

STUDY OF THE PRODUCTIVE EFFICIENCY OF COWS THROUGH THE RELATION BETWEEN CALF WEIGHT AT WEANING AND COW WEIGHT

*ESTUDO DA EFICIÊNCIA PRODUTIVA DA VACA ATRAVÉS DA RELAÇÃO ENTRE
O PESO DO BEZERRO AO DESMAME E O PESO DA VACA*

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The productivity of beef cattle has been increasing because of nutritional and genetic factors. Older studies showed that larger beef cows produced heavier calves because they were able to ingest more food and produce more milk for calves. On the other hand, very large cows have a high nutritional requirement, consuming much more food in relation to smaller animals. A good relationship between size of the cow and the calf is important to improve production efficiency. The relationship between calf weight at weaning and cow weight can be a useful tool to evaluate the productive efficiency of beef cows (calf/cow rate). The objective of the present study was to evaluate the relationship between calf weight and cow weight at 150 days postpartum and at weaning. This research project was developed at APTA Beef Cattle Center of the Institute of Zootechnics. A total of 30 cows, subdivided into two groups, received different mineral supplementation in the dry season, 120 days before calving and in the wet season, up to 150 days after calving. Supplementation did not significantly influence the body weight of cows and calves, so this effect was eliminated. 150 days after calving, all cows received the same supplementation and were kept in the same pastures until weaning. The cows were weighed before delivery to classify them into groups by weight between 350 and 400 kg, between 401 and 500 kg and between 501 and 590 kg. The weight ratio of the calf per 100 kg of cow was calculated by dividing the weight of the calf by the weight of the cow and multiplying it by 100. After calving, the calf was weighed and received the normal care of newborns. Weaning occurred when the calves were on average of 234 days old. The experiment was completely randomized considering effect of cow group, birth month and calf gender. The SAS program was used through the Mixed command and the random effect was the animal. No effects were observed for birth month ($P>0.05$) for all variables. There was no influence of the cow weight group on calf birth weight ($P=0.2159$), either at 150 days ($P=0.9402$) or at weaning ($P=0.5890$). Male calves were heavier at birth ($P=0.0069$) than females, with 36.4 vs. 31.3 kg, respectively. The results of the calf-cow weight ratio were 44.8; 38.7 and 29.8 at 150 days postpartum, and 56.7; 50.4 and 40.7 kg of calf per 100 kg of cow at weaning for cows in the groups weighing 350 to 400 kg, 401 to 500 kg and 501 to 590 kg, respectively. The lighter cows showed higher productive efficiency since they weaned calves weighing similar weight compared to the heavier cows, increasing the calf-cow weight ratio.

Keywords: beef cattle, cow-calf rate; cow efficiency.

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