

THE IMPORTANCE OF FERTILITY IN BEEF HERDS IN SOUTH-WEST VICTORIA

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For many years fertility has been promoted as the most important factor affecting beef herd profitability, and producers have been encouraged to aim for a calving percentage as close as possible to 100%. This study examined the gross margins produced by two simulated herds, one (Herd A) with a calving percentage of 75% and the other (Herd B) with 100% calving.

This analysis was conducted using parts of the Beef-n-omits simulation model and manual collation and analysis. Pasture growth figures were based on pasture production data over 10 years from the Pastoral Research Institute at Hamilton. These figures and stock numbers plus age and status of stock were analysed using the Beef-n-omits model to generate a pasture availability, consumption and carryover inventory. This inventory was used to calculate the size of Herd B necessary to equate with Herd A, so that each herd consumed the same amount of feed as each other in the month of least feed availability (this occurred in August). Herd A consisted of 300 pregnant cows and 100 replacement heifers in February, and to match feed availability and requirements in August, herd B consisted of 324 pregnant and 32 replacement heifers in February each year. No supplementary rations were fed.

Both herds were joined on June 1st for a March calving. In both herds all females were pregnancy tested, with those tested empty being sold in January. Sufficient replacement heifers were retained in both herds to maintain cow numbers, and all weaners, including excess heifers were sold in January. Once the herd sizes were set, the gross incomes, costs and margins were calculated manually.

The results of the analysis are contained in Table 1. The prices for each class of stock, for each year analysed were obtained from the Livestock Market Reporting Service based on prices at the Hamilton market. The enterprise costs of production used were sourced from the Hamilton District monitor farms project.

Table 1 The percentage difference in gross margins (\$) per hectare between Herd A and Herd B, (A-B), for the years 1982-1988

YEAR:	1982	1983	1984	1985	1986	1987	1988
Difference (%) (A-B)	-0.8	+2.7	-0.9	-1.6	+1.2	+2.3	+3.4

This analysis shows that the large benefits reportedly associated with high fertility did not occur. The probability of improved fertility depends mainly on the relative proportion of income derived from cull cows as compared to weaners. If the price for cow beef is relatively high compared with the price for weaners, in herds with low fertility the weight of cow beef sold is so high it generates more income than its alternative. This study suggests that increases in fertility over 75% have only a minor affect on farm profitability, a conclusion supported by K.M. Weber (pers. comm.) Bourbon and Brinks (1987), in a study of the effect of changing fertility on biological and economic efficiency for rangeland beef production reached a similar conclusion.

BOURBON, R.M. and BRINKS, J.S. (1987). J. Anim. Sci. 65:956.

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