

EFFICACY OF PESTICIDES USED TO CONTROL THE CATTLE TICK IN DAIRY HERDS RAISED IN RONDÔNIA

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Most dairy herds in the Rondônia in the Brazilian South Occidental Amazon region are crossbreeds (*Bos taurus* × *Bos indicus*) with varying bloodline degrees. However, the incorporation of crossbreeds with greater percentages of taurine breeds specialized for milk production, such as Holsteins, has made dairy herds more susceptible to infestation by ticks. The climate conditions in the state are propitious for the establishment of cattle ticks due to the predominantly equatorial climate, characterized by average annual rainfall of 2,500mm and average annual temperature of 24°C, with well-defined wet and dry seasons. Besides transmitting diseases, *Rhipicephalus microplus* impairs milk production because these ticks cost farmers around US\$ 7.30/head/year when considering the production losses and treatment costs. The intensive use of chemical formulations leads to loss of efficacy of the base molecules because of the development of resistant tick populations. The spread of this resistance reveals the limits on chemical control of this parasite, making it essential to administer these chemicals wisely. The adult immersion test (AIT) was used to evaluate the efficacy of acaricide molecules used for control of *R. microplus* on 106 populations collected in five municipalities in the state of Rondônia. The analysis of the data showed that the acaricide formulations had different efficacies on the tick populations surveyed. The synthetic pyrethroids (SPs) acaricides were the least effective (48.35–76.84%), followed by SP + organophosphate (OP) associations (68.91–81.47%) and amidine (51.35–100%). For the macrocyclic lactones (MLs), the milbemycin (94.84–100%) was the most effective, followed by spinosad (93.21–100%) and the avermectins (81.34–100%). The phenylpyrazole (PZ) group had similar efficacy (99.90%) to the MLs. Therefore, SP acaricides, including associations with OP, and formulations based on amidine presented low in vitro efficacy to control the *R. microplus* populations surveyed. The analysis of the susceptibility to different acaricides with *R. microplus* populations from dairy farms in the state of Rondônia contributes to the rational and strategic use of acaricides in that area, which is responsible for about 85% of milk production in the Southwestern Amazon. The adequate use of efficient acaricide molecules associated with integrated management practices to control cattle ticks can contribute to the sustainability of dairy farm operations in the region. Such measures are important to delay the development of resistant *R. microplus* populations.

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