

FACTORS AFFECTING GROWTH RATE OF DAIRY HEIFERS IN QUEENSLAND

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The growth rate of a dairy heifer after weaning has a large influence on subsequent time of mating and age at first calving. Recommendations to farmers have stressed the advantages of mating heifers at 15 months and generous feeding during this first pregnancy. However there is very little information on factors affecting the growth of dairy heifers under Queensland conditions.

Observations on the growth rates of heifers were initiated in four Queensland dairying areas early in 1973. These areas were 'Millaa Millaa and Ravenshoe (north Queensland), Eungella plateau (central Queensland) and Maleny (south Queensland). At each site in north and central Queensland three farms in close proximity each carry two groups of 5 heifers at two stocking rates. Thus each site contains two replications of the stocking rates 2.5, 3.1 and 4.2 heifers / ha. At Maleny there is no replication and the three stocking rates are shared by two farms.

Pastures are kikuyu (*Pennisetum clandestinum*) dominant and fertilized with 165 kg N, 493 kg superphosphate and 123 kg muriate of potash / ha / year. Nitrogen fertilizer, is applied in equal dressings each three months and paddocks are grazed continuously.

Two and a half years of bi-monthly weighings have now been completed. Annual live weight gains have been similar at the four sites, ranging from 0.44 to 0.54 kg / heifer / day. Weight gains have ranged from near zero in winter (north Queensland) or dry springs (central Queensland) to 0.8 - 1.0 kg / heifer / day over 4 months of the summer wet season.

There was no consistent stocking rate effect during the first two years. This is attributed to variation between paddocks. By the third year pastures had become more uniform between paddocks and farms and an approximately linear decrease in gain per head with increasing stocking rate is being recorded. However the stocking rate effect still appears small compared to the differences in growth rate of heifers in different seasons.

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