

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

AEROBIC STABILITY OF PEARL MILLET (*Pennisetum glaucum*) BR-1503 SILAGES HARVESTED IN DIFFERENT MATURATION STAGES

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Pearl millet is a potentially productive and rustic fodder, which makes it possible to obtain quality silages instead of maize. Ensiling is the main technique for the conservation of forage used in Brazil, but there is a lack of studies that evaluate the quality of the silage of pearl millet cultivars adapted to the soil and climatic conditions of the country. This study aimed to evaluate the chemical composition and aerobic stability of pearl millet (*Pennisetum glaucum*) BRS 1503 silages harvested at 63, 67, 71 and 74 days after planting. The material used was grown at Embrapa Milho e Sorgo, in SeteLagoas/MG (latitude 19° 28'S, longitude 44° 15'W and altitude of 732m), planted on february 9, 2014, with spacing of 0,35m between rows, in an irrigated and previously corrected and fertilized field, according to the needs of the crop. The material was ensiled on 200L metal drums, coated with polyethylene sheet. In order to evaluate aerobic stability, the silages were conditioned in 20L plastic buckets and monitored for 240 hours in a controlled environment (25°C and 65% RH) until the fermentative stability (material temperature rise at 2°C). A randomized block design consisting of four treatments (61, 63, 71 and 74 days of the plant's cutting age) and five blocks (portions) were used. Statistical analysis was performed using MIXED from SAS (SAS Institute Inc, Cary, NC), utilizing orthogonal polynomial contrasts to determine if the cutting age resulted in a linear or quadratic effect, in addition to the F test for the averages compared (P<0,05). The chemical compositions of the silages had similar contents (P> 0.05) for DM (17.71%), MM (7.6%), NDF (64.57%), ADF (40.26%) , HCEL (24.31%), CEL (37.01%), and NFC (16.43%). However, there was an increase in the LIG content (2.94 to 3.61%) and a reduction in CP (9.24 to 7.88%) and EE (3.23 to 2.78%) as a result of the linear effect of the age at cut (P <0.05). The silages presented values of initial pH 4.0 and initial temperature of 23.6°C (P> 0.05). Despite similar MS and pH initial values in all treatments, silages harvested at 71 days took longer to lose stability (141.6h), with a lower heating rate (0.043°C h⁻¹), possibly as a consequence of the tendency presented to a better profile of fatty acids. It was concluded that the best age at cutting for pearl millet BRS-1503 genotypes (*Pennisetum glaucum*) silage was at 71 days.

Keywords: losses, pearl millet, pH

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