

RESUMO - HELMINTOLOGIA

BIOLOGICAL AND PREDATORY EVALUATION OF ARTHROBOTRYS FLAGRANS PRODUCED COMMERCIALY (BIOVERM) AND IN CORN GRITS (CG 768 ISOLATE)

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Biological control using nematophagous fungi is a promising strategy for managing gastrointestinal nematodes in livestock. Recently, three batches of BioVerm®, a commercial product based on the nematophagous fungus *Arthrobotrys flagrans*, were evaluated for chlamydospore count per gram (CGC), predatory activity, and efficacy in reducing infective larvae (L3) in sheep. The findings revealed low fungal viability and highlighted an urgent need for stricter quality control measures to ensure product efficacy. Therefore, the present study aimed to compare BioVerm® with the CG768 isolate of *A. flagrans* based on CGC, predatory activity, and efficacy in reducing L3 in sheep. Chlamydospore concentration was quantified using a Neubauer chamber. Predatory activity was

assessed through the inoculation or non-inoculation of *Panagrellus* spp. in Petri dishes, followed by microscopic observation. Efficacy was determined using fecal cultures treated or untreated with BioVerm® or corn grits. The CG768 isolate was produced in Roux flasks containing a corn grit-based medium and incubated in a BOD chamber at 28°C for 30 days. The commercial product exhibited chlamydospore production far below the concentration stated on the label, fungal contamination, and no detectable growth in Petri dishes across all four analyzed batches. In fecal cultures, the reduction in L3 larvae ranged from 31% to 71%, with statistically significant effects observed in three batches. In contrast, the CG768 isolate grown on corn grits showed a chlamydospore count of 280,000, demonstrated predatory activity in Petri dishes, and reduced L3 larvae by 99.5% to 99.8%. This reduction was statistically significant even when compared with the commercial product ($P < 0.001$). These findings corroborate previous reports regarding of the commercial product.

Palavras-chave: biological control; nematofagous fungi; gastrointestinal nematodes; sheep.