

Winter cutworm, *Noctua pronuba*: First report of economic damage in Michigan

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Noctua pronuba caterpillars were found in large numbers in the fall of 2007 in central and northern Michigan; extension agents reported thousands of caterpillars around homes and in hay fields. The extensive defoliation of hay is the first confirmed report of economic damage attributed to this insect in the U.S.

The adult of this species is known as the yellow underwing. It is native to Europe, where it is one of the most common Noctuid moths. In 1979, this species was found in Nova Scotia. Adults are strong fliers, thus it spread rapidly across the northern U.S. Moths are night-active, found commonly around lights in the later summer and fall.



Noctua pronuba caterpillars are sometimes called winter or snow cutworms. They are closely related to other cutworm species found in agricultural fields, feeding at the base of plants and sometimes moving up onto foliage. In large numbers, caterpillars move across fields and roads, similar to armyworm. However, unlike other caterpillar species winter cutworm is very cold tolerant, emerging even in the winter to feed. Thus if a large cutworm-like caterpillar is found late in the fall or during the winter, it is likely *Noctua pronuba*.

Identification of Caterpillars

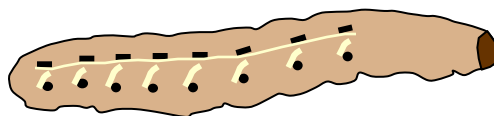
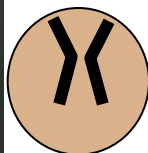
Body color

- ❖ varies from light (A) to dark (B) brown

Pattern on each body segment:

- ❖ Black dashes down back (C)
- ❖ Light band under the dashes
- ❖ White backward-slash on side
- ❖ Black dot in front of each slash

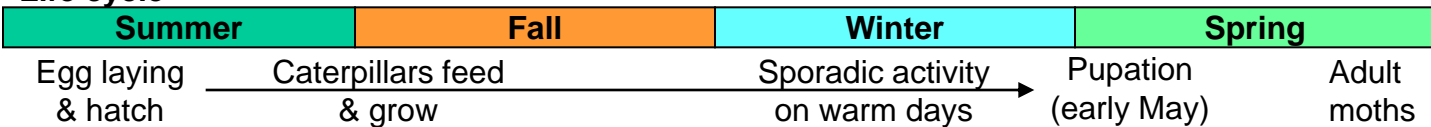
Markings on head:



Drawing showing patterning and actual size of full-grown larvae (roughly 2.5-3 inches)



Life cycle



Damage reported in fall 2007

The host range of *Noctua pronuba* is wide and includes beets, cabbage, carrot, grape, grasses, lettuce, potato, strawberry, and tomato as well as numerous ornamental plants and weeds. In Michigan, feeding was reported on alfalfa and grass hay, Swiss chard, squash, and sugar beets.



Large numbers of caterpillars were reported around structures. Those pictured above accumulated on a plastic ag bag covering stored silage in Lake Co.

Noctua pronuba defoliation of alfalfa (left).



Damage to a hay field in mid-October in Oceana Co., MI. Larvae moved across the field, completely defoliating plants & leaving bare ground (right).



In legume-grass mixtures, larvae prefer to feed on the alfalfa portion of the stand, stripping leaves and leaving the stems. Don't confuse this defoliation with frost damage, which would leave brown leaves.

Impact in Spring 2008

Late season defoliation of established alfalfa stands may deplete root reserves, reducing spring regrowth, or reduce stubble that traps snow, increasing winter injury. In general in the spring of 2008, grass crops (such as rye) were much more affected – in fact, killed - by fall cutworm defoliation compared to alfalfa. An exception appears to be new alfalfa stands planted the previous spring with an oat companion crop. These young alfalfa stands did not green up and were thin, with weed problems that likely will reduce stand life. The oat crop may attract high numbers of egg-laying in July and early August, increasing larval populations in the fall.

Management

There are no thresholds for winter cutworm in alfalfa or hay fields, but we suggest following guidelines for armyworm management (4 to 6 per square foot). Check labels, because insecticide choices differ depending on if the stand is primarily alfalfa or a legume/grass mixture. Since the cutworms move from field to field, a border treatment may be possible.