

# Forest Pest Bulletin



SOUTH DAKOTA  
DEPARTMENT OF AGRICULTURE  
DIVISION OF RESOURCE  
CONSERVATION & FORESTRY



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## ZIMMERMAN PINE MOTH

### CAUSAL AGENTS

*Dioryctria zimmermani*

### HOSTS

Most species of Pine, with Scotch (*Pinus sylvestris*) and Austrian (*Pinus nigra*) being favored. Ponderosa pine (*Pinus ponderosa*) will also be attacked.

### SYMPTOMS

Early symptoms of Zimmerman pine moth (ZPM) attacks are usually wilting and yellowing of the new needles and shoots. These branches later turn brown and can break at the trunk. Larvae also attack the main stem causing sap to be excreted in unsightly masses. Masses will be white to reddish in color, soft, and shiny if infestations are active. They will appear gray, hard, and dull if old or inactive. Pitch masses resemble clusters of grapes, sometimes reaching the size of a golf-ball (Fig. 1). Growths often occur above the girdled branch whorls and pitch masses; limbs may break at these points (Fig. 2).

### LIFE CYCLE

Zimmerman pine moths have a one-year life cycle. Adults emerge in July through August to mate and lay eggs. The adults, rarely observed, are small, brownish moths (Fig. 3). Larvae are generally dirty white caterpillars, with some pink or green coloring. They overwinter underneath bark scales. They become active in mid to late April and May and tunnel into the tree where



Figure 1. Sap masses caused by Zimmerman pine moth larvae.  
Minnesota Department of Natural Resources,  
[www.forestryimages.org](http://www.forestryimages.org)



Figure 2. Girdling of branch whorls by Zimmerman larvae creating limb breakage.  
Minnesota Department of Natural Resources,  
[www.forestryimages.org](http://www.forestryimages.org)

it feeds for several months. Masses of gummy sap forms in these wounds. Larvae continue to feed into July. Once full-grown, they pupate in cocoons in the bark. Pupation takes 15 to 23 days.

### MANAGEMENT

Reduction of environmental stresses on trees helps prevent the problem. Mulching and providing adequate water and fertilizer can accomplish this. Avoid pruning Pines in August, as this can attract moths. Remove any pitch masses already on the trees before August so moths aren't attracted to them for egg laying.



Figure 3. Adult Zimmerman pine moth.

Whitney Cranshaw, Colorado State University, [www.forestryimages.org](http://www.forestryimages.org)

Measures involve chemical application. Bifenthrin or Permethrin should be used to drench the trunk and branches at the end of April. Mid to late April is the best time for treatment because caterpillars become active and crawl out of larval chambers onto the tree trunk. One more application should be done in August to kill young caterpillars that hatch from the eggs. Trees with extensive dieback should be removed and destroyed before late July.

Due to numerous pesticide labels and/or label changes, be sure the product label includes the intended use prior to purchase or use. Please read and follow all pesticide label instructions and wear the protective equipment required. Spraying pesticides overhead increases the risk of exposure to the applicator and increases the likelihood of drift to non-target areas. Consider the use of a commercial applicator when spraying large trees due to the added risk of exposure and equipment needs. The mention of a specific product name does not constitute endorsement of that product by the South Dakota Department of Agriculture.

For further information contact your nearest South Dakota Division of Resource Conservation and Forestry office. Hot Springs 605-745-5820; Lead 605-584-2300; Mitchell 605-995-8189; Pierre 605-773-3623; Rapid City 605-394-2395; Sioux Falls 605-362-2830; Watertown 605-882-5367.

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