

Ensilability potential of commercial and experimental sorghum cultivars (*Sorghum bicolor*), produced in harvest in northern Mato Grosso.

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The demand for sorghum cultivars of better quality and productivity stimulated the emergence of innumerable genotypes with specific characteristics of size, cycle, and aptitude, which have a marked influence on the nutritional value of the produced silage. Given this scenario, an experiment was carried out at Embrapa Agrossilvipastoril and Federal University of Mato Grosso, in Sinop/MT, to evaluate 15 different sorghum genotypes, focusing on plant characteristics that can influence the silage fermentation process. Thus, eight Embrapa experimental hybrids (foragers 15F30005 and 15F30006, saccharines CMSXS 5027, 5030, 5043 and 5045 and biomasses 2019B008 and CMSXS 7501 bmr) and seven commercial ones (BRS 658, BRS 659, Volumax, BRS 511, BRS Ponta Negra, BRS 716 and AGRI-002E), were planted on 11/20/19. The plots consisted of two rows of 5 m long, spaced 0.70 m apart. Similar cultural treatments were carried out for all plots. After harvesting and processing, dry matter content (DM), buffer capacity (BC), soluble carbohydrates (SC) were evaluated and based on them, the fermentation coefficient (FC) was calculated. After analysis of variance (ANOVA), the data of the genotypes were grouped and evaluated by the method proposed by Scott-Knott ($P < 0.05$), showing a difference between the genotypes for all characteristics, demonstrating that the genetic variability between the materials can influence the ensilability characteristics of plants. By means test, four groups were formed for DM. The materials BRS 716, AGRI-002E, BRS 658 and 659 obtained the highest levels, with 29.77% and BRS Ponta Negra, BRS 511, CMSXS 5027 and CMSXS 5030 with the lowest, 20.47%. For BC, five groups of means were formed, where 2019B008 obtained the highest value and BRS 511 with the lowest, being 4.21 and 1.62 g lactic acid 100 g DM, respectively. For SC, three groups were formed, with BRS 511 and CMSXS 5030 with the highest average, 39.17%, and with the lowest BRS 716, AGRI-002E, Ponta Negra, Volumax, BRS 658 and 659 and a further 6 experimental ones, 20.36%. From this, the FC ($FC = \% DM + 8 \times SC/BC$) was calculated, generating three groups of averages, where BRS 511 obtained the highest value, 195.06, and the smallest group, consisting of BRS Ponta Negra, BRS 658 and 659, Volumax, AGRI-002E, BRS 716 and 6 experimental, with 77.36. Based on the analyzes carried out, all genotypes are liable to be ensiled and produce silage with an appropriate fermentative pattern. Among them, the experimental material CMSXS 5030 and the commercial BRS 511, both saccharine, stood out in terms of low buffer capacity and high levels of soluble carbohydrates and fermentation coefficient.

Keywords: *Sorghum bicolor*, silage, ensilability, fermentation.

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