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The Relationship Between Level of Nutrition During the Dry Period and Subsequent Production of Dairy Cattle

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Summary Only

In an attempt to measure the influence of supplementary feeding upon the production of dairy cattle under New Zealand conditions of pastoral dairying, a three-year experiment on the effect of two widely different levels of nutrition during the dry period have been contrasted. In each year one group of cows was wintered on relatively bare pasture supplemented with a ration of 3 to 8lb. of hay daily. A well-fed group was wintered on slightly better pasture supplemented with breaks of autumn-saved grass, with silage and with hay ad lib. Both groups were run together from calving onwards until lactations were completed. The experimental feeding period extended over approximately ten to thirteen weeks prior to calving.

The following summarises the results obtained:—

- (1) The effect of a high level of nutrition during the dry period has been contrasted with a low level for three successive seasons. Feeding levels aimed at an increase in true body weight in the case of High Plane animals, and a loss in this weight of the Low Plane.
- (2) The feeding treatments imposed produced differences in true body weight in animals originally of the same weight, of 114lb., 128lb., and 136lb. at calving in the three successive years.
- (3) These weight differences were associated with large and significant effects in each season upon fat yield; during the subsequent lactation; differences averaging 26lb., 63lb., and 60lb. butterfat in favour of the High Plane cattle. Fifty per cent. of the difference in total yield occurred in the first 13 weeks of lactation.
- (4) Differences in fat yield were due mainly to differences in milk yield except in the first year when milk and test differences contributed approximately equally to the fat difference.
- (5) Calves from High Plane cows were heavier by 6lb. than calves from Low Plane cows; male calves were heavier than female.
- (6) High Plane cattle proved easier to get in calf, though the difference is not significant. No difference in calving troubles were noted. Milk fever and grass staggers occurred at a higher rate in the High Plane stock; no other significant difference in health was recorded.