A COMPARISON OF AN AUTUMN AND SPRING CALVING BEEF HERD IN WESTERN VICTORIA USING BEEF-N-OMICS

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Autumn calving is the most common calving time in beef herds in Western Victoria, however there is growing interest among beef producers in spring calving (Anon. 1991).

Analysis of 2 simulated autumn and spring calving herds was done using the BEEF-N-O MICS simulation model which integrates feed budgets and financial gross margin budgets. Different management strategies were imposed to look at the profitability of each system. The constant factors used in the calculations were pasture growth figures based on production data over 10 years from the Pastoral Research Institute at Hamilton and average livestock prices over the last 3 years from the Livestock Market Reporting Service. The self-replacing herds are made up of 100 British straight bred cows of 500 kg liveweight. Cows were sold after pregnancy testing and culled for age at 10 years old. The same animal health costs were used in each case and hay was valued at $A70 per tonne. It is also assumed that all herds had calving percentages of 95% and 3 bulls per 100 cows joined. Hay has been used to balance any feed shortages so that the feed supply met the animal requirements in the critical feed periods in winter. Time of calving for the autumn herd was March-April and for the spring herd August-September.

Table 1 shows the gross margins from 5 management strategies which were: Aut 1, autumn calving selling vealers at 10 months of age with average sale liveweight of 270 kg; Aut 2, autumn calving and carrying on the weaners to be sold at 22 months with average sale liveweight of 450 kg; Spr 1, spring calving with weaning at 10 months and the weaners carried on and sold at 17 months with average sale liveweight of 370 kg; Spr 2, spring calving selling weaners at 10 months with average sale liveweight of 200 kg; Spr 3, spring calving selling weaners at 10 months with average sale liveweight of 200 kg. Similar winter feed consumption to Aut 1 but with a 30% increase in stocking rate.

A major limitation to the BEEF-N-O MICS program is that it cannot adjust for change in cow weight and thus utilization of body reserves.

Table 1. A comparison of gross margins for the different management strategies in the two herds

Calving group	Age at weaning (months)	Age of calves at sale (months)	Hay fed (t/year)	Gross margin ($A/cow)	Gross margin ($A/ha)
Aut 1	10	10	49	233	233
Aut 2	10	22	107	344	344
Spr 1	10	17	48	325	325
Spr 2	10	10	2	188	188
Spr 3	10	10	49	162	211

Based on our assumptions this analysis shows that the most profitable calving system in terms of a gross margin per hectare was autumn calving, carrying the weaners over to sell them at 22 months of age (Aut 2). However these results will vary according to particular management decisions that producers use to target specific markets.

Further use of the BEEF-N-• MICS model could look at feeding less hay to the spring calving group and selling the weaners at different times of the year.

ANON. (1991). Proc. of BIA Seminar, Hamilton.