

ZIMMERMAN PINE MOTHS—*Dioryctria ponderosae*, *D. tumicolella*, and *D. zimmermani*

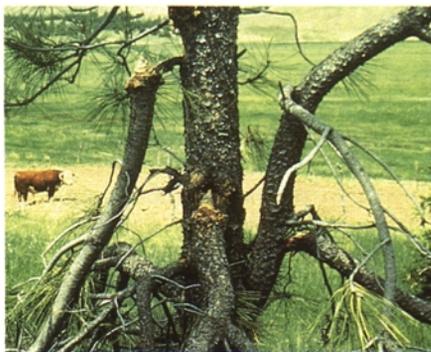
HOSTS: Austrian, ponderosa, and Scotch pines

IDENTIFICATION, LIFE CYCLE, AND DAMAGE: Mature *D. ponderosae* larvae are creamy-white with dark heads and are about 22 mm long. *D. tumicolella* and *D. Zimmermani* larvae are pinkish-brown with several rows of dark spots, and, when mature, are about 25 mm long. Moths of these species are gray and black with wingspans of 25 mm to 30 mm.

The life cycle of *D. ponderosae* lasts 14 to 24 months. This species overwinters as a second, third, or fourth instar larva in its gallery. *D. tumicolella* and *D. zimmermani* have one-year life cycles and overwinter as young larvae under bark scales. *D. tumicolella* and *D. zimmermani* moths emerge in August (Nebraska), while *D. ponderosae* moths usually emerge in June and July. Adults of these species lay eggs singly under bark scales on the trunk and large branches, frequently at or near wounds or sites of previous attacks.

Larvae of these species mine under the bark, girdling branches and trunks. Masses of reddish pitch ooze from the entrances to larval galleries, especially where branches join the main stem. Infested branches may bend downward or break off at the main stem, especially following heavy snows. Trees may die after repeated infestations.

CONTROL: To kill *D. tumicolella* and *D. zimmermani*, drench stems and large branches with chlorpyrifos, dimethoate, or acephate during the second or third week of April, or inject (implant) acephate into the trunk in late April. To kill *D. ponderosae*, drench stems and branches as above, but during the first and last weeks of July. Remove and burn or debark heavily infested trees.



Zimmerman pine moth damage



Zimmerman pine moth pitch mass



Zimmerman pine moth larva