



Effective Control of White Pine Weevil

April 2000

The white pine weevil is also known as the Englemann spruce weevil and the Sitka spruce weevil. They are all classified as members of the species *Pissodes strobi*.

This harmful pest attacks at least 20 different species of trees, preferring the eastern white pine, as well as the jack, Scotch and red pines, and Norway spruce. Ornamentals such as the mugho pine and blue spruce are also susceptible.

Signs of Infestation and Damage

Shepherd's crook is a classic sign that an evergreen tree is infested with the white pine weevil. The curling and death of the leader stem, or top, of the tree indicates the presence of larvae in the stem. The needles on the leader stem will turn yellow-green, then red-brown and will eventually fall off. This damage generally appears in mid-June or early July. The first sign of infestation, in fact, is the oozing of resin from tiny holes in the leader stem early in the spring.



A continued infestation may stunt the growth of trees and also cause deformed or forked trunks, a serious problem for Christmas tree growers. The forked trunks are created as one or more side branches of the tree assume the function of the dead leader stem. Trees growing in the open without the canopy cover provided by larger trees appear to suffer greater deformation of the trunks. Small trees will sometimes die as a result of an infestation. Also, damaged trees are more susceptible to disease, especially heartwood rot.

Life Cycle

Adult weevils are approximately 8 mm (1/4") long. These beetles are dark brown with white and yellow patches on their backs. They have the characteristic and prominent hooked snout of the weevil.

White pine weevils produce one generation a year. The adults overwinter in the "duff" or debris beneath the trees, and in the spring they climb up to the top of the leader stem to feed and mate. Their eggs are deposited, from late April to early June, in the small holes created by feeding.

The eggs hatch after 10–14 days and the larvae will begin to feed as a group, girdling the stem as they eat their way downwards. This feeding action cuts off the water flow, causing the deformity and death of the leader stem. The trees will lose up to two or three years of height growth in the five or six weeks of feeding.

Finally, the larvae, now in the grub stage, will create a cocoon and pupate. They emerge as adults from late July until early September. The adults will feed on nearby tree branches until it is time to move to the duff for overwintering.

Prevention

The white pine weevil prefers open-growing trees 1.5–8 m (6–25 feet) tall, in sunny locations. Changing the environment can help prevent or reduce infestations.

- Grow evergreen trees under a canopy of 50% shade to make the leader shoots less attractive to the white pine weevil. Use a canopy of hardwood trees or artificial screening to achieve 50% shade cover.
- Close spacing, e.g., 2 × 2 m (6 × 6 feet), of pine trees in a plantation encourages height growth and natural pruning of weevil-attacked trees.
- Pruning infested trees can be an effective control for ornamentals or small plantations. Pruning should be done in late July, or as soon as possible after the first signs of infestation are noticed. Prune close to the topmost unaffected whorl of branches. Burn or destroy the pruned branches and leader stems.
- Band tree trunks and the base of leader stems with a sticky tape or a sticky substance applied to a band (do not apply sticky substances directly to tree bark). This may prevent adult weevils from reaching the leader stems. Unfortunately, as adult weevils are

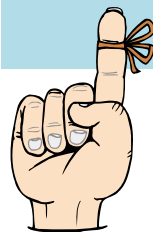
capable of flying on warm, sunny days, using this method alone may not provide complete control.

Chemical Control

At present, dimethoate is the only product registered to control the white pine weevil. It is registered for use on Sitka spruce trees.

Dimethoate is a systemic insecticide. It should be applied as a liquid, to the leader stem, to the point of runoff. Spray at the time of egg laying, generally early May.

It is advisable to spray a single branch or dip several needles in the spray solution and wait for three to four days to check trees for sensitivity to the product.



Remember

Before Purchasing a Pesticide Product

- Identify the pest correctly.
- Use physical control methods and alternatives to pesticides.
- Read the label directions and safety precautions before buying the product. The label must include the name of the pest to be controlled and the treatment location (e.g., indoor, outdoor, garden uses, pet treatment).
- Purchase only the quantity of product needed for the treatment.
- Alternatively, you may choose to hire a licensed pest control operator.

When Using a Pesticide

- Carefully read all label instructions and precautions before using pesticides.
- Do not drink, eat or smoke while applying pesticides.
- Persons and pets should vacate the area during treatment. Cover or remove aquaria.
- If kitchen area is to be treated, cover or remove food, dishes and utensils.

After Handling a Pesticide

- Always wash your hands thoroughly after handling any pesticide product.
- Do not permit persons or pets to contact treated surfaces until residue has dried completely.
- Provide adequate ventilation of treated areas after use.
- Wipe clean all surfaces that comes in direct contact with food, such as counters, tables and stovetops, including indoor and outdoor surfaces.
- Always store pesticides out of reach of children and pets and away from food and beverages.

In Case of Accidental Poisoning

- Call a poison control centre immediately and seek medical attention.
- Take the pesticide container or label with you to the emergency facility or physician.
- Follow first aid statements on the label.
- In case of accidental poisoning of pets seek veterinary attention immediately.



When Disposing of Pesticides

Do not reuse empty pesticide containers. Wrap and dispose of in household garbage.

Unused or partially used pesticide products should be disposed of at provincially or municipally designated household hazardous waste disposal sites.

Use Common Sense

- These are general recommendations.
- Consult the label for specific instructions.
- When in doubt, contact a professional.

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