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THE INSECT PESTS OF THE ROSE

By

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I - Insects attacking the leaves, buds, and growing tips:

1. Plant lice or aphids - green or reddish green, small soft bodies. They collect on leaves, growing tips during the summer.

   A. Activity - Suck juices from the plant, causing leaves to curl and tips to dwarf and die.

      a. Winter passed as small, elongate, ebony black eggs on rose canes.

      b. Maturity reached in 12 days. Reproduction of living young begins as soon as aphid reaches maturity; multiplies rapidly.

   B. Control.

      a. If in small quantities, shake or pick from the rose.

      b. If in large numbers, spray at regular intervals with nicotine sulfate.

2. Rose leaf hopper. More serious than aphids. As immature insect, it is found on under side of leaf, small light yellowish, or yellowish-green; smaller but similar in appearance to aphids.

   A. Activity:

      Mature insect has wings; is white in color; 1/10 inch long. Insects fly in minute clouds when disturbed. Effect on foliage shown by small white spots on leaf.

      a. Passes winter in egg stage under bark of rose cane. Hatching takes place in early spring, March, April, and May. Growth is slow, adults showing in June or July.

   B. Control:

      Use a contact spray as listed under "CONTACT SPRAYS".

3. Rose slug

   A. Activity - Skeletonizes rose leaf in May and June. Light green worms 1/3 inch long feed on under side of leaf.

a. Passes winter in soil. Adults lay eggs under upper surface of leaf. Hatching is in April and May. Adults are small, black, and wasp-like. Eggs hatch in 12 days.

B. Control - Use a poison spray as listed under "POISON SPRAYS".

5. Rose curculio - Often serious pest; present in western Oregon; normally on wild roses.

A. Activity - Flower bud is attacked, blighting or deforming future blossom.

a. Adult beetle is $\frac{1}{4}$ inch long; red, black head, prolonged snout. Buds, seed pods, leaf clusters are punctured. The flower bud stems sometimes are clipped; tips of punctured stems also turn black and die.

b. Passes winter in soil at base of plant. Beetles emerge in late spring and are active until late fall.

(1). Eggs sometimes are laid in punctured buds, grubs hatching and feeding on buds, then dropping to ground when mature and "digging in" for winter.

B. No really satisfactory control known. Ground may be stirred during late September and October, and in spring during March and April, and should destroy overwintering insects. Elimination of wild roses in vicinity would decrease host plants. Hand-picking of punctured buds will destroy immature insects.

a. One might use summer oil emulsion. See "CONTACT SPRAYS".

6. Cutworms

A. Activity - Sometimes attack opening buds; work at night. They may be found by examining soil for fat, greasy, hairless cutworm caterpillar.

B. Control - Poison mash may be used, scattering it at base of plant at night.

a. Formula:

Bran - - - - - - - - - -	1 quart
Salt - - - - - - - - - -	$\frac{1}{2}$ teaspoonful
Sugar - - - - - - - - - -	1 teaspoonful
Paris green - - - - - -	$\frac{1}{2}$ teaspoonful

Warm water to make crumbly mash - must not be sloppy

7. Flea beetles

A. Activity - Both adults and larvae attack rose; work of larvae similar to that of rose slug. They are small, short, nearly black, and feed in groups. Adult is small, metallic brown, jumps when disturbed. They eat small circular holes in leaves.

B. Control - Use poison spray as listed under "POISON SPRAYS".

8. Red spiders - Thrift of plant retarded; leaves drop prematurely. Inconspicuous web may be found on under side of leaves of infected plant.

A. Control - Finely sifted sulfur dust.

II - Insects which attack the canes of the rose:

1. Rose scale

White, circular, flat, small raised yellowish center. Plant juices sucked from rose.

A. San Jose, cottony scale and others may attack the rose.

B. Control - Spray during dormant season with concentrated lime sulfur (32° Baume) used at rate of one gallon lime sulfur to 7-1/3 gallons water, or an oil emulsion 4 gallons to 100 gallons of water.

III - Contact Sprays are used for insects which obtain their food by sucking from plant interior.

1. Tobacco solutions. This generally causes discoloration, but there is a refined tobacco solution used by florists which does not discolor. The following formula is used for spraying roses in the field:

2 tablespoonsful 40% nicotine) Soap dissolved in water
¼ pound fish oil soap) and nicotine added. Do not
12 gallons water) spray blossoms.

2. Nicotine dusts.

A. Dust containing 2 per cent free nicotine is believed best. Apply at weekly intervals for aphis and sucking pests.

3. Oil sprays.

A. Miscible oils and oil emulsions made from kerosene and heavier mineral oils are used for red spider and scale insects. Care must be taken to avoid burning foliage and flowers.

IV - Poison sprays

1. Lead arsenate: 1 ounce powdered lead arsenate) This spray will cause
3 gallons of water) discoloration to
) flowers.

2. Hellebore (practically colorless)
1 ounce white helleboro powder) This spray is as effec-
3 gallons of water) tive as an insecticide,
) although more expensive.

V - Combination contact and stomach poison

1. Three-in-One or All-in-One dusts: Powdered lead arsenate, nicotine and sulfur. (On commercial market).

VI - Derris and Pyrethrum

These relatively new commercial insecticides may be obtained from your local dealer under various trade names. Directions for their use are found upon the container.

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