

# Different strategies for using fluralaner pour-on product (Exzolt 5%) to control *Rhipicephalus microplus* on taurine cattle breeds in a tropical region of Brazil

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## INTRODUCTION

The study aimed to evaluate the effect of two different treatment protocols with a newly approved commercial pour-on formulation containing fluralaner (Exzolt 5%) for the strategic control of *Rhipicephalus microplus* infestations in cattle and on pastures in a tropical climate region of Brazil where up to five generations of this tick species can occur per year.

## OBJECTIVE

This study aimed to evaluate the effect of two different treatment protocols with fluralaner (Exzolt 5%) for the strategic control of *Rhipicephalus microplus*.

## MATERIALS AND METHODS

Forty-five cattle, naturally infested with *R. microplus* ticks were selected for the study and divided into three experimental treatment groups of 15 cattle each. Group T01 was treated with Exzolt 5% at a dose rate of 2.5 mg/kg body weight every 42 days. Group T02 was treated with Exzolt 5% at the same dose on Day 0, followed by weekly visual inspections for presence of tick infestations. Group T02 was subsequently treated every 56 days with Exzolt 5%. Group T03 (untreated control group) was left untreated but received palliative treatment with a commercial acaricidal spray formulation when the group mean tick count was  $\geq 30$ . Weekly counts of adult female *R. microplus* ticks (4.5 to 8 mm in size) were performed on animals until day 343 after first treatment, and larval counts on pastures were also performed on Days 0, 30, and 60 and every 30 days until Day 330 post first treatment.

The study showed that depending on the treatment criteria, adopted for the re-treatment of tick infested cattle with Exzolt 5%, the number of product administrations per year could be lower to control *R. microplus* ticks than traditional treatment protocols. The reduced frequency of re-treatment would translate into not only a reduction in the average cost of acaricide treatments per year but will also reduce the exposure of *R. microplus* populations to the active ingredient resulting in slowing-down resistance development.

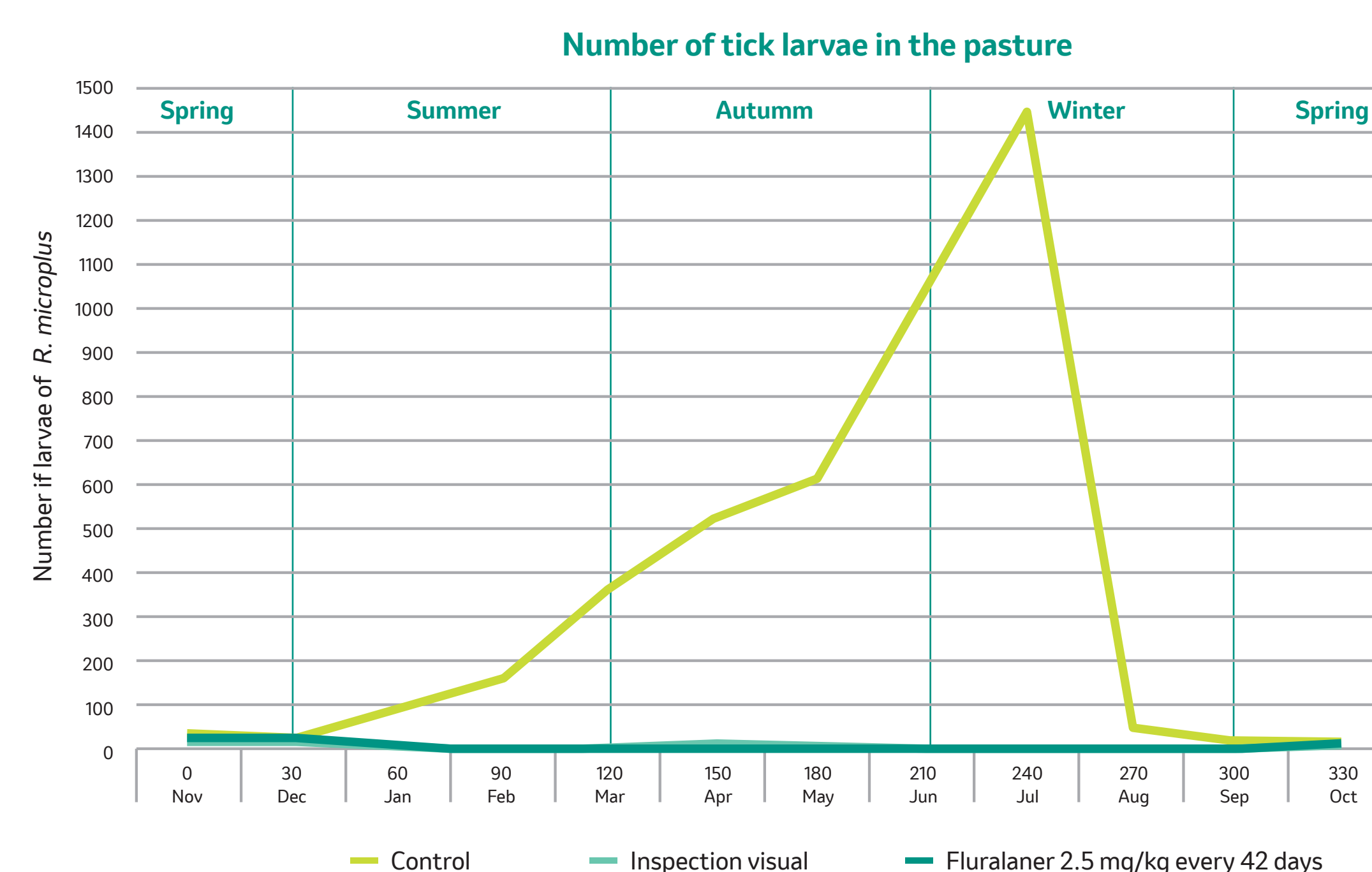
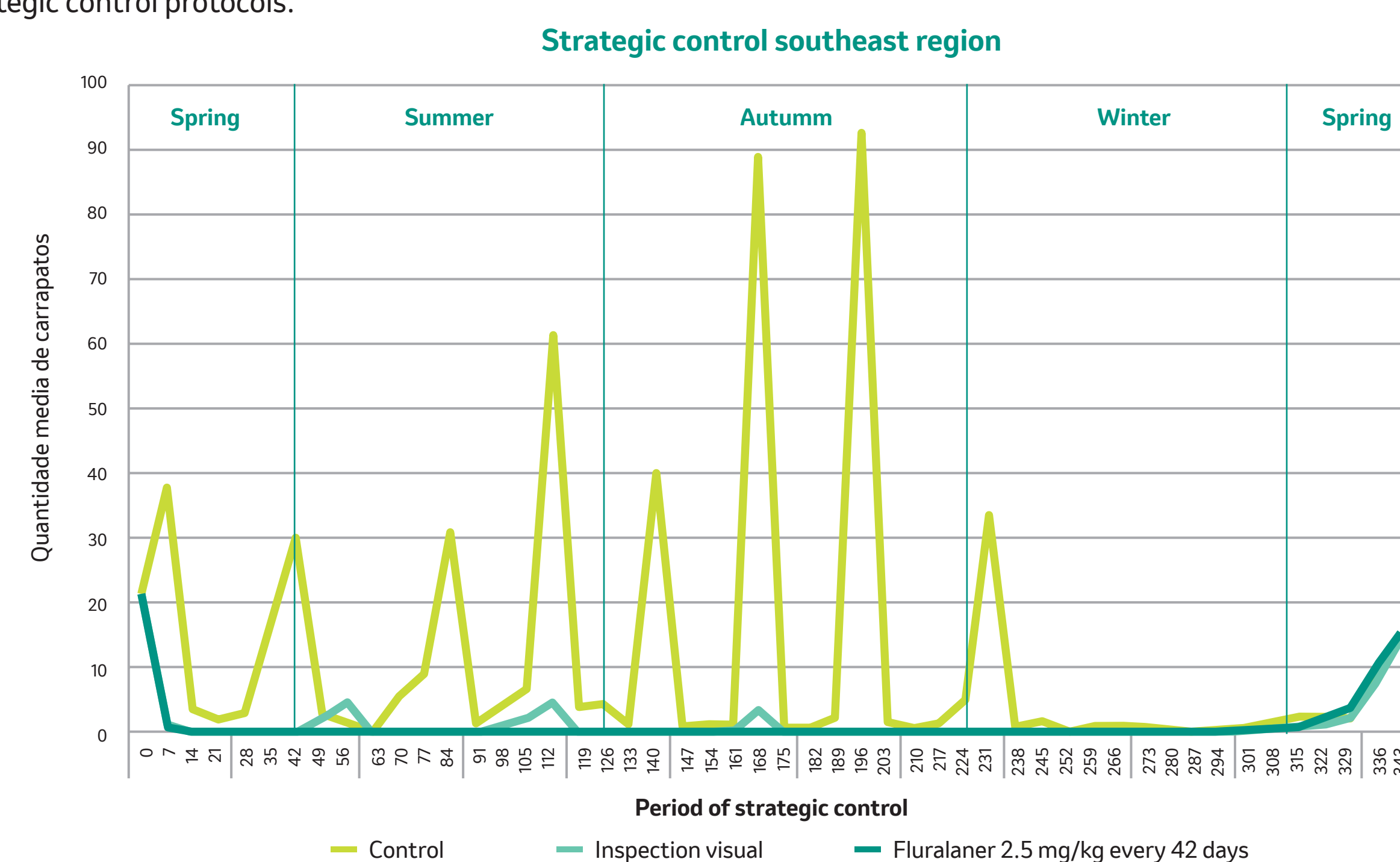


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## RESULTS

- ▶ The number of acaricide treatments varied in each group over 12 months.
- ▶ Group T01 received 6 treatments with Exzolt 5% i.e. on days 0, +42, +84, +126, +168, and +210 and Group T02 4 treatments on days 0, +56, +112 and +168. It was not necessary to perform any palliative treatment to Groups T01 and T02 throughout the experimental period (Fig. 1).
- ▶ In the control group (T03), it was necessary to perform eight palliative acaricide treatments over 12 months with the spray formulation. The treatments were administered to this group on days +7, +42, +84, +112, +140, +168, +196, and +231, (Fig. 1).
- ▶ All the larvae collected in the study were identified as genus *Rhipicephalus*. The total number of *R. microplus* larvae collected in the paddock where Exzolt 5% was administered every 42 days, ranged from 5 to 32. In the paddock where the animals in the inspection visual group were kept, 21 and 25 larvae were collected, respectively.
- ▶ In the paddock where the animals were kept as controls, dragging was performed on 5 July. *R. microplus* larvae counts increased between mid-spring ( $n = 41$ ) and the beginning of winter ( $n = 1458$ ). In the winter of 2020, because of low temperatures due to two episodes of frost that occurred on July 8 (1.9°C) and July 21 (2.7 °C), the number of larvae found in this paddock decreased considerably (52 larvae). Larval counts in the paddocks used to house the animals subjected to different treatment protocols with fluralaner (T01 and T02), did not differ ( $p > 0.05$ ) during the 12 months of the study. The total number of larvae in the paddocks of these two groups was lower ( $p \leq 0.05$ ) than the number of larvae in the paddock used to house the control animals (T03) from March to July 2021 (late summer to mid-winter) (Fig. 2).

FIGURE 1. Mean counts of *Rhipicephalus microplus* females (4.5–8 mm in length) parasitizing cattle for 343 days of different strategic control protocols.



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