

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## CONSUMPTION AND DIGESTIBILITY OF RE-ENSILAGED SORGHUM WITH OR WITHOUT MICROBIAL INOCULATION

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Re-ensiling and the use of microbial inoculants have been common practices in Brazil. The objective of this study was to evaluate the digestibility and the consumption of re-ensilaged sorghum with or without the use of a microbial inoculant. The experimental treatments included the application of an inoculant and the re-ensiling of the silage material after 24 hours of exposure to air. The inoculant used was composed of the facultative heterofermentative bacterium *Lactobacillus plantarum* MA 18 / 5U and the propionic bacterium *Propionibacterium acidipropionici* MA26 / 4U in the amounts of  $2.5 \times 10^{10}$  colony forming units per gram of product (CFUg<sup>-1</sup>) for each microorganism (Biomax Corn, Lallemand, Saint-Simon, France). The re-ensiling was performed after 56 days of silage so that the silos were opened and the material was re-ensiled after 24 hours of air exposure. Eight adult sheep were distributed into two balanced and simultaneous 4x4 latin square designs. The consumption and fecal production data was used to evaluate the digestibility according to the methodology used by Maynard et al. (1984). There was no change in dry matter (DM) intake per unit of metabolic size due to the use of the inoculant and re-ensiling. The crude protein (CP) consumption was higher in the non-inoculant silages and the re-ensiling did not alter the consumption of this variable. There was interaction between the inoculant and re-ensiling factors for the consumption of non-fibrous carbohydrates (NFC). NFC consumption was higher in silages without inoculant that were not re-ensiled. The other variables were not influenced by the treatments. The digestibility of DM and CP was lower in the inoculated silages and was not influenced by re-ensiling. The digestibility of organic matter, neutral detergent fiber (NDF), neutral detergent fiber corrected for ash and protein (NDFcp), acid detergent fiber (ADF) and acid detergent fiber corrected for ash and protein (ADFcp) were not influenced by treatments. There was an interaction between the inoculant and re-ensiling factors for NFC digestibility that was higher in the silages without inoculant that were not re-ensiled. Re-ensiling did not alter the *in vivo* digestibility of DM in this study probably due to the unchanged content and composition of the fibrous fraction. Consumption and digestibility of non-fibrous carbohydrates and crude protein were higher in not re-ensiled and not inoculated silages. In addition, the use of microbial inoculant decreased crude protein intake and digestibility of dry matter and crude protein of sorghum silages.

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