

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

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Field of work: Ruminant Nutrition and Production

## Hematological parameters of dairy steers fed condensed tannins

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Animal nutrition plays a crucial role in determining the hematological profile of animals, which includes parameters such as blood cell count, hemoglobin, and hematocrit. The addition of active ingredients such as condensed tannins can provide benefits for the metabolism and health of animals, when used in appropriate dosages and can be monitored and investigated through the biochemical profile of the blood. The aim of this study was to assess the hematological parameters of dairy steers fed diets containing condensed tannins added to elephant grass (*Pennisetum purpureum* Schum.) during ensiling to test the hypothesis that condensed tannins can be added to elephant grass during ensiling to improve the hematological parameters in dairy steers. The experiment was conducted in the Academic Unit of Serra Talhada of the Federal Rural University of Pernambuco. Five intact Holstein-zebu dairy steers with a body weight of 151 kg were used. In the pre-experimental period, all animals were treated against ecto and endoparasites. Animals were kept in individual stalls. Each stall had a feeder. The experimental design was a 5×5 Latin square. The experimental period lasted 65 days, divided into five periods of 13 days, being seven days for adaptation of animals to experimental conditions and six for data collection. Experimental diets were isoproteic (119.2 g/kg dry matter) and composed of elephant grass silage or fresh elephant grass, ground corn grain, soybean meal, urea, and mineral salt. Feeding was done twice a day at 08:00 and 16:00 h to allow for ad libitum intake and adjusted next feed upward by 10% leftover every day. Treatments consisted of grass without tannin; grass with tannin; grass with tannin diluted in water; silage with tannin; and silage without tannin. Blood samples were collected individually by jugular venipuncture using EDTA tubes (ethylenediaminetetraacetic acid as disodium salt). The samples were refrigerated until analyzed within 24 h after refrigeration. The complete blood count was obtained in the hematology analyzer ABX Micros ES 60. All variables were subjected to the analysis of variance followed by the Tukey test, using the GLM procedure of Statistical Analysis Systems. The differences were significant at 5% of error probability. The inclusion of condensed tannins in the diets had no significant effect ( $P > 0.05$ ) on the hematological parameters of the animals. Unconventional diets reduced monocyte, lymphocyte, and eosinophil counts of ruminants. These cell groups are essential for immune response. Thus, under a similar dosage and mode of administration, the condensed tannins investigated in this study have no immunosuppressive action on the body of cattle. It is recommended to include condensed tannins as an additive in elephant grass silage because it does not change the hematological parameters of dairy steers.

**Keywords: cattle, phytochemical additive, secondary metabolites, serum level.**

Animal Experimentation Ethics Committee: approval no. 6736060922/UFRPE.

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