

## EFFECT OF MINERAL SUPPLEMENTATION ON THE PERFORMANCE OF THE NELLORE BREED

### EFEITO DA SUPLEMENTAÇÃO MINERAL NO DESEMPENHO DE PRIMIPARAS DA RAÇA NELLORE

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Brazil is one of the biggest beef producers in the world, and several factors of the productive chain are important, among them animal nutrition because of the impact of its costs. The objective of this study was to evaluate primiparous Nellore cows' weight loss due to delivery and body condition score (BCS) of three groups with different initial weight, receiving two different mineral supplementations. The research project was developed at the APTA Beef Cattle Center of the Institute of Zootecnia during 180 days, beginning in the dry season and ending in the wet season. The animals were divided into two treatments, one receiving mineral blocks with addition of molasses from Caltech-Crystalix (CRY), an English company, and the other, the control, receiving mineral supplement mix (CONTROL). Both treatments had additional protein included during the dry season. Initially, the pregnant cows were classified into three groups, with initial weight between 350 and 400 kg (G1), 401 and 500 kg (G2), and 501 and 590 kg (G3). Seventeen 17 primiparous cows of the Nellore breed were in the CRY group and 19 primiparous cows in CONTROL group. During the experiment, the were weighed twice, 30 days before and 30 days after parturition, to calculate the lost weight. The BCS was assigned at parturition and 150 days after parturition (1 = extremely slim, 9 = extremely fat). A 3x2 factorial The experimental design was used. The SAS program was used through the Mixed command, considering as fixed effects the supplement, group of cows by weight and the interaction between them. The animal was considered a random effect. The supplement intake was controlled weekly and no statistical analysis was performed. The average of CRY supplement intake varied from 0.077 to 0.821 kg/animal/day. The CONTROL supplement intake varied from 0.055 to 0.370 kg/animal/day. The loss of weight was affected by the supplement ( $P = 0.0384$ ), group of cow ( $P = 0.009$ ) and interaction between supplement and group ( $P = 0.0221$ ). No difference was found for delivery weigh loss only for the group of lightest cows ( $67 \pm 1.23$  kg for G1 CRY x  $67 \pm 1.09$  kg for G1 CONTROL). The heaviest cows lost more weight in the CONTROL ( $G3 = 113 \pm 1.83$  kg) compared to the CRY group ( $G3 = 78 \pm 1.64$  kg). Regarding parturition, no effect was found for BCS between CRY and CONTROL ( $P = 0.3120$ ) or interaction between treatments and group ( $P = 0.0722$ ), but there was an effect of the group of cows ( $P = 0.0272$ ). The BCS was  $4.9 \pm 0.25$  for G1,  $5.9 \pm 0.21$  for G2 and  $5.9 \pm 0.23$  for G3. A significant effect was also observed of supplementation for BCS at 150 days after delivery ( $P = 0.0198$ ) and group of cows ( $P = 0.0021$ ), but no effect was observed for the interaction between treatment and group ( $P = 0.3750$ ). The results were  $5.52 \pm 0.18$  and  $4.90 \pm 0.16$  for CRY and CONTROL and  $4.6 \pm 0.25$ ;  $5.0 \pm 0.19$  and  $6.0 \pm 0.23$  for G1, G2 and G3, respectively. The CRY supplementation minimized the loss of weight because of parturition and improved the BCS, resulting in the best performance for primiparous Nellore cows.

Keywords: beef cattle, body condition score, consumption.

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