:—

MEAN LIVE WEIGHTS, 1944-48

			Group.	Two-year-old.	Three-year-old.
				lb.	lb.
Controlled farm	..	{	High-high ..	789	868
			Low-high ..	723	810
Uncontrolled farm	..	{	High-low ..	764	800
			Low-low ..	694	765

Though on the controlled-grazing farm the poorly-reared heifers have made up a large proportion of their initial handicap in live weight by the end of the first lactation, they are still nearly 60 lb. lighter than their well-reared mates at the end of the second lactation. In other words, the transfer of poorly-reared stock to controlled-grazing conditions has permitted these to make up some 60 per cent. of their initial disadvantage in weight.

On the uncontrolled-grazing farm the initial advantage of the well-reared heifers over their poorly-reared mates, though still apparent, has been largely lost by the end of the second lactation. It is also important that the initial difference at first calving between the two extremes of approximately 150 lb. is still about 100 lb. at the end of the second lactation.

Although the feeding system on the controlled-grazing area is such that the cattle are never short of food, quite marked fluctuations in live weight occur during the season. These are much less violent, however, than in the cattle on the uncontrolled-grazing farm.

Winter Nutrition Project.—Work on this project was completed during the season. Two further groups of cows (14 pairs) were again wintered during their dry period on high and low planes of nutrition. The mean length of the feeding period was shorter than in previous years, averaging nine weeks, against ten weeks in 1946-47 and thirteen weeks in 1945-46. Both groups entered the experiment at higher weights than in either of the first two years, partly because of the use of older cattle and partly because of the good feed conditions of the 1946-47 dairying season.