

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

CDD #2007-06	Howard Russell Diagnostic Services Michigan State University	Chris DiFonzo Entomology Department Michigan State University	Additional information from: J. Lindquist, Osceola Co. N. Myers, Oceana Co J. O'Donnell, Wexford Co. W. Pett, Dept of Entomology
-----------------	---	--	---

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 one of the first confirmed reports 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*.

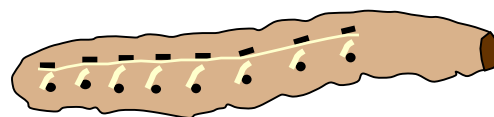
Identification of Caterpillars

Body color

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

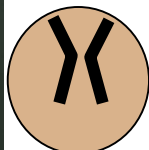
Pattern on each body segment:

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



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

Markings on head:



Life cycle

Summer	Fall	Winter	Spring
Egg laying & hatch	Caterpillars feed & grow	Sporadic activity on warm days	Larvae mature pupate Adult moths

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. These accumulated on a plastic ag bag covering stored silage in Lake Co.



Feeding on Swiss chard in a hoop house at the MSU Student Organic Farm, October 2007. The chard was unmarketable due to defoliation as well as insect excrement (frass) on leaves.



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 and Management in hay fields

The impact of caterpillar feeding in the fall likely depends on local weather conditions after defoliation. If mild temperatures continue, the alfalfa may regrow, depleting root reserves and reducing spring regrowth and yield. If temperatures turn cold and alfalfa does not regrow, there is little stubble to trap snow, increasing the chance for winter injury. Feeding is of even greater concern in new seedings than in established stands.

There are no thresholds for winter cutworm in 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.

