

Strategic control of *Rhipicephalus microplus* in taurine cattle breeds with fluralaner (Exzolt 5%) in a subtropical region of Brazil

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INTRODUCTION

- ▶ *Rhipicephalus microplus* causes severe production losses to cattle, especially taurine breeds, in tropical and subtropical areas of the world. In southern Brazil, the first generation of this tick species is seen in late winter/early spring, with low infestation levels while the highest infestation levels are experienced in autumn.
- ▶ In Rio Grande do Sul, a region with a subtropical climate in Brazil, the single-host tick *R. microplus* is the main tick species affecting the predominant Taurine cattle (*Bos taurus*) raised for beef and milk production. Ticks in this region are usually resistant to multiple acaricides.
- ▶ Considering the difficulty of cattle tick control in southern Brazil, this study aimed to evaluate the control of *R. microplus* in taurine cattle in a region with a subtropical climate.

OBJECTIVE

- ▶ To assess the efficacy of Exzolt 5% against *Rhipicephalus microplus* resistant to commonly used acaricidal products in cattle reared in a subtropical region of Brazil.
- ▶ Additionally, the control of myiasis, caused by larvae of *Cochliomyia hominivorax*, as well as the total and daily weight gain of cattle treated with Exzolt 5% were evaluated.

MATERIALS AND METHODS

- ▶ Thirty cattle, naturally infested with a multi-resistant *R. microplus* field strain, were divided into two experimental groups: Group T01 was treated with a fluralaner pour-on formulation (EXZOLT® 5%) at a dose rate of 2.5 mg/kg body weight; while Group T02, was left untreated and served as negative control.
- ▶ Group T01 was treated on Days 0 (early summer in January), 42 and 84 (early autumn) while Group T02 received palliative treatments with a commercial acaricidal spray formulation when the group mean tick count was ≥ 30 ticks. Female *R. microplus* ticks were counted (4.5 - 8 mm in size) on each animal and efficacy calculation was performed on Days 3, 7, 14, 28, 35, 42, 56, 70, 84, 98, 112 and 126.
- ▶ The occurrence of myiasis in the animals was assessed on each tick count day, while the total and daily weight gain of the animals over the experimental period were evaluated.

Administration of a fluralaner (EXZOLT® 5%), administered during summer and autumn seasons, with 42-day intervals between treatments, was effective in the strategic control of *R. microplus*. Besides the high efficacy against ticks, animals subjected to the strategic control with fluralaner showed no incidence of screwworm (myiasis) infestations and consequently gained 32.8 kg more weight than untreated cattle during the experimental period.



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RESULTS

From Day 3 to Day 126 of the study the treated group had a lower parasite load (ANOVA, $F_{(1,28)} = 2905.57$, $P < 0.001$) than the control group during tick counts. The efficacy of fluralaner was 99.5% on the 3rd day after the treatment of the study and remained at 100% from the 7th to 126th day after the start of the study. (Figure 1)

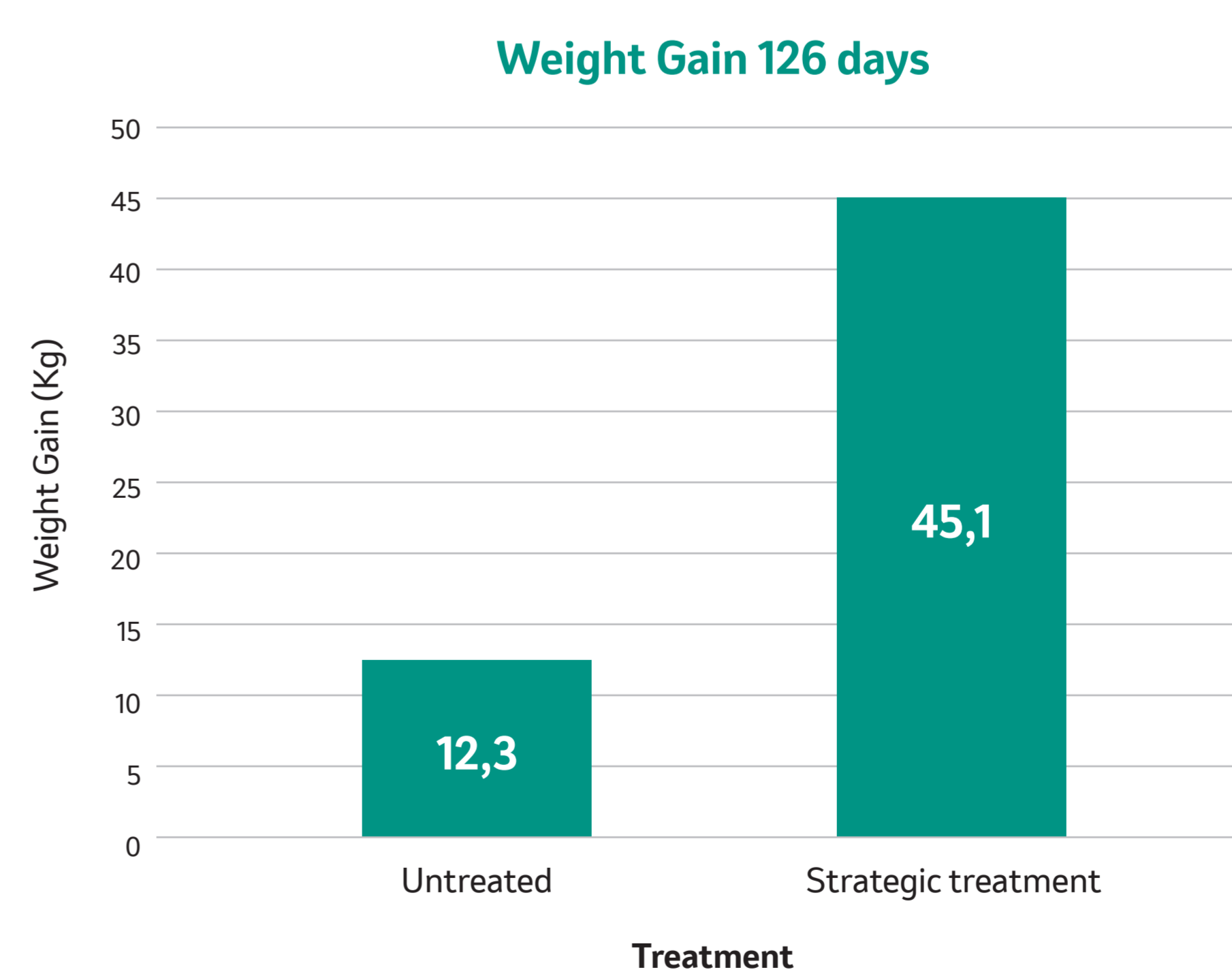
FIGURE 1. *Rhipicephalus microplus* in naturally infested cattle submitted to different control schemes during 126 study days



RESULTS

The results of the average weight, average weight gain and average daily weight gain are described in Figure 2. Consequently, because of the high efficacy against ticks, the animals subjected to strategic treatments with fluralaner gained 32.8 kg more weight than the animals in the control group.

FIGURE 2. Comparison of weight gain of strategic treatment animals with Exzolt® 5% compared to the control group



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