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Contributed Abstract

Biological control of the ash/lilac borer with the entomogenous nematodes, *Neoaplectana carpocapsae* and *N. bibionis*

by Harry K. Kaya

The nematodes, *Neoaplectana carpocapsae* and *N. bibionis*, were mass produced in vitro in a flask containing sterilized turkey entrails. Several hundred million *N. carpocapsae* were produced. *N. bibionis* proved more difficult to rear and only 40 million infective nematodes were produced.

During the summer of 1983, an infestation of the ash/lilac borer, *Podosesia syringiae*, in ash trees was monitored in a residential area in Sacramento. However, lining up a proper experimental design in this neighborhood was difficult because of the need to contact each homeowner with infested trees. Therefore, an effort was made to locate another infestation of borers.

During late summer of 1983, an infestation of the borer, *Synanthedon culiciformis*, was found in alder trees in a park and an apartment complex in Davis. A total of 20 trees heavily infested with this borer (15 active borers per tree) was found. Treatment with *N. carpocapsae* was initiated in late September. Before treatment, the number of active galleries per tree was counted. A gallery was considered active if fresh frass was present at the gallery entrance. The nematodes were applied with a Hudson sprayer at the rate of 0, 4000, and 8000 nematodes/ml. The average tree received 6×10^6 nematodes at 4000 nematodes/ml and 11×10^6 nematodes at 8000 nematodes/ml. In addition, active galleries were sprayed individually with a hand-held atomizer at the rate of 1.8×10^4 and 3.6×10^4 nematodes/gallery. One week after application, frass from each gallery was removed and a week later the presence or absence of frass was used as an index for control of the borer.