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Abstract

Biological Control Potential of Native Entomopathogenic Nematodes (Steinernematidae and Heterorhabditidae) against Mamestra brassicae L. (Lepidoptera: Noctuidae)

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Abstract:
The largest group of cabbage plant pests are the species in the owlet moth family (Lepidoptera: Noctuidae), the most dangerous species of which is the cabbage moth (Mamestra brassicae L.). In cases of heavy infestation by this insect, the surface of plants may be reduced to 30%, with a main yield loss of 10–15%. The aim of the present study was to assess the susceptibility of M. brassicae larvae to nine native nematode isolates of the species Steinernema feltiae (Filipjev) and Heterorhabditis megidis Poinar, Jackson and Klein under laboratory conditions. The most pathogenic strains were S. feltiae K11, S. feltiae K13, S. feltiae ZAG11, and S. feltiae ZWO21, which resulted in 100% mortality at a temperature of 22 °C and a dosage of 100 infective juveniles (IJs)/larva. The least effective was H. megidis Wispowo, which did not exceed 35% mortality under any experimental condition. For most strains, there were significant differences ($p \leq 0.05$) in the mortality for dosages between 25 IJs and 50 IJs, and between 25 IJs and 100 IJs, at a temperature of 22 °C. Statistical analysis of the effect of temperature on mortality showed that only strain H. megidis Wipsowo exhibited significant differences ($p \leq 0.05$) when applied at dosages of 50 IJs and 100 IJs.

Biography:

Anna Mazurkiewicz is currently associated with Warsaw University of Life Sciences, Poland

Recent Publications:

1. Agriculture 2020, 10(9), 388; https://doi.org/10.3390/agriculture10090388

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