



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

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Area of work: Ruminant nutrition

## Ethnomram of dairy steers fed or not with condensed tannins

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The use of condensed tannins in the animal diet is a nutritional strategy, which when used correctly, taking into account the amount and bioactivity of these compounds, can bring benefits to animal production. However, because they are secondary metabolites, their addition to the animal diet can cause negative changes in palatability, which may compromise animal consumption. In this context, the objective of present study was to evaluate the ingestive behavior throughout the day (ethogram) of dairy steers fed condensed tannins added to elephant grass (*Pennisetum purpureum* Schum.) for to test the hypothesis that condensed tannins added to elephant grass, in small amounts, during ensiling does not alter the intake time of feedlot cattle. The experiment was conducted at the Federal Rural University of Pernambuco, Serra Talhada Academic Unit. Five adult male Holstein x Zebu crossbred cattle with an average body weight of 151 kg were used. The animals were housed in individual stalls. The experimental period lasted 65 days, divided into five periods of 13 days, seven days for adaptation of the animals to the experimental conditions and six for data collection. The treatments were distributed in a 5x5 Latin square design (five treatments and five periods). The experimental diets were isoprotein (119.2 g/kg dry matter - DM), composed of elephant grass silage or elephant fresh grass, ground grain corn, soybean meal, urea and mineral salt. The treatments were: tannin-free grass; grass with tannin; grass with tannin diluted in water; tannin silage and tannin-free silage. A total of 10.0g/kg DM of condensed tannins was added to the fresh grass and in the ensiling process. Behavior monitoring and data collection were performed for 24 hours. Data were recorded from 7:00 a.m. after treatment was provided until 7:00 a.m. on the 9th day, when observation intervals were recorded every 10 minutes for all animals. Behavioral parameters were measured using the punctual method of instant sampling. The variables analyzed were: time of food intake, total chewing time, rumination time and time of idleness. The data were submitted to analysis of variance using the Statistical Analysis Systems software, and compared using Tukey's test at a significance level of  $P < 0.05$ . There was no significant effect ( $P > 0.05$ ) of the addition of tannins on behavioral patterns throughout the day. However, these patterns changed significantly according to the time ( $P < 0.05$ ). Feeding time peaks were observed after feeding the diets (8:30 a.m and 4:30 p.m) and rumination peaks (2:00 to 3:00 a.m). The adverse effects on palatability, characteristic of condensed tannins, did not influence the ingestive behavior of the animals. This result can be explained by the low content of tannins added to the diet. It is recommended to add condensed tannins to elephant grass during ensiling and to fresh grass for dairy steers because it affects ingestive behavior.

**Keywords: additives; dairy cattle; secondary metabolites; silage; ruminants**

Animal Experimentation Ethics Committee of the Federal Rural University of Pernambuco (approval no. 6736060922).

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