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insect answers



**THE GARDEN
SYMPHYLAN**

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The garden symphylan, *Scutigera immaculata*, is a serious pest of greenhouses, home gardens, and some commercial crops throughout western Washington. It is an occasional pest in central and eastern Washington. Attack of this pest usually begins a few days after the plants are set out. With tomatoes, the symphylans injure the older roots and devour the new ones as fast as they develop. The plants wilt in the daytime, the stems become bluish and the upper leaves turn dark green while the lower leaves turn yellowish. When attack is severe, the plants die. Lettuce may be attacked as early as November and the injury may persist until February or March. The roots may be severed or badly injured by penetrating holes and extensive surface gnawings. Small corky calluses develop over the injured tissue, and these give attacked roots a galled and gnarled appearance. The garden symphylan is widespread and numerous in soils and attacks germinating seeds, roots, tubers, bulbs, and underground stems of an extensive range of plants including tomatoes, beans, cucumbers, lettuce, cabbage, mint, potatoes, and small fruits.

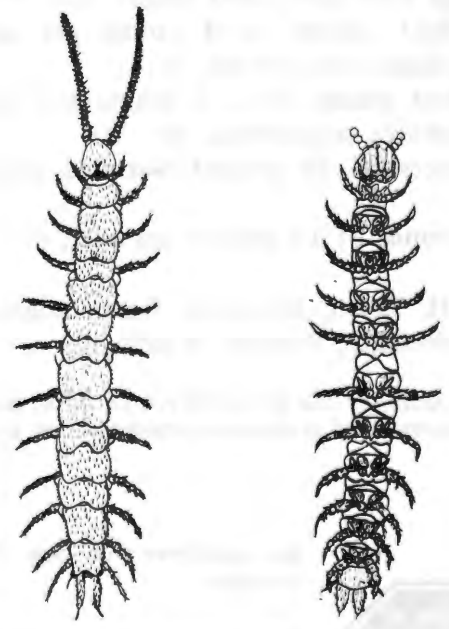
of stout tail feelers. They are difficult to find in the soil since they are exceedingly active and quickly disappear when disturbed.

Dispersion and Habits

The symphylans appear to be most numerous in market garden soils where the organic matter content is high. They live in the soil but do not make definite runways or burrows. Where the soil is sufficiently compact to permit the regular use of cracks and crevices, these may be lined with silk to enable the animals to run quickly along them. But, where the soil is loose, the symphylans

Appearance

Garden symphylan is closely allied to millipedes and centipedes and is often known as the "greenhouse or garden centipede." They are fragile, slender, white, and about 1/4 inch long. They have a distinct head with slender antennae, 12 pairs of legs, and a pair



Dorsal and ventral views.

work their way between the particles. They usually occur in the top 10 inches, but they may penetrate deeply into the subsoil to escape from unsuitable conditions, making them difficult to control.

Life Cycle

Egg laying begins in spring and continues throughout summer. Masses containing up to 20 eggs are deposited, and hatching takes place in about 10 days. The centipedes are fully developed in 45 to 60 days, with all life stages occurring in the soil. During hot, dry weather, they migrate into the subsoil.

Home Garden Control

Garden symphylan is rather difficult to control in the home garden. Only one material is suggested, namely diazinon. This material is sometimes found under the name Spectracide.

Use as a preplant treatment only! Use the following rates per 1,000 square feet of soil:

- 7½ fluid ounces of 4 pound per gallon emulsifiable concentrate, or
- 15 fluid ounces of a 2 pound per gallon emulsifiable concentrate, or
- 7 ounces of 50 percent wettable powder, or
- 1.6 pounds of 14 percent granular, or

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To simplify the presentation of information, it is sometimes necessary to use trade names. No endorsement of products is intended nor is criticism of unnamed products implied.

- 11.5 pounds of 2 percent granular.

Commercial Control

Several chemicals may be used in controlling symphylan in commercial plantings. *All materials must be used as preplant treatments only!*

Any one of the following may be used:

1. *Parathion* may be used as a granular preplant application at a rate of 5 pounds of actual parathion per acre. Keep all persons and animals out of treated area for 48 hours.
2. DD and Telone may be used where heavy populations of symphylan exist. These materials are preferred in heavy soils. Use when soil temperatures are in the 40 to 50 degree F. range. Use Telone at 25 gallons per acre and DD or Vidden D at 30 gallons per acre.
3. Dyfonate may be applied at the rate of 2 quarts of 4 EC or 20 pounds of 10 percent granules to the soil just prior to planting. Incorporate by disking or rotary tillage. See label for list of crops that may be grown in treated soil.

Allow 2 to 3 weeks to lapse between time of treating or planting or until odor has left soil!

Use pesticides with care. Read the label on the container and follow the directions carefully.

Never smoke while applying insecticides and avoid breathing the spray or dust. Wear natural rubber gloves when handling pesticides. Wash hands and face carefully with soap and water after applying. If insecticides are spilled on the skin or clothing, remove contaminated clothing and wash exposed skin areas thoroughly.

Always store pesticides in their original containers, never in fruit jars or soft drink bottles, and be sure that labels remain on the original containers. Keep containers away from food or animal feed and out of the reach of children or irresponsible persons.

