

# PERSISTENT EFFICACY OF DORAMECTIN AND IVERMECTIN IN THE PREVENTION OF NATURAL *COCHLIOMYIA HOMINIVORAX* INFESTATIONS IN CATTLE CASTRATED 10 DAYS AFTER TREATMENT.

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**SUMMARY:** A study was conducted in Brazil to compare the persistent efficacy of a single subcutaneous injection of doramectin and ivermectin at a dose rate of 200 mcg/kg in the prevention of myiasis caused by *Cochliomyia hominivorax* larvae in cattle castrated 10 days after treatment and exposed to natural field challenge. The study consisted of 91 comparative replicate tests conducted in all regions of Brazil under different epidemiological and management conditions and involved 2,718 cattle of different breeds. For each replicate test, approximately 30 male cattle were selected and randomly allocated to two groups (T1 and T2) of equal numbers. On day 0, animals in T1 were treated with doramectin and animals in T2 were treated with ivermectin. Twenty-nine animals were not found after treatment and thus the total number of animals used in the calculation of efficacy was 2,689. On day 10 post-treatment (p.t.) all animals were castrated surgically and were maintained together in the same pasture, exposed to natural field challenge of *C. hominivorax*. On days 13 and 17 p.t. (i.e., 3 and 7 days after castration), animals were examined and the presence or absence of oviposition and active myiasis with live larvae of *C. hominivorax* and open wound with sero-hemorrhagic exudate were recorded. Doramectin was more efficacious than ivermectin in the protection of animals castrated 10 days p.t. and exposed to above described natural *C. hominivorax* challenge. The overall mean efficacy of doramectin was 94.6% (varying from 53.3% to 100%) compared to 43.7% (ranging from 0% to 100%) for ivermectin. This difference was statistically significant ( $p < 0.0001$ ). Doramectin had an efficacy higher than 90% in 73 of 91 replicates whereas ivermectin had an efficacy higher than 90% in only 3 tests. On the other side, ivermectin had an efficacy of less than 50% in 56 tests, while the lowest efficacy for doramectin was 53.3% in only one test. The efficacy of doramectin was higher than that of ivermectin in 90 of the 91 replicate tests and in only one test ivermectin was equal to doramectin with 100% efficacy.

**KEY WORDS:** Doramectin, ivermectin, persistent efficacy, prevention, *Cochliomyia hominivorax*, cattle.