RESUMO SIMPLES - OUTRAS ÁREAS TEMÁTICAS

RESPONSES TO THE MANAGEMENT OF STABLED CATTLE

Hugo Rocha Sabença Dias (hugosabenca@gmail.com)

Anna Julia Bessa Fernandes (annajuliabessa@gmail.com)

Bruno De Toledo Gomes (brunovetufrrj@gmail.com)

Thiago De Souza Vieira (t.vieira95@hotmail.com)

Laritssa Andrade Pinheiro Magalhães (vetlaritssamagalhaes@hotmail.com)

Thaíne Lopes Bueno (thaine.lopes.b@gmail.com)

Fernanda Ferreira Salgueiro (fernandasalgueirovet@gmail.com)

Gabriela Ferreira De Oliveira (gabi.ufrrj@gmail.com)

Thaís Ribeiro Correia Azevedo (thaisrca@gmail.com)

Fabio Scott (scott.fabio@gmail.com)

The use of animals in scientific research plays a fundamental role in advancing knowledge across various fields. The use of laboratory animals has been increasingly questioned by society, particularly regarding handling practices and the welfare conditions provided. In this context, concern for animal welfare has gained growing importance and is grounded in the so-called “Five Domains,” which encompass aspects related to nutrition, health, environment, behavior, and mental state. The adoption of practices that promote these principles is essential not only to ensure the ethical quality of research but also the reliability of the results obtained. The present study was carried out at the Laboratory of

Experimental Chemotherapy in Veterinary Parasitology of UFRRJ, Seropédica, Rio de Janeiro, and was approved by the Institutional Animal Care and Use Committee (CEUA – protocol 7045281024). The objective was to evaluate clinical parameters and behavioral responses related to human approach in cattle subjected to stall housing and experimental tick infestation, considering the influence of handling on animal welfare. For this purpose, 18 crossbred Red Angus cattle aged 6 to 24 months, with an average weight of 175.63 ± 23.20 kg, were kept in individual stalls and artificially infested with 2,500 larvae of Rhipicephalus microplus. Evaluations were conducted weekly, always in the afternoon and by a single observer to ensure measurement standardization. The time (in seconds) required to perform three handling procedures was recorded: placing the rope on the halter, securing the rope to the ring, and tying the tail. In addition, physiological and behavioral parameters were measured, including heart rate, vocalization, defecation, and withdrawal in response to the evaluator's approach. Data collection began when the technician entered the individual stall, and all reactions to handling were recorded continuously. Behavioral manifestations were noted through direct observation, and withdrawal was considered an indicator of aversion to human presence. A progressive reduction in heart rate was observed up to Day 14 (from 93.6 to 62.5 bpm), and repeated-measures analysis revealed a significant effect of time (Greenhouse–Geisser: $p = 0.002$). Regarding the time required to place the rope on the halter, the mean on D0 was 103.19 seconds, decreasing progressively to 16 seconds on D21. A total of 93.75% of the animals reduced their handling time throughout the study, with significant differences at all evaluated moments ($p < 0.001$). The time required to secure the animal to the ring was 64.43 seconds on D0, decreasing to 24.94 seconds on D21 (61.29% reduction, $p < 0.001$). For tail tying, the initial mean was 53.06 seconds, reaching 40.88 seconds on D21, representing a 22.96% reduction, although not statistically significant ($p > 0.25$). With respect to vocalization, this behavior occurred only in weeks 1 and 3, with no significant differences (Cochran's Q, $p = 0.40$). Defecation also showed no variation between moments ($p = 0.098$), whereas withdrawal was more intense during the first days and decreased consistently over the following weeks ($p < 0.001$). These results demonstrate that animals' progressive habituation to human presence and handling significantly reduced both physiological and behavioral stress indicators. Considering that cattle are gregarious and free-ranging animals, stall housing and parasitic infestation pose challenges to welfare. Nevertheless, the application of handling practices that promote gradual adaptation improves the

animals’ receptiveness to routine procedures, increases operator safety, and reduces stress in cattle. It is concluded that frequent handling fosters positive interactions between humans and animals, positively reflecting on the physiological and behavioral parameters observed in cattle used in experimental procedures.

Palavras-chave: stress; behavior; welfare.