

RESUMO - ENTOMOLOGIA E ACAROLOGIA

**EVALUATION OF THE THERAPEUTIC EFFICACY OF FLURALANER
CHEWABLE TABLETS (BRAVECTO®) AGAINST NEW WORLD
SCREWWORM (COCHLIOMYIA HOMINIVORAX) INFESTATION IN DOGS**

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New World screwworm (NWS), caused by the dipteran *Cochliomyia hominivorax*, remains a significant challenge in Neotropical regions, causing extensive tissue damage, severe pain, and potential secondary infections in domestic animals and humans. While traditional management has historically relied on labor-intensive topical applications, systemic treatments with isoxazolines offer a more practical and reliable approach for clinical control. This multicenter clinical study evaluated the larvicidal efficacy of a single oral administration of fluralaner (Bravecto®) in dogs naturally infested with *C. hominivorax* in endemic regions of Brazil. Fifteen privately owned dogs of various breeds and ages, presenting natural infestations of differing severities, were treated with chewable tablets at the approved dose ranging from 25 to 56 mg/kg. Detailed clinical evaluations were performed 24 hours post-administration (day 1). At this time point, wounds were inspected, and all larvae expelled or remaining within the lesion were collected, counted, and classified as live or dead based on motility. Furthermore, live-expelled third-instar (L3) larvae were transferred to 500 mL containers with a pupation substrate and maintained under controlled laboratory conditions to monitor pupation and adult emergence. The treatment achieved a 100% wound clearance, with no living parasites remaining within the lesions of any animal at 24 hours post-treatment. The total larvicidal efficacy was 94.36%, reflecting the combined mortality of intralesional and expelled parasites. A larval expulsion rate of 13.99% (206/1,472) was observed, with 83 specimens (5.63%) being expelled alive. Notably, none of these live-expelled larvae successfully developed into adult flies (0% emergence rate). This indicates that fluralaner exposure, even if not immediately lethal,

induces irreversible physiological damage that successfully prevents the completion of the parasite's life cycle. No adverse events were reported, confirming the product's high safety standards. These results demonstrate that fluralaner provides a rapid larvicidal effect and offers a practical, systemic alternative to traditional larvicidal treatments, significantly improving the clinical management of canine myiasis and contributing to the control of this important zoonotic parasite. Beyond individual clinical recovery, the interruption of the parasite's life cycle provides a crucial epidemiological benefit by reducing environmental contamination and fly population density. Such findings open new perspectives for integrating isoxazolines into broader public health and One Health strategies aimed at controlling and mitigating the geographic expansion of NWS outbreaks in endemic regions.

Palavras-chave: bicheira; myiasis; isoxazoline; bravecto; public health.