

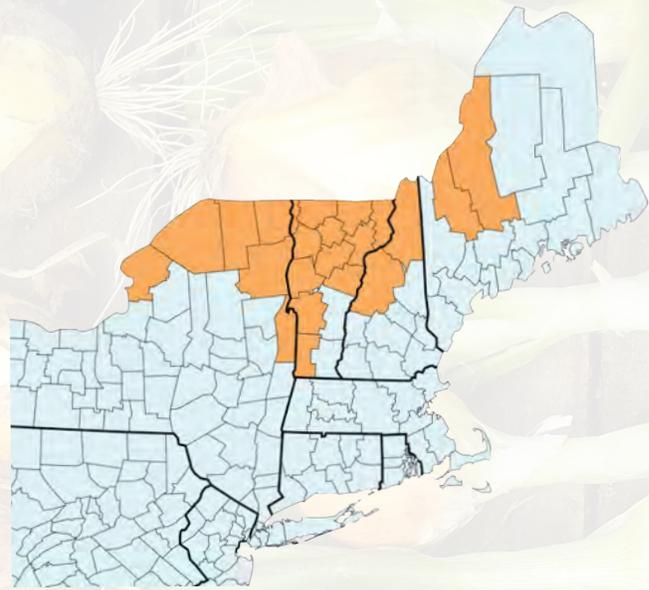
Leek Moth

Acrolepiopsis assectella Zeller

Identification and Management

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For more information go to:
go.uvm.edu/pests



Leek moths (*Acrolepiopsis assectella* Zeller) are a pest of Allium vegetables, including leeks, garlic, onions and shallots. Native to England, the moths were first detected in Canada in 1993 and eventually identified in the United States in 2009, in Plattsburgh, NY. As of 2013, they have been found in Northern New York and Northern New England.

Leek moths feed on the leaves, and stems of Allium vegetables. Although leek moth damage doesn't usually kill the plants, their physical damage significantly effects the marketability of the crops. Minor damage can cause significant economic loss to the producers of some Allium vegetables.

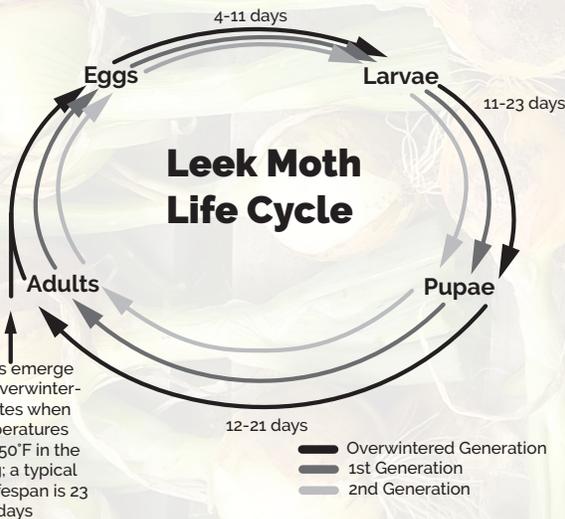
An adult leek moth is brown speckled with white and black spots. It has a distinct white triangle halfway down its outer wings that is in the middle of their back when the moth is not in flight. It is about 3/8" (10mm) in its full grown size.

The leek moth eggs are white, iridescent and 1/64" (0.4 mm) in length, making them incredibly hard to spot.

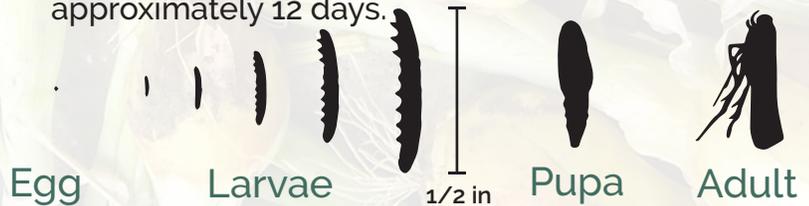
The Larvae of a leek moth are slender, creamy yellow in color with a brown head. They also have eight small, grey spots on each abdominal section. They go through five larval stages and in their fully mature larva state they are about 1/2" (13mm) in length. The male larvae also have an orange spot visible on their back.

The leek moth pupa is reddish brown and covered in a tan, net-like cocoon. They are often found on the stem or foliage of the host plant, but occasionally is on soil surface.

The adult leek moth emerges from their overwintering sites when spring temperatures reach 50°F. Adult leek moths typically live for 23 days and start mating within the first 24 hours after overwintering. Eggs are laid 2 to 6 days after mating and female leek moths can lay around 100-200 eggs in up to 28 days. The eggs hatch after 7 days of being laid and turn into larvae, who fully develop in 11 to 23 days. After developing the larvae spin their cocoons and adult leek moths emerge after approximately 12 days.



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Leek Moth Damage

Since leek moths are nocturnal and hard to see during the day, spotting their damage is the best way to detect them. Early leek moth injury to Allium vegetables first appear in June and can be seen in following generations through September.

Leek moth damage, often called “window-paneing,” leaves the outer membrane intact. On Alliums with hollow leaves like onions, chives and shallots, leek moth larvae tunnel their way into the hollow leaf and feed “internally.” They leave the outer membrane of the leaf intact which causes telltale windowpane damage.

To find larvae and larvae damage, it is best to split open the damaged leaves and look for visible debris, frass, or larvae. Even after larvae have left to pupate, the debris will remain.



Leek Moth Management

Pre-Harvest Strategy

Pre-harvest strategies for leek moth control in organic systems are largely dependent upon the type of allium that is being grown and the size of the farm/garden operation. Leeks are far and away the most susceptible allium to leek moth damage. Feeding from leek moth caterpillars can lead to significant yield reductions in leeks. Because garlic and onions are generally harvested for their bulbs, leek moth feeding damage tends to be less of a concern in these crops, as the damage to the above-ground foliage does not lead to reductions bulb size or yield.

For smaller plots, row cover or exclusion netting can be an effective strategy for reducing leek moth impacts by directly reducing exposure to egg laying female moths. Chemical applications are typically well-suited for larger growing areas and are best applied 7-10 days following peak moth flights, which can be monitored using traps baited with pheromone lures. In addition, research has shown that the timely release of the parasitoid wasp, *Trichogramma brassicae*, can significantly reduce leek moth damage in leeks and other alliums.

For look-alike damage:

go.uvm.edu/lookalike

Post-Harvest Strategy

The primary concern for garlic and onion growers is the potential damage to the bulbs that may occur during post-harvest curing and/or storage. Damage during curing and storage are generally the result of larvae being brought into curing and storage area following harvest. A simple low-risk strategy for reducing the prevalence of leek moth larvae in these areas is to remove as much of the foliage as possible prior to curing. This “topping” strategy leaves larvae in the field where they no longer have access to the bulbs. Research has also shown that topping prior to curing or storage does not affect bulb quality or shelf life.



Graphics by:
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