

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## CONTROLLED ATMOSPHERE IN HAYLAGE PRODUCTION OF *Panicum maximum* GENOTYPE TANZANIA

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The controlled atmosphere increases the storage time of plant feeds through the control of gases promoted by the packaging, which controls the action of microorganisms, this technique can be an alternative for the conservation of forage. The objective was to determine the atmospheric control in different haylage polyethylene films by analyzing the O<sub>2</sub> and CO<sub>2</sub> gases and the temperature in different storage times. The experimental design was completely randomized in a factorial scheme (4 x 5), where the factors were four types of polyethylene films with a thickness of 10, 11, 13 and 27 (control, conventional) µm and five storage times (<1 hour, 7, 15, 30 and 60 days after closure), with three replicates. The pasture used to produce the pre-dried material was *Panicum maximum* genotype Tanzânia, which was cut and dehydrated in the field until reaching 50% of dry matter and packed with approximately 300 kg m<sup>-3</sup> of forage mass and manually enveloped. The data were submitted to analysis of variance and the effect of interaction was verified, the Tukey test was applied at 5% of significance. There was interaction (P = 0.001) for the storage time and the polyethylene films. The plastic film with 13 µm presented the highest average of O<sub>2</sub> (16.03%) at the moment of closure (<1 hour), and at the end of the 60 days of storage, the mean contents were not different and did not exceeded 2.38% of O<sub>2</sub>. Regarding the CO<sub>2</sub>, an effect was observed at 7 days, in which the treatments with the highest averages were the films with 11 µm (34.67%) and 13 µm (38.00%) and at 15 days, the film with 27 µm presented a value of 41.33%. The temperatures differed in the closure and in the 30 and 60 days of storage, in which the highest temperatures were obtained for the treatments of films with 10 and 11 µm (28.60 and 28.03°C, respectively) in the closing, the film with 13 µm (29.67°C) at 30 days and the film 10 µm (26.60°C) at 60 days. The polyethylene films allow atmospheric control of O<sub>2</sub> and CO<sub>2</sub> gases at 60 days of storage, maintaining low levels of O<sub>2</sub> and high CO<sub>2</sub>, which indicates control of undesirable microorganisms.

**Keywords:** conservation, forage, grass, silage

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