INFLUENCE OF ELECTROMAGNETIC FIELD ON ENTOMOPATHOGENIC NEMATODE HETERORHABDITIS BACTERIOPHORA

1 L.Y. RUBTSOVA, 1 SH.A. TOPCHIYEVA, 2 M.A. MEHRABOVA, 3 N.H. HASANOV
[1]*Institute of Zoology, Azerbaijan National Academy of Sciences*
[2]*Institute of Radiation Problems, Azerbaijan National Academy of Sciences*
[3]*Baku State University*

Entomopathogenic, Steinernematidae and Heterorhabditidae nematodes are excellent biological control agents of insect pests. These nematodes are symbiotically associated with bacteria which are pathogenic to insects.

Interest on entomopathogenic nematodes has increased rapidly in recent years. Numerous surveys give evidence about their omnipresence in nature and agricultural soils and new species. Many of these species have unique traits which enable their survival in unique environments; and these traits can be exploited in novel pest management strategies.

Soil is a natural habitat for nematodes. They are capable of accomplishing vertical and horizontal migrations in soil. These nematodes are cultivated on the artificial medium basis of which can include hen plucks or dog or cat food.

In Azerbaijan crops such as vegetables, forage, and orchard trees are attacked by various lepidopteron pests, mainly cutworms and armyworms. Although the lepidopterans feed on foliage, these insects spend all or part of their life cycle in the soil where they are vulnerable to nematode infection.

We investigated the position of heterorpabditis bacteriophora in a weak constant electric field in soil. From the source of power supply by means of electrodes in soil where entomopathogenic nematodes were submitted into pressure 20 V and has been imposed electric field 5V/sm. Electrodes were placed in soil on depth of 10 sm and on distance of 18 sm from each other. 30 thousand entomopathogenic nematodes were brought to the soil in a site (0.8 m^2). At calculation of entomopathogenic nematode from test of soil round a positive electrode it was revealed that in the given test of entomopathogenic nematode there was an insignificant quantity of 156 pieces while in test of soil round a negative electrode their quantity exceeded 5.9 thousand.

Nematodes reaction on electric field can be used as a way of attraction of nematodes in

biological struggle against dolls of harmful insects living in soil.

Ability of entomopathogenic nematodes concentrates in the field of a negative electrode can be used in agriculture. Imposing of weak constant electric field by introduction of electrodes in soil may be used for attraction of concentration of wreckers, in particular, dolls of wreckers in to a place.