

THE EFFECT OF STOCKING RATE AND SUCKLING RATE ON CALF PERFORMANCE
AND COW LIVEWEIGHT CHANGE IN A MULTIPLE SUCKLING SYSTEM

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The production of vealer beef in the high rainfall areas of north-eastern N.S.W. is now a major industry in that area and in many other parts of eastern Australia. Calves are usually reared on dairy or beef/dairy cross cows as high milk production is required to ensure rapid growth and the production of desirable carcasses. Slaughtering takes place when calves reach an age of about eight to ten months with carcasses falling in the range 110 to 160 kg being required for this market.

An experiment was conducted to determine the feasibility of using multiple suckling to increase beef production from a vealer enterprise. In this study, the effects of suckling rate and stocking rate on calf performance and cow liveweight change were measured.

Guernsey cows were multiple suckled by two or three Hereford/dairy cross calves for a period of nine months (August 1972 to May 1973), when calves were weaned. Throughout the experiment animals grazed nitrogen-fertilized (112 kg N per ha) pastures, comprising a mixture of paspalum (Paspalum dilatatum), broadleaf paspalum (P. wettsteinii) and kikuyu grass (Pennisetum clandestinum). Pastures were set-stocked at either 1.00, 1.75, 2.50 or 3.25 cows with calves per ha.

Calves gained more slowly ($P < 0.01$) as stocking rate was increased, with mean daily growth rates varying from 0.51 to 0.70 kg per day at 3.25 and 1.00 cows per ha respectively. Increased stocking rate also caused greater liveweight loss ($P < 0.05$) in nurse cows and it was necessary to terminate the highest stocking rate treatment earlier than scheduled, as cows became grossly emaciated towards the end of the experiment. These cows lost a mean liveweight of 70 kg in 258 days,

Suckling rate also influenced ($P < 0.01$) calf growth rate and weaning weight, with calves suckled at two per cow gaining more rapidly (mean of 26%). Cow liveweight change was not affected by suckling rate. The mean weaning weight of calves exceeded 220 kg at the lower suckling rate when stocking rates of 1.00 and 1.75 cows per ha were imposed, and it is therefore likely that carcasses from these calves would fall in the range (110 to 160 kg) required for the vealer market. Only individual calves (approximately 25%) raised at three per cow and grazed at the lowest stocking rate exceeded a weaning liveweight of 220 kg,

In view of the poorer animal performance, it appears likely that multiple suckling will have little application for increasing vealer production at higher stocking rates. Moreover the long term viability of such a system could be questioned as it is possible, with the levels of liveweight lost by cows in this study, that milk production in the following lactation could be inhibited,

These results indicate that multiple suckling may be used for vealer production provided low stocking rates and suckling rates are used. Further studies are being undertaken to compare economic returns from single and multiple suckled cows, and to investigate the reproductive performance of multiple suckled cows.

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