

DETERMINATION OF ACID PHOSPHATASE ACTIVITY DURING THE INTERACTION OF NEMATOPHAGOUS FUNGI *DUDDINGTONIA FLAGRANS* WITH THE FREE-LIVING NEMATODE *PANAGRELLUS SP.*

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One option to control gastrointestinal nematodes of small ruminants is the use of nematophagous fungi, which invade dung on pasture and kill parasite larvae as they develop in the faeces. We have investigated acid phosphatases activity during the interaction of the nematophagous fungus *Duddingtonia flagrans* with the nematode *Panagrellus sp.* Two acid phosphatases from the nematode, one from the fungus and two from the nematode-fungus interactions were detected by 7.5 % SDS-PAGE containing the fluorogenic substrate 4-methylumbelliferyl phosphate. These enzymes were resolved by using ion-exchange chromatography followed by hydrophobic interaction chromatography. The pH optimum for the hydrolysis of the substrate p-nitrophenyl phosphate was between 5-5.4 for a major phosphatase from *D. flagrans*. Two pH optima were observed for *Panagrellus sp* at 2.2 and 5.4, and for the interactions fungus-nematode the same values for pH optima were observed. This study demonstrated that the nematode has a relatively high activity of acid phosphatase and that the fungus presents a lower activity for the same enzyme. However, the presence of the nematode causes an increase of the enzymatic activity. Our results suggest the participation of this enzyme during the process of infection carried out by *D. flagrans*.

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