

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

AN AGGLOMERATED POWDER SUPPLEMENT MAY IMPROVE THE EFFICIENCY OF MINERALIZATION OF GRAZING CATTLE

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Losses in mineral supplementation of grazing cattle is likely to occur in unsheltered troughs, mainly throughout the rainy season both by lixiviation and hardening. The aim was to evaluate supplement consumption, lixiviation due to precipitation, and hardening behavior comparing a regular powder mineral supplement (REG) and an agglomerated powder mineral supplement (AGL) provided to grazing heifers in the rainy season. The study was carried out between December 21th 2016 and April 20th 2017, in Campo Grande, MS, Brazil. Seventy-two heifers (Senepol and Caracu, 224 kg body weight (BW), 14-month old) were allocated into 12 paddocks (4.4 ha, six heifers per paddock, six paddocks per treatment) composed of Marandu grass and supplemented with either REG or ANG mineral supplements (80 g P kg⁻¹, Connan Nutrição Animal, Boituva, SP, Brazil) in unsheltered troughs. Fresh supplement was offered every 14 days when orts were removed out from troughs and weighed to calculate supplement consumption. The supplement mass was revolved on day 7 post fresh supplement offering, in order to decrease aggregated particles. Lixiviation of insoluble supplement particles due to precipitation was measured every 14 days by coupling a paper filter recipient to the trough drain. A penetrometer was used to measure the force to penetrate the supplement mass three times a week. Mixed models were fitted to analyze repeated measures in a randomized complete block (breed) design. Treatments did not affect BW gain (817 g d⁻¹, p>0.05). Supplement consumption was lower for AGL (21 vs 25 g kg BW⁻¹ d⁻¹, p = 0.04). Insoluble supplement particles that were lixiviated and retained through the paper filters were higher for REG (0.64 vs 0.26 g d⁻¹, p = 0.02). Mean force to penetrate the supplement mass was higher for REG compared to AGL (2.63 vs 1.84 kg cm⁻², p = 0.03) and varied throughout the 14-d period. Evidences exist that agglomerated powder supplements may lead to lower losses in mineral supplementation of grazing cattle.

Keywords: animal nutrition, beef, pastures, penetrometer, rainy season

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