



EUROPEAN PINE SHOOT MOTH
Rhyacionia buoliana (Schiffermuller)

Insect and Disease Laboratory • 168 State House Station • 50 Hospital Street • Augusta, Maine • 04333-0168

Symptoms and Damage

The European pine shoot moth, *Rhyacionia buoliana* (Schiffermuller) an introduced species first discovered in 1914 in the New York area has since become a serious pest of red pine plantations in Northeast States, Lake States region, and parts of Canada. It has been present in Maine since 1944 when it was discovered in Harpswell. Maine infestations are located mostly in coastal areas of Cumberland, Sagadahoc, Lincoln and Knox counties but have been spreading north and east in recent years. Most infestations have remained confined to small areas of planted trees, most of which are red pine.

During heavy infestations of this pest many of the current shoots are killed, and the resulting malformation of branches produces a very crooked irregular growth. Dying shoots are most noticeable in the spring as a result of feeding and mining within buds and shoots by the larvae. Affected shoots have dead needles on the tips and oozing pitch. The killing of terminal buds results in forked stems. Injury is similar to white pine weevil damage, but may be more pronounced because lateral growth is also destroyed.

Young trees less than 20' tall that are growing in the open are most subject to attack and damage. Plantations are relatively safe after crown closure.

Hosts

Red pine seems to suffer the greatest damage, but Scotch, Mugho, Austrian and jack pines may also be readily attacked. When pitch and white pines are located near infested areas, they are also attacked, but to a lesser degree.

Description and Habits

Emergence of moths occurs in late spring. The adult moths are reddish-brown and have a wingspread of 18 mm. After mating, the females deposit yellowish-white eggs on shoots on or near bases of buds or needle fascicles. The emerging caterpillars spin webs between the needle sheaths and later into the needle sheaths. Later in the summer the larvae mine into and hollow out the buds. Each larva overwinters in a hollowed out bud which may be covered by resin encrusted webs. Temperatures of 10-28°F below zero are usually fatal to the larvae, and in Maine may restrict this pest to milder, coastal areas. In the spring larvae move to undamaged buds and new shoots where they construct new tents and resume feeding. A single larva may bore into more than one bud or developing shoot. Damaged shoots curl and die. The larvae mature by the end of May and pupation occurs within constructed tents. Full grown larvae are about 15 mm and dark brown with a black head. Adults emerge about 2 or 3 weeks after pupation.

Control*

The European pine shoot moth has been very difficult to control. In the case of small plantations, pruning can be the most effective means of control. Clip off all damaged leaders and laterals as closely as possible to the central stem to promote healing.

In situations where pruning is not feasible due to the size of the plantation, the application of carbaryl, or diazinon** or chlorpyrifos in July should provide some control. Apply the insecticide in accordance with specific use instructions and precautions on the label.

***NOTE:** These recommendations are not a substitute for pesticide labeling. Read the label before applying any pesticide. Pesticide recommendations are contingent on continued EPA and Maine Board of Pesticide Control registration and are subject to change.

****Some formulations are restricted-use pesticides and may only be purchased or used by certified pesticide applicators.**

Caution

For your own protection and that of the environment, apply the pesticide only in strict accordance with label directions and precautions.