

College of Agriculture
Cooperative Extension Service
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GARDEN SYMPHYLAN CONTROL FOR HOME GARDENS

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no indorsement by the Cooperative Extension Service is implied.

The garden symphylan is a very serious pest in many home gardens and occurs most often in western Washington. It has also been reported from Spokane, Klickitat, Yakima, Benton, Walla Walla, Franklin, Adams and Whitman Counties in eastern Washington. Control of symphyllans is extremely difficult and many of our pesticides have little or no effect in destroying them. Some materials used with fair success by commercial crop growers are too hazardous for the home gardener to use and cannot be recommended.

THE GARDEN SYMPHYLAN

The adults are delicate, pure white, very active, small centipede-like pests about 1/4 inch long. Food eaten by the symphylan often shows through the body wall as a dark colored streak. The adults have 12 pairs of legs with well-developed antennae which are kept constantly in motion. The newly hatched nymphs have six pairs of legs.

DAMAGE

The garden symphylan is a general feeder attacking many plants. Among the vegetables are asparagus, beans, beets, carrots, cauliflower, celery, corn, cucumbers, lettuce, onions, peas, potatoes, radishes, turnips, spinach, rhubarb, and tomatoes. Small fruits, particularly strawberries, are very susceptible to attack.

Symphylans feed on the underground portions of plants, destroying the roots or tubers. Occasionally, they will come to the surface and bore into strawberry fruits lying on the ground.

LIFE HISTORY

The egg is small, round, pearly white and is laid singly or in clusters in cavities in the soil. The tiny larvae emerges from the egg in 2 to 3 weeks, depending on soil temperature.

Larvae: Newly hatched larvae have only six pairs of legs. They moult several times, growing larger and adding a pair of legs with each moult until they reach the adult stage.

Adults: The adult, which has twelve pairs of legs, lives in the soil. They may live for 4 or 5 years and possibly longer. They are most numerous in the soil during the spring and early summer and fall, but adult and larval forms may be found at most any time of the year. Symphyllans move with ease both vertically and laterally through the soil and may be found at depths of 2 feet or more.

HOW TO LOOK FOR GARDEN SYMPHYLLANS

In the spring or early summer, dig up a clump of soil with a spade or shovel. Examine the soil carefully for small white, extremely active creatures which try to escape the sunlight by crawling into crevices in the soil. Breaking up small clots of soil will often expose them. You may need to take several soil samples to make sure they are present since populations vary from time to time.

CONTROL

These recommendations apply to home gardens only. For commercial plantings see E.M. 2289, "Control of the Garden Symphylan in Commercial Plantings of Washington."

CONTROL Cont'd

Lindane as a soil treatment has given fairly good control of garden symphylans and is the most effective material, other than fumigants, for home gardens. Lindane usually gives a metallic off-flavor to root crops and is reported to affect the flavor of canned corn and tomatoes. This off-flavor may be noticed on root crops, corn or tomatoes grown on lindane-treated soil for at least two years.

The following recommendation of lindane for garden symphylan control is for annual non-root crops only:

Apply 2 pounds actual lindane per acre either as a dust or spray prior to planting. Distribute it as evenly as possible over the soil surface and immediately incorporate it in the soil to a depth of at least six inches. This can be best done with a rototiller or similar equipment. If you use a 50 per cent wettable powder formulation, apply 1½ ounces per 1000 square feet.

There is no satisfactory control for symphylans on perennial crops grown in home gardens except to apply lindane prior to planting. Soil fumigants have given satisfactory symphylan control, and may be used where root crops are to be grown. Soil fumigants to be applied by commercial applicators only.

Telone, D-D or Vidden D are recommended as soil fumigants for symphylan control. For annual crops on light sandy soils, use these materials:

Material	1 Acre	½ Acre	¼ Acre	Application
Telone	25 gals.	10 gals.	5 gals.	Loosen soil and aerate for 1 week prior to planting.
D-D, Vidden D	30 gals.	15 gals.	7½ gals.	

SOIL PREPARATION FOR FUMIGATION

The soil temperature at time of fumigation should be 40° - 50° F. Be sure the soil is in seed bed condition containing the right amount of moisture. If a hard pan exists below the soil surface the ground should be subsoiled every 2-3 feet in two directions at a depth of 18-20 inches. Subsoiling should be done in the summer when the soil is dry so it will fracture well. Excessive undecomposed plant residues will adsorb and make the fumigant ineffective. Inject the fumigant to a depth of 8-10 inches.

After application and compacting, leave soil undisturbed for 2-3 weeks. Wet soil retards diffusion of fumigant, requiring a longer exposure period. At the end of the exposure period, aerate the soil by plowing or deep cultivation. Aeration is usually complete when the odor has left the soil.

Check the manufacturer's labels for cautions concerning the use of fertilizers with these fumigant materials.

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PRECAUTIONS IN USING INSECTICIDES

This publication lists and describes the control measures suggested for control of the more common injurious insects normally encountered. The pesticide recommendations are based on research by scientists of Washington State University, the USDA and by other agencies. Those suggested are considered safe to use and known to be effective.

In many cases additional information may be obtained on description of the insects and their damage, their life cycle and a more detailed description on their control. If your insect problem goes beyond the scope of this discussion, you can get additional help from your County Extension Agent or from the Department of Entomology, Washington State University, Pullman.

Insecticides are poisonous to man and animals. Use them only when needed and handle them with care. Follow the directions and heed all precautions on the labels.

Keep insecticides in closed, well-labeled containers in a dry place. Store them where they will not contaminate food or feed, and where children and animals cannot reach them.

Avoid contact with poison baits or concentrates. If any is spilled on skin or clothing, wash it off the skin and change clothing immediately.

Avoid inhalation of insecticide dusts or mists.

When handling insecticides, wear clean, dry clothing.

Wash your hands and face before eating or smoking and immediately after completing insecticide application.

To protect fish and wildlife, do not contaminate lakes, streams, or ponds with insecticide. Do not clean spraying equipment or dump excess spray material near such water.

Dispose of empty insecticide containers at a sanitary land-fill dump, or bury them at least 18 inches deep in a level, isolated place where they will not contaminate water supplies. If you have trash collection service, wrap small containers in heavy layers of newspapers and place them in the trash can.