

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## **NUTRITIONAL VALUE OF SORGHUM SILAGE AND *Brachiaria brizantha* IN MONOCULTURE AND INTERCROPPING IN DIFFERENT PLANTING SYSTEMS**

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Recently it has emerged a technique for silage production of intercropping systems of annual crop with forage through crop-livestock integration. This study evaluated quality of silage of sorghum and *Brachiaria brizantha* cultivars monocropped or intercropped in different planting systems. The experiment was carried out under field conditions at the county of Rio Verde, state of Goiás. It was a randomized block design, with three replications, in a 3 x 2 + 4 factorial arrangement, with three cultivars of *Brachiaria brizantha* (Marandu; Xaraes and Piata palisadegrass) intercropped with grain sorghum in two planting systems (row and between rows) and four monocrops (Sorghum, Marandu palisadegrass, Xaraes palisadegrass and Piata palisadegrass). For ensiling, silages were harvested 90 days after planting, using backpack brush cutter, when the material was at the doughy-pasty stage. The chemical analyses were performed to determine for crude protein (CP), the neutral detergent fiber (NDF), acid detergent fiber (ADF) and for in vitro dry matter digestibility (IVDMD). It was applied the Tukey test at 5% probability, when found significance for the sources of variation tested in both cropping systems. It was also used the Dunnett's test at 5% to compare the means of the intercropping with sorghum in monocropped. Analyses were run using the ASSISTAT version 7.6 beta. The CP show lower value was obtained sorghum silage if different ( $p < 0.05$ ) from other silages. As for the NDF, values were not different between the silages, with mean values of 686.4; 684.8 and 714.1 g kg<sup>-1</sup> DM (dry matter), for intercropping systems and monocrops of sorghum and *Brachiaria brizantha* cultivars, respectively. There was a significant effect ( $p < 0.05$ ) on ADF content of silages, the lowest value was obtained in the silage intercropped with Piata palisadegrass between rows. For the IVDMD, the values were not similar ( $p > 0.05$ ) between the intercropping systems in the two planting systems. However, when comparing forage systems, sorghum silage in monocrop showed higher IVDMD compared to monocrops of the cultivars of *Brachiaria brizantha*. Therefore, silages of intercropping systems ensure nutritional value, providing interesting supplementary bulky options to be used in the offseason for feeding animals.

**Keywords:** acid detergent fiber, crude protein, digestibility and fermentation

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