



# I-INTERNATIONAL MEETING OF ANIMAL SCIENCE IN SEMI-ARID REGIONS

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Área do trabalho: Forragicultura e Pastagens

## **Sensory characterization and fermentative profile of mixed silages from forage cactus (*Opuntia* and *Nopalea*) and silk flower (*Calotropis procera* (Aiton) W.T.Aiton).**

Diany Dantas Bandeira<sup>1\*</sup>, Danilo Dantas da Silva<sup>1</sup>, Maurício Antonio Feitoza do Nascimento<sup>1</sup>, Maria do Socorro de Caldas Pinto<sup>1</sup>, Pedro Henrique Martins Araújo Santos<sup>1</sup>, Moisés Dantas de Oliveira<sup>1</sup>

<sup>1</sup>Universidade Estadual da Paraíba, Catolé do Rocha, Paraíba.\*dianybandeira10@gmail.com.

The production of high-quality silage is essential to ensure animal nutrition, especially in semi-arid regions. Under these conditions, combining different forage species can not only maximize nutritional value but also promote sustainability in livestock production systems. The aim of this study was to assess the sensory characteristics and fermentative profile of mixed silages composed of varieties of forage cactus (*Opuntia* and *Nopalea*) and levels of silk flower (*Calotropis procera* (Aiton) W.T.Aiton), to evaluate the feasibility of these combinations for animal feed. The research was conducted at the Department of Agricultural and Exact Sciences at the State University of Paraíba, in Catolé do Rocha - PB. A completely randomized design was used in a 2x3 factorial scheme, consisting of two varieties of forage cactus (F16 - *Opuntia stricta* Haw and F07 - *Nopalea cochenillifera* (L.) Salm-Dyck) and three levels of silk flower (10%, 15%, and 20%), with four replications. Microsilos were opened after 35 days, and silages were sensory evaluated by eight pre-trained assessors, considering odor, color, texture, and moisture. Dry matter (DM) content, pH in water, and temperature were determined. Data were subjected to analysis of variance, and means were compared using Tukey's test at a significance level of 5%. Regression analysis was applied to variables related to the fermentative profile. In odor characterization, the highest scores, indicating better quality for this characteristic, were attributed to silages with 15% silk flower in both varieties of forage palm. This result suggests the presence of adequate desirable acids, essential for efficient and quality fermentation. Regarding color, scores ranged from 2 to 3, representing light green and dark green, respectively. In texture evaluation, scores ranged from 3 to 4, indicating fine texture (finely chopped) and medium texture (moderately coarse). Silages with 5% silk flower showed a sensory aspect of high moisture. When touching the material, the inner surface of the hand became wet, and upon vigorous pressing, fluid release was observed. There was a significant effect ( $P < 0.05$ ) on DM content, which increased linearly as silk flower was added to the silages, being higher in variety F07 with 15% of flower in the mixture (245.83 g.kg<sup>-1</sup> of natural matter). When analyzing pH, a significant difference was observed between varieties of forage cactus at the 15% silk flower level. Variety F16 had a pH of 4.53, while variety F07 registered 4.19. There was no significant difference in temperature ( $P > 0.05$ ). Mixed silages of forage palm varieties with 15% silk flower showed suitable sensory and fermentative characteristics, standing out as a viable and efficient option for animal feeding.

**Keywords:** animal nutrition; preserved forage; sensory analysis.

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