

GARDEN SYMPHYLAN *Symphyla*: *Scutigere* *Scutigere* *immaculta*

DESCRIPTION

Symphylans are not insects. They are 3 to 6 mm long, white, with prominent antennae and numerous legs. Newly hatched **nymphs** have six pairs of legs, but at each molt an additional pair of legs is added, until the **adult** stage which has 12 pairs of legs. This pest spends its entire life cycle in soil. Symphylans are distinguished from centipedes by their smaller size, and white color.

ECONOMIC IMPORTANCE

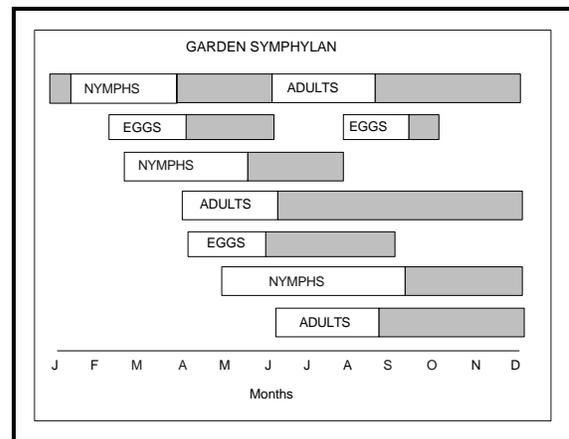
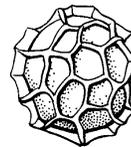
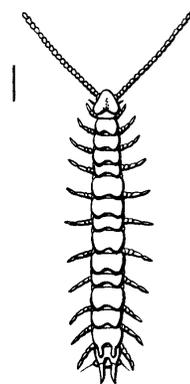
The garden symphylan is a serious pest in western Oregon and Washington but is occasionally found in eastern Washington and Oregon. Symphylans feed on the root systems of many vegetables, small fruits, and speciality crops such as mint. Symphylans are general feeders that feed on germinating seeds and fine root hairs. Plants are stunted and yield poorly.

DISTRIBUTION AND LIFE HISTORY

This pest occurs in the northeastern, north central, and western United States. Eggs, nymphs, and adults can be found in any month of the year, but the majority of eggs are found during the early spring and fall. Nymphs and adults become active in the spring and can be found in increasing numbers in the upper 12 to 15 cm of soil during the spring and early summer. Eggs are laid in clusters of 4 to 25 at various depths in the soil depending on soil temperature, moisture, and structure. Eggs hatch in about 40 days and nymphs begin feeding on small roots. The total development time from egg to adult takes about five months at 10°C. Nymphs and adults move vertically and laterally in the soil seeking depths where favorable temperature and moisture occurs. Cool temperatures during the fall or extreme dryness will force them deeper. There are one to two generations each year.

MANAGEMENT AND CONTROL

Symphylans are often found damaging plants in spots in the field. Identification of these areas may greatly simplify control. Control of symphylans is difficult because of their vertical and lateral movement in the soil. Soil sampling will aid in determining the presence of symphylans. Take a shovel of soil to a Depth of 10 to 15 cm from several different sites in the field (about one site per 1-2 acres). The best time



of year to sample for symphylans is during March and April and in the fall during September and October. The treatment threshold in most crops is when an average of four or five symphylans is found per sample. A mite predator, *Pergamasus quisquiliarum*, occurs in some soils in some growing areas. This predator may consume up to 12 symphylans during one generation, indicating that it could be an important factor in regulating symphylan populations. Thoroughly tilling the soil in the spring before planting provides some control. Soil fumigation and preplant treatment with registered insecticides controls symphylans in most crops, but careful timing and soil preparation is critical for success.

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