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Summary only

COMPENSATORY GROWTH OF BEEF CATTLE

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Seventy-eight weaner Hereford \times 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 4.3/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.