عنوان مقاله:

Virulence of Entomopathogenic Nematodes against Neotropical Brown Stink Bug (Euschistus heros [Fabricius], Hemiptera, Pentatomidae) and Compatibility with Phytosanitary Products under Laboratory Conditions

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خلاصه مقاله:

The Neotropical brown stink bug, Euschistus heros (Fabricius), is considered a pest in soybean that is difficult to control and leads to deterioration of grains and reduced production. Entomopathogenic nematodes can be used to control insect pests and can also be a complementary tool in the management of the Neotropical brown stink bug. They also exhibit significant compatibility with chemical phytosanitary products. Thus, this study aimed to determine the virulence, production, and concentration of entomopathogenic nematodes in the Neotropical brown stink bug, as well as their compatibility with chemical phytosanitary products. Six nematode isolates, administered in the concentration of ۱۰۰ Infective Juveniles (IJs) adult-۱, were evaluated. Subsequently, Heterorhabditis amazonensis MC۰۱ was evaluated at concentrations of ۵۰, ۱۰۰, ۱۵۰, ۲۰۰, and ۲۵۰ IJs adult-۱. The evaluations were carried out by determining Neotropical brown stink bug mortality and the production of IJs. The compatibility tests consisted of evaluating the viability and infectivity of two nematode isolates incubated in contact with ۱۱ phytosanitary products for ۴۸ hours. The virulence test showed up to ۴۸% Neotropical brown stink bug mortality after ۷ days. A greater concentration of IJs was produced for H. amazonensis MC۰۱, compared to Steinernema feltiae, reaching ۱۰۱,۰۰۰ and ۹۷,۸۰۰ IJs adult-۱, respectively. The application of ۱۵۰ IJs adult-۱ was associated with the highest mortality of E. heros and the highest production of IJs. Methomyl and profenofos were incompatible with both tested nematodes and chlorpyrifos was incompatible with H. amazonensis MC۰۱. The compatibility of the chemical products with nematodes highlights the possibility of application in association with entomopathogenic nematodes to control E. heros. Products considered incompatible should be avoided, and further tests should be performed to confirm the results in field .conditions

کلمات کلیدی:

.Biological control, Glycine max, Heterorhabditis, Steinernema, Soybean