

THE EFFECT OF DIETARY FAT LEVEL ON THE EFFICACY OF MONENSIN SODIUM IN FEEDLOT FINISHED ANIMALS

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It is notorious that the use of ionophore improves the performance of feedlot cattle due to changes in rumen metabolism. Nevertheless there are doubts whether this result remains consistent for diets high in fat content. Thus, this study aimed to evaluate the influence of the level of ether extract (EE) in the diet on the efficacy of monensin. The study was conducted at Embrapa Beef Cattle, Campo Grande - MS, with 40 steers and 40 heifers, aged 20 ± 1 month, and initial weights of 392 ± 36 kg and 350 ± 34 kg, respectively. They were housed in individual pens with covered trough. The animals were allotted to one of four diets containing two dietary fat levels (3.5 and 7.0% ether extract) with and without sodium monensin (Rumempac M.Cassab), in a 2 x 2 factorial arrangement of treatments, following a completely randomized block design (gender). Each animal treated with ionophore received 280 mg of monensin per day. The diets were isocaloric (73.5% TDN) and isonitrogenous (14.0% CP) with 70% concentrate and 30% sorghum silage, in dry matter (DM) basis. The source of supplemental fat was cottonseed (15% DM). The diet was offered twice a day, 40% in the morning and 60% in the afternoon, and the leftovers were daily weighted in the morning to adjust the deliveries in order to characterize *ad libitum* intake. Every 14 days the animals were weighed and ultrasound measurements of carcass traits were performed. When they reached 5 mm of backfat thickness at the 12th rib region, they were slaughtered. Dry matter intake (DMI), average daily gain (ADG) and feed efficiency (FE), as kg of gain per kg of DM intake were analyzed. Analysis of variance was performed using SAS software. Average final weight was 530 ± 43 kg for males and 477 ± 40 kg for females. The average duration of the finishing period was 93 ± 6 days for males and 91 ± 6 days for females. Monensin increased ADG in 127 g ($1.566 \text{ kg} \cdot \text{day}^{-1}$ vs $1.439 \text{ kg} \cdot \text{day}^{-1}$, $P < 0.05$). The low-fat diet resulted in greater ADG only for males ($1.634 \text{ kg} \cdot \text{day}^{-1}$ vs. $1.395 \text{ kg} \cdot \text{day}^{-1}$, $P < 0.05$) and the average ADG of the diets for females was 1.470 kg / day. Dry matter intake was influenced by ionophore ($P < 0.05$) with an average DMI of $12.09 \text{ kg} \cdot \text{day}^{-1}$ vs. $12.61 \text{ kg} \cdot \text{day}^{-1}$ for monensin treated and control animals, respectively. There was no effect of fat level on DMI. Monensin treated animals had greater feed efficiency than no-treated cattle (0.130 vs. 0.114, $P < 0.05$). For males, the high fat diet resulted in lower FE in relation to the control diet. The use of monensin resulted in increased ADG (+9%), lower DMI (-4%) and, consequently, improved FE (+14%), regardless of sex or diet. Therefore, there was no reduction in the efficacy of monensin in diets with high fat content.