

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

ORANGE BAGASSE SILAGE WITH DIFFERENT LEVELS OF SOYBEAN HULLS

Gustavo KRAHL*¹, Anderson HERR¹

*corresponding author: gustavo.krahl@unoesc.edu.br

¹University of Western Santa Catarina, Xanxerê, Santa Catarina, Brazil

The orange bagasse has potential of use in diets for ruminants, since it has nutritional value and cost compatible with this purpose. The limitation for its use is the regularity of supply, as it is a waste from the citrus fruit processing industry and it is available during harvesting periods. Its high moisture content prevents the storage of the fresh material until the next period of availability or until it is allowed to be used in locations far from its processing. Therefore, material silage is an alternative to maintain this food with regular quality and availability throughout the year. In this context, the objective of this study was to evaluate the effects of the inclusion of soybean hulls as a moisture absorber in the silage process and its effects on effluent loss and bromatological composition of orange bagasse silage. The soybean hulls was included in the mixture with the orange bagasse in the proportions of 0, 10, 20, 30 and 40%, considering the weight based on natural matter. The material was silaged in 70.84 cm³ mini experimental silos, sealed with end cap, *Bunsen* type valve for the escape of gases, and sand to contain effluent production. Experimental silos were opened 35 days after silage to determine effluent loss, bromatological composition and pH determination. A completely randomized design with six replications was used. Data were submitted to analysis of variance by the F test and, when significant, were submitted to polynomial regression analysis. The optimum level of soybean hulls was determined by the point of intersection of the downward line (generated by linear regression equation) and the straight line of the mean of the points that did not present any differences among the means test for the loss of silage effluents. In general, dry matter (DM), mineral matter (MM), crude protein (CP), neutral detergent fiber (NDF), acid detergent fiber (ADF) and pH had an increase with the increase of soybean hulls. It was estimated that the inclusion of 13.66% soybean hull reduced the effluent loss from 12.23% (without peel inclusion) to 1.87%. With this level of bark, the estimated composition of the silage was obtained with 19.52% MS, 4.95% MM, 8.66 PB, 48.45% NDF, 38.92% ADF, pH 3.47. It is concluded that the orange bagasse silage with inclusion of 13.66% of soybean hulls results in less effluent loss and a bromatological composition close to the expected values for good quality silage.

Keywords: conservation, silage, effluent by-product, nutritional value

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