

Sunflower Bud Moth



The Sunflower bud moth (*Suleima helianthana*) is a relatively small moth, belonging to a family of moths called Tortricidae, of which the larvae of many species bore into plant tissue. Hosts of sunflower bud moth include wild and cultivated sunflowers, and common ragweed. Sunflower bud moth usually do not cause high levels of economic loss in sunflowers, however, they can occasionally increase to levels of economic importance. Their presence is usually first detected by the presence of frass (insect excrement) around an entrance hole either in the stalk or the back of the sunflower head, after the larvae have bored into the plant.

Identification

Adults have a wingspread of about 16 to 18 millimetres (0.63 inches). Each gray-brown forewing has two dark transverse bands. One band extends across the middle of the wing, and the second band is located near the wing tip (Figure 1). Wings are folded over the body when at rest. Do not confuse the adults with those of banded sunflower moth, which also occur on sunflowers, and can look similar in some aspects.



Figure 1. Sunflower bud moth adult

Larvae have a dark head capsule with a smooth, cream-colored body (Figure 2). They develop through 5 instars, each taking about 4 to 6 days. They reach 8 to 11 mm when fully grown.



Figure 2. Sunflower bud moth larva



Figure 3. Sunflower bud moth pupa

Lifecycle

Two generations of sunflower bud moth are produced per year in Manitoba. They overwinter as larvae within sunflower residue at the base of plants, and pupate in the spring. Adults emerge during the last week of May to mid-

June. Adults live for about 11 days. A few days after adult emergence, eggs are deposited in leaf axils or on the terminals of immature sunflowers, or on the receptacle (head) of mature sunflowers. Eggs develop in approximately 1 week.

The hatched larvae begin tunneling into the sunflower plants. Larvae keep their burrows open, and continually push frass (insect excrement) to the entrance. As the larvae grow, black frass accumulates at the entrance of the burrow (Figures 4 and 5). Mature larvae pupate within the sunflower plant. Pupae occur at the opening of the entrance holes formed in the stem or head tissue so that adults can emerge easily. The second generation adults appear in July and August.



Figure 4. Frass at entrance of burrow.



Figure 5. Frass at entrance of burrow.

Scouting Techniques

Adults may be seen resting on plants during the day.

The presence of frass around entrance holes, either in the stalk or the back of the sunflower heads, indicates that larvae are already present in the plant. By splitting the sunflower plant near an entrance hole, the larva inside may be able to be detected.

Populations can be higher in the margins of fields, compared to the interior of the field.

Economics of Feeding

Economic thresholds have not been developed for sunflower bud moth.

When egg laying occurs in the early reproductive stages of the sunflower plant, flower buds are the preferred egg laying site, which can result in deformed heads. Although stem feeding from sunflower bud moth larvae can occasionally result in stalk breakage, this damage is not highly economical. Economic damage can be caused by larvae burrowing into unopened buds and preventing proper head development.

Control Tips

Insecticides: No insecticides are registered for control of sunflower bud moth.

Cultural Controls: Research in North Dakota found that later planting dates (early to mid-June) reduced the percentage of heads damaged by sunflower bud moth compared with earlier planting dates (mid to late-May).

Biological Controls: Three species of parasitic wasps were found attacking sunflower bud moth in the Red River Valley.

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