

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

CONCENTRATION OF ORGANIC ACIDS OF PEARL MILLET SILAGE AND PAIAGUAS PALISADEGRASS IN MONOCROPPING AND INTERCROPPING IN DIFFERENT FORAGE SYSTEMS

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The consortium of millet with tropical forages can increase the production of silage, providing more food to be used in the offseason, where there is low availability of forage. The objective of this study was to evaluate the concentration organic acids of pearl millet silage and Paiaguas palisadegrass in monocropped and intercropping in different forage systems in the second cropping season. This experiment was conducted in the municipality of Rio Verde, Goiás, during the 2014 offseason. The experimental design consisted of randomized blocks with four replicates. The treatments consisted of silage of the following forage systems: monocropped pearl millet, monocropped Paiaguas palisadegrass, pearl millet intercropped in rows with Paiaguas palisadegrass, pearl millet intercropped inter-row with Paiaguas palisadegrass, and pearl millet oversown and intercropped with Paiaguas palisadegrass. The forages were harvested when pearl millet reached 314 g kg⁻¹ DM (dry matter) for ensiling, using a backpack mower. The material was chopped to 10 to 30 mm by using a stationary forage harvester. Next, the material was stored in experimental PVC silos measuring 10 cm in diameter and 40 cm in length. After 50 days of fermentation, the silos were opened. The material at the top and bottom of each silo was discarded, and the central portion was stirred and placed in plastic trays. After opening the silos, a portion of the fresh silage was separated to determine the organic acid. The data were subjected to an analysis of variance, and the means were compared using Tukey's test with an error probability of 5%. The concentration organic acids of silage was influenced ($p < 0.05$) by the forage systems. The highest lactic acid concentration were obtained in the pearl millet silage, due to the greater presence of soluble carbohydrates. The acetic and propionic concentration was higher ($p < 0.05$) in the Monocropped Paiaguas palisadegrass monocropped. Pearl millet monocropped and intercropped silage exhibited better fermentative than silage obtained from monocropped Paiaguas palisadegrass. Therefore, silage from intercropped forages provides an interesting supplemental roughage option that can be used during the offseason for animal feeding.

Keywords: conservation, crop-livestock integration, fermentation and lactic acid.

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