DO SUPPLEMENTATION METHODS AND SUPPLEMENT PRESENTATION AFFECT THE PERFORMANCE OF CALVES GRAZING DEFERRED NATIVE GRASSLANDS ON SANDY SOILS DURING WINTER?

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Live weight (LW) losses of beef calves during winter has always been a great hindrance in the path of intensification and profitability improvement of extensive livestock farmers, especially concerning native grasslands-based systems placed on sandy soils in Uruguay. Additionally, labour shortage has been an increasing concern to farmers, since both availability and training of human resources have been continuously declining over the years. To address these two issues trough research and innovation, an experiment was set out aiming to determine whether it could be possible to attain similar animal performances through supplementing beef calves in their first winter using self-feeders compared to daily supplementation. This experiment was carried out at INIA Tacuarembó Experimental Station, located in Northern Uruguay, on sandy low-fertility soils of "La Magnolia" Experimental Unit. Paddocks of deferred native grassland paddocks were used, having previously removed dead forage from the summer through intensive grazing sessions. The total duration of the experiment was 123 days (24th July to 24th November 2014) using Braford calves (LW $= 160 \pm 20$ kg; n $= 32$) born in spring 2013. Animals were randomly allotted to one of two replicates of the following treatments: Control (C), non-supplemented animals; Daily supplementation - using ground rice bran (RB) - (DG); Daily supplementation using pelleted rice bran (DP); Self-fed using ground rice bran distributed two times a week (SFG); Self-fed using pelleted rice bran distributed two times a week (SFP). Daily average supplementation rate was equal for all supplemented treatments (1.2 % LW). No differences between treatments were found for average forage mass and height (P > 0.05; 1807 kg DM/ha and 5.9 cm, respectively). Even though ADG was not affected by treatments (P > 0.05; average 0.716 kg/animal/day), when contrasting C vs. all supplemented treatments, C presented lower ADG (P < 0.05). Final LW was affected by treatments, being C $\leq$ DG=DP=SFG$\leq$SFP (P < 0.05). Deferred native grasslands *per se* (C treatment) resulted in positive and moderate animal performance, where calves improved final LW with strategic supplementation, particularly with the SFP treatment. Additionally, self-fed strategies presented similar animal performance than daily supplementation, regardless of rice bran presentation. It is concluded that is possible to improve winter calves´ performance with the use of rice bran with minor effects associated with its presentation and frequency of allotment.

Keywords: automation, ground rice bran, infrequent supplementation, pelleted rice bran, sustainable intensification