RESUMO SIMPLES - ECTOPARASITOS: SISTEMÁTICA, EPIDEMIOLOGIA E CONTROLE

EVALUATION OF THE TICKICIDE EFFICACY OF A FLURALANER (2.5%) BASED FORMULATION AGAINST THE TICK RHIPICEPHALUS (BOOPHILUS) MICROPLUS IN EXPERIMENTALLY INFESTED CATTLE (TRADITIONAL AND MODIFIED STABLE TEST)

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Brazil has the largest commercial cattle herd in the world, with over 238.1 million head in 2024. Billions of dollars in annual economic losses occur due to parasitosis, mainly caused by Rhipicephalus (Boophilus) microplus, the most common ectoparasite in cattle, responsible for reduced production, damage to leather, and also acting as a vector for etiological agents of the bovine parasitic tristeza complex, adding further production costs. Ectoparasiticides have been

massively and indiscriminately used in recent years, leading to resistance to most antiparasitic drugs available on the market. Fluralaner is an acaricide from the isoxazoline class, widely used in the control of ectoparasites in small animals, but it is still not widely used in cattle. The objective of this study is to evaluate the acaricidal efficacy of an injectable formulation containing fluralaner in the treatment and prevention of the tick R. microplus in experimentally infested cattle through tests. The experiment was conducted at the Laerte Grisi Center for Clinical Research and Technological Innovation in Veterinary Medicine, formerly known as the Laboratory of Experimental Chemotherapy in Veterinary Parasitology (LQEPV). Sixteen crossbred cattle, male and female, aged between 10 and 30 months, were used, housed in individual pens with slatted wooden floors. The animals were divided into two groups: a control group that received no treatment, and a treated group that was medicated with our fluralaner injectable formulation. The animals were medicated with 0.5 mg of fluralaner per kg of body weight, in a single subcutaneous dose. The traditional stable test evaluated the curative efficacy against ticks present on the animals, and the modified stable test measured the formulation's ability to prevent reinfestation. The animals were artificially infested with 2,500 R. microplus larvae before treatment for 25 days, on alternate days, and at weekly intervals after treatment (D+6 to D+63) to evaluate the residual efficacy of the test product. Daily, the detached engorged females were manually collected and counted. Treatment efficacy was calculated by comparing the average number of engorged females recovered from the treated group with that of the control group. Statistical analysis considered a significance level of 95% ($p \leq 0.05$). Before treatment, there was no statistically significant difference in tick count between the groups. After treatment, the treated group showed a statistically significant reduction ($p \leq 0.001$) in the number of engorged females compared to the control group. The efficacy against reinfestation was greater than 95% until the twenty-eighth day after treatment, and from the 42nd day onwards, the difference between the groups ceased to be significant. The innovative formulation showed a curative efficacy of 98.29% between the 3rd and 23rd day and maintained effective residual protection for four weeks, demonstrating excellent potential in controlling R. microplus in cattle.

Palavras-chave: cattle tick; fluralaner; isoxazoline.