

## EVALUATION OF THE EFFICACY OF ANTHELMINTIC DRUGS IN NATURALLY INFECTED SHEEP: A STATISTICAL APPROACH

### *AValiação da Eficácia de Medicamentos Anti-helmínticos em Ovinos Naturalmente Infectados: Uma Abordagem Estatística*

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Parametric and nonparametric statistical tests are important tools to evaluate formulated hypotheses. It is very important to select the most appropriate statistical test to make a correct analysis of the experimental data. In the sheep culture, the use of statistical methods can provide a comparative analysis of the efficacy of medications. The scientific objective of this research was to evaluate the efficacy of anthelmintic drugs currently available commercially, using appropriate statistical tests, depending on the nature of the data and the assumptions of the tests in the evaluation of EPG. We used 350 animals selected from five commercial sheep farms. From each farm, 70 animals were divided into seven groups of 10 animals each: Group 1 - control, Group 2 - Albendazole 10% (oral - 1 ml/20 kg body weight), Group 3 - levamisole hydrochloride 5% (oral - 1 ml/10 kg bw), Group 4 - Ivermectin 0.08 % (oral - 1 ml/4 kg bw), Group 5 - Moxidectin 0.2 % (oral - 1 ml/10 kg bw), Group 6 - closantel 10% (oral - 1 ml/10 kg bw) and Group 7 - Ivermectin + levamisole + albendazole (oral - 1 ml/4 kg bw). EPG was performed on day zero to select infected animals and apply anthelmintic drug, and again on day 10 to evaluate its efficiency. The results were submitted to the Kruskal-Wallis and Dunn's multiple comparison tests, as well as the faecal egg count reduction test (FECRT) (COLES et al., 1992; COLES et al., 2006). Statistical analyses were performed using the SAS® software (Statistical Analysis System) and GraphPad InStat®, and considered significant when  $P < 0.05$ . The efficiency of the drugs Moxidectin and Ivermectin + levamisole + albendazole was higher than 95% in at least one of the properties and displayed a better performance compared to the control group. Actions, such as changing the active principle of the drugs used, should be taken, in order to reduce the occurrence of anthelmintic resistance in sheep flocks.