Abstract

Entomopathogenic nematodes are considered excellent biological control agents, with greater potential against soil insect pests and pests of cryptic environments. The fruit fly Ceratitis capitata is considered one of the main fruit crop pests worldwide. This insect stays in the soil during a phase of life, where it becomes a target for entomopathogenic nematodes. The objective of this study was to evaluate the pathogenicity and virulence of entomopathogenic nematodes on C. capitata. The bioassays were organized with four replications, containing 10 individuals; 1 mL of a nematode suspension containing 200 IJ/insect was applied. The most virulent isolates against C. capitata larvae were selected and applied at concentrations of 0, 50, 100, 150, 200, 250, 300, 350 and 400 IJ/insect. All isolates were pathogenic for C. capitata. The S. carpocapsae ALL and Heterorhabditis sp. RSC01 isolates were the most virulent against the larval stage, with mortalities of over 85%. As to the pupal stage, isolates Heterorhabditis sp. PI, Heterorhabditis sp. JPM4, H. bacteriophora HP88, S. feltiae and S. glaseri were the best, with mortalities ranging between 35 and 44%.

Keywords

Biological control, mediterranean fruit fly, pathogenicity.