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COMPENSATORY GROWTH OF BEEF CATTLE

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Seventy-eight weaner Hereford × Angus cattle weighing approximately 216 kg were divided into three mobs in late May 1975 and fed either high, medium or low planes of nutrition for 115 days until mid-September. Thereafter all groups were run together at 4.5/ha on border-dyked, irrigated, ryegrass-clover pastures until slaughter in April 1976.

Based on before and after grazing herbage availabilities, autumn-saved pasture consumption was estimated to be 6.2, 5.2 and 3.6 kg DM/day for H, M and L plane steers, respectively. Total winter feed consumption, including hay and barley, was 9.9, 7.7 and 5.0 kg DM/day, respectively. Winter liveweight gains for H, M and L plane animals were 0.67, 0.45 and 0.25 kg/day.

When grazed together in spring, animals previously on L plane of nutrition gained 0.21 kg/day faster than H plane animals. Liveweight gains from September to April were 0.64, 0.77 and 0.85 kg/day (P < 0.01). The difference in total liveweight gain of 49 kg (P < 0.01) between H and L groups by the end of winter reduced to 7.6 kg (P > 0.05) by April, representing a liveweight recovery of 84.5%. Compensatory growth between H and M plane animals was 99.2% and between medium and low plane animals 67.9%. Adjusted carcass weights for the H, M and L plane groups were 230, 231 and 225 kg, respectively.

Wintering calves to gain 0.67 kg/day proved to be uneconomic relative to M and L plane animals. Mediocre gains of H plane animals in early spring was responsible for their poor performance during the spring-summer period. Although H plane steers were observed to spend less time grazing, subsequent trials have demonstrated little effect of competition between H and L plane animals when joined in early spring. Reduced pasture consumption as measured by faecal output/digestibility relationships was considered responsible for the poor performance of H plane animals in early spring. Herbage intakes of H plane animals in late September were 7.0 kg DM/day compared with 9.3 kg for L plane animals. By November, differences were reduced to non-significant proportions.