

European Pine Shoot Moth (EPSM)

Description

Adult EPSM (Figure 1) have a reddish-brown coloration and a wingspan of about $\frac{3}{4}$ of an inch (~18mm). The forewings also feature irregular silver colored bars. These moths bare a strong resemblance to many other species of pest moths, making identification somewhat difficult. The larvae range from pale yellow to brown with a black head. Larvae on average are about $\frac{1}{2}$ inch long (12mm).



Figure 1: Adult EPSM (Credit: JC Schou)

This pest mostly travels on nursery stock and Christmas trees. Particularly, they target Austrian, Scotch, Ponderosa, Mugo, and Red pines.

Life Cycle

Eggs hatch in the early stages of summer, around June-July, from which the larvae will spin webs on the needle sheath of the tree and proceed to bore into the base of the needles and begin feeding. As larvae mature, they will move through the stem and into the buds to continue feeding, this is where they will overwinter. In the spring larvae will seek out an undamaged bud to resume feeding. The larvae will construct a tent of webbing and pupate around early May, with adults emerging later in May or June. Adults immediately begin mating and laying eggs, which hatch in seven-ten days.



Figure 2: EPSM Larva (Credit: Fabio Stergulc)

Symptoms

The damage caused by EPSM is almost entirely during the larval stage. Their feeding patterns result in the killing of individual needles, killing of buds before winter, as well as the damaging or killing of developing buds and elongating shoots in the spring. The latter can result in adventitious buds, leading to unsightly witches'-broom growths, or irregularly formed shoots (Figure 3).



Figure 3: EPSM damage to a Red Pine (Credit: A. Steven Munson)

Management

Careful pruning of new growth in late June, and the removal of damaged leaders, may help to reduce EPSM populations. If pruning is not feasible, some insecticides like carbaryl, diazinon, or chlorpyrifos can be used to provide some additional control. Always follow the instructions on the pesticide label. Consult your county Extension agent or the MDA Nursery/Quarantine specialist if you believe you have EPSM.

Spread and Impact Potential

Currently in Montana, all pine materials that could convey EPSM are regulated from the following states (Figure 4): Connecticut, Delaware, Idaho, Illinois, New Jersey, New York, Ohio, Indiana, Iowa, Maine, Maryland, Oregon, Pennsylvania, Rhode Island, Massachusetts, Michigan, New Hampshire, Washington, West Virginia, and Wisconsin. These states pose the highest risk of transferring this pest to Montana.

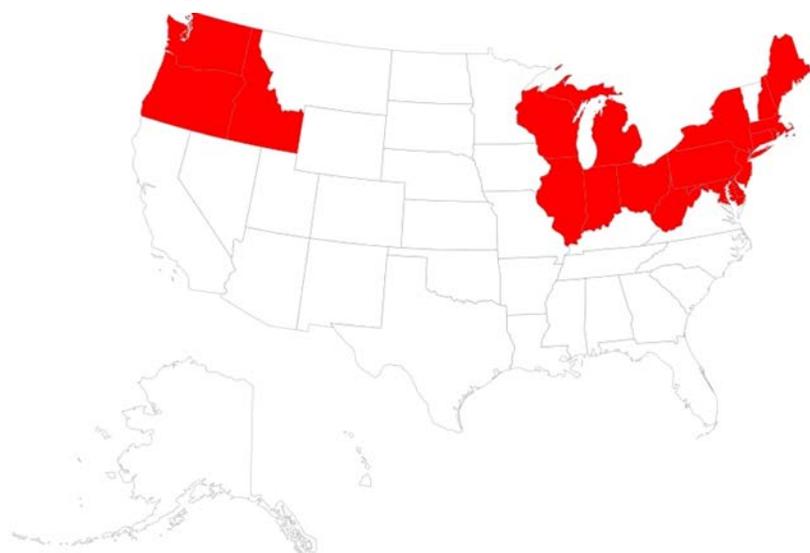


Figure 4: States Regulated for EPSM by MT Quarantine MTQ-2008-01

EPSM poses a risk to Montana's timber industry by causing damage and growth abnormalities in pine species that render the trees unusable for cut timber. There is also a threat to the nursery and landscape industry, as any damage caused by EPSM would dramatically reduce the value of the trees.

Carson Thomas
Nursery/Quarantine Specialist
302 N. Roberts St. Helena, MT
59601
(406)444-3428
carson.thomas@mt.gov
agr.mt.gov/Topics/Nurseries

There is no known population of EPSM in Montana at this time. Thus it is critical that it is prevented from establishing in the state. A key factor making their establishment difficult is their weakness to extreme cold, sustained temperatures of -20°F (-29°C) kill overwintering larvae. If you believe you have found EPSM, report it to the Quarantine specialist. If possible, collect a sample and preserve it in rubbing alcohol for verification. Early detection is key to avoiding an outbreak.