

White Pine Weevil

Scientific Name: *Pissodes strobi*

Hosts: Spruce, white pine

Damage/symptoms: Feeding by the developing insects causes the top terminal to suddenly wilt and die in early summer. This is often referred to as a “shepherd’s crook”. Once the top leader is killed, some side branches will change their growth habit and will grow upward to replace the dead leader.

Life cycle: The weevil adults become active in early spring. They feed on the main branches near the leader and insert eggs into feeding cavities. Eggs hatch in about two weeks, and the larvae (immatures) will tunnel under the bark. The larvae pupate, and adults emerge in late July-August. The adults overwinter in leaf litter and debris around spruce trees.



Figure 2. White pine weevil exit holes on terminal of the tree. Photo by S. Katovich, Bugwood.org

Management:

Non-chemical options: Only the top leader and upper branches of the tree are affected by the insect. The infested terminal can be clipped, and a new leader can be trained. This should be done when the larvae are still inside the branch (before the end of July). Terminals should be cut only as far down as necessary to remove the weevil larvae. Destroy the pruned terminals. Rake up the needles and debris under the tree in the fall.

Chemical control: Chemical controls are only recommended if necessary, and the timing of application is critical. A common management strategy is to spray the terminal of the tree in the spring when adults are climbing to the top to lay eggs (April through May, depending on weather). Some of the active ingredients include permethrin (Astro), bifenthrin (OnyxPro, Reveal, Battalion 2, Tigris Bifen 2), or cyfluthrin (Tempo). Sprays targeted at the terminal of the tree will not be as effective once the larvae have burrowed underneath the bark.

Systemic insecticides with the active ingredients imidacloprid (Xytect, Imidastar, Acecap, Zylam), emamectin benzoate (Tree-Age), dinotefuran (Safari), or abamectin (Aracinate) can be applied as a soil drench or micro-injection in the early spring followed by several days of watering to allow for sufficient root uptake.

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Figure 1. White pine weevil damage on blue spruce. Photo by Laurie Kerzicnik