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UPDATE: THE BLACK VINE WEEVIL PLAGUE

Root weevils have without a doubt been one of the most serious pests of nursery and ornamental plants this winter. The attack by the larvae on the roots and girdling of the stems below ground level is insidious and generally not noticed until serious damage has been done. The root weevil larvae are widely spread and have attacked a wide variety of host plants.

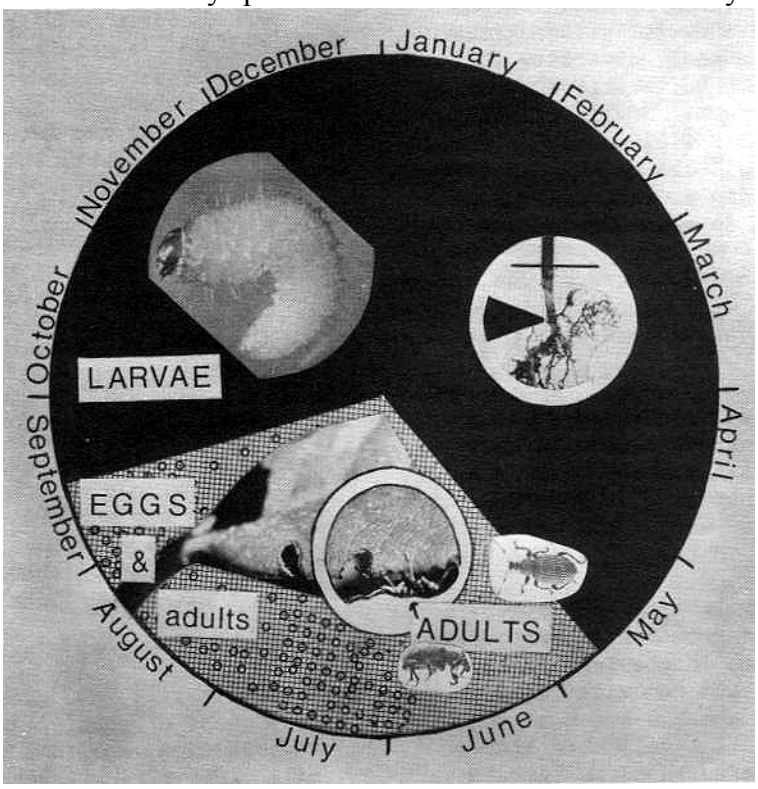

FIGURE 1. Illustration of predominate form of root weevil and associated plant damage occurring at various times throughout the year. Overwintering larvae and associated root damage and girdling occur primarily from mid-September to May. Adults, emerging in late May, notch foliage; adults lay eggs through June, July and August. The overwintering larvae emerge two to three weeks after the eggs have been laid.

A few examples of plants attacked are: arborvitae, azalea, rhododendron, viburnum, yew, rose, camellia, conifer seedlings, and seedling deciduous trees such as maples, cherry, and plum. The number and frequency of reports this year of plant damage done by root weevil larvae is alarming. Much of this increase has no doubt occurred because of the complete absence of registered insecticides to control the larval stage of this pest. No legal or proven-control insecticides are available to control root weevil larvae (grubs) on ornamentals. All insecticides which in the past were available are no longer available or legal, with the exception of Chlordane labeled prior to July 1975. Supplies of Chlordane, however, are limited and only a few growers have remaining stocks. Even so, root weevil infestations found this spring cannot be controlled satisfactorily: no available treatments will kill mature larvae such as those found in February through May. Growers with weevil infestations in plants to be certified for out-of-state shipment

will not be able to rid their plants of weevil this spring!

Current Situation – Action Needed

The situation is critical. Research to find satisfactory control measures is underway at Oregon State University (Dr. Richard Clarke), Washington State University (Dr. Lee Campbell), Ohio State University (Dr. David Nieldson), and New York. New information that becomes available will be communicated in the ON and by the local county extension agents. The following are suggestions of what the grower can do now:

1. Growers should be aware of the problem and that it will certainly increase as long as effective control measure are lacking.

2. Growers should start now to learn all they can about root weevils -- especially about their seasonal behavior, i.e., recognition of the various life stages of the weevil and its associated damage to the plant (see Figure 1).

Injury by larvae (generally present below ground from September through May) consists in chewing off the fibrous roots and removing the bark from large roots and the crown of the plant up to the soil level; this latter damage is referred to as "girdling." The larvae are legless, half-curled in lateral view, white to pinkish in color with brown head capsule, and when full grown vary from ¼ - ½ in. in length.

Larvae change to adults during the spring and early summer (May-June).The adults are black in color and often speckled with white; they are about 2/5 inch in length (pictures of the adults and further description is contained in the October 1975 issue of the ON in the article by Clarke, "Root Weevils on Ornamentals," pages 4-5). Adult root weevils feed on leaves of the host plant; damage is usually confined to the leaf margin producing a scalloped or notched appearance.

Shortly after emerging as adults, the adult root weevil lay eggs through June, July and August. Overwintering larvae emerge from the eggs and commence their feeding on the below-ground root/stem portions of the host plants.

It may be desirable to ask your county extension agent to set up an educational program to discuss the root weevil problems in your area and to present known information about the pest.

3. Growers should take the initiative in identifying their specific root weevil problem. Where is it located in the nursery? When was the last time a root weevil problem occurred in the nursery? Where are the weevils coming from?

4. Recognizing that prevention of the occurrence of root weevil larvae may be the only recourse, growers should direct their attention to controlling the adult stage of the root weevil during the late spring through fall period when the adult is laying eggs in the nursery. Future control recommendations are likely to be specific and directed toward adult control and/ or control of the young grubs in the early fall.

5. Sanitation measures must be practiced and may be one of our most useful methods of control in the future. Eliminate stock known to be weevil infested (if possible). Make sure that old potting media are not reused in any manner or left (dumped) on the nursery grounds. Weevils can emerge from the discarded potting mix even after the plant is removed!

Future Prospects

We realize that growers have no satisfactory means of controlling root weevil larvae at this time, and that they are at the mercy of the weevils. Current research efforts at OSU and elsewhere on both the biology (seasonal activity and behavior of the root weevil species in and about nurseries) and on registration of insecticides for root weevil control hold the key to the future.
