RESUMO SIMPLES - ECTOPARASITOS: SISTEMÁTICA, EPIDEMIOLOGIA E CONTROLE

THERAPEUTIC EFFICACY OF FLURALANER ADMINISTERED ORALLY TO BRAZILIAN PONY HORSES THROUGH A PASTE FORMULATION IN THE CONTROL OF DERMACENTOR NITENS (STABLE TEST)

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Horses play a prominent role in Brazilian equine farming, as they are used for various

purposes, such as recreational activities, sports, leisure, and work. They are also important therapeutic agents through equine therapy, reinforcing their socioeconomic and human role. One of the main problems for the equine agribusiness is ectoparasites, particularly ticks, especially Dermacentor nitens, due to their wide geographical distribution and the direct and indirect damage they cause to animals. Although there are several tick control products available on the veterinary market, few are indicated for equines in the package insert, and those that are already show resistance. The present study aimed to

evaluate the efficacy of a paste formulation containing Fluralaner in controlling D. nitens in horses. Fluralaner is a relatively new drug belonging to the isoxazoline class, which acts by blocking chloride channels controlled by gamma-aminobutyric acid (GABA) and chloride channels controlled by glutamate. This drug was administered orally at a dose of 25mg/kg of body weight. The study was conducted using a stable test, in which 14 Brazilian Pony horses were stabled and divided into a treated group and a control group, with some animals receiving the formulation and others not receiving it, respectively. Both groups underwent periodic infestations on days -31, -29, -27, -25, -23, -21, -19, -17, -15, -13, -11, -9, -7, -5, -3, and -1. Naturally detached ticks were collected from day -3 to day +29. The mean number of ticks detached three days prior to treatment (-3, -2, -1) was 71.0 ± 48.5 for the control group animals and 81.8 ± 66.1 for the treated group animals. These data did not show statistically significant differences ($p = 0.831$), demonstrating that the groups were randomized homogeneously. Comparing the means from D+1 to

D+29, a significant difference ($p = 0.024$) and a high effect size of 1.528 (0.189 – 2.810)

were found. The means for this observation period were 36.4 (4.5–77.9) and 8.3 (3.6–

20.1) for the control and treated groups, respectively. Disregarding the values obtained

for tick fall on day +1, a measure adopted due to zero tick efficacy at this time, the

following mean values of ticks were obtained after this time for the period from D+2 to

D+29: 33.9 (2.6–71.5) and 1.9 (0.9–4.1). A significant difference ($p < 0.0001$) and a large

effect size of 2.651 (1.009 to 4.229) were observed. The tick-killing efficacy for the period from D+1 to D+29 was 80.2%. When observing the tick drop values on day +1 and, consequently, the efficacy, it can be concluded that it is correlated with zero efficacy at this time. Only on D+1 was no efficacy observed; from D+2 to D+29, efficacy ranged from 69.8% to 100%. After D+4, efficacy was always greater than 92.2%, and on

numerous occasions was greater than 95%. Regarding the results of fluralaner's action

observed in this study for reproductive aspects of D. nitens, it can be seen that there were significant differences between the mean values of teleogynous weight, egg-laying weight, and larval hatching percentage for the two experimental groups. Disregarding the efficacy data for D+1, it can be stated that the formulation containing 10% fluralaner administered orally at a dose of 25 mg/kg body weight was effective in treating horses artificially parasitized by D. nitens, demonstrating potential tickicidal action. Interference in the reproductive aspects of teleogynous females was noted during the study period.

Palavras-chave: ticks; isoxazolines; horses.