

Vegetable Pest Alert

April 22, 2023

Allium leaf miner



Allium leaf miners are active- spotted this week in scallions at a farm in Woodbridge Connecticut. The first flight (overwintering population) has just begun in Connecticut, and will end in May. The second flight does not begin until September and typically extends into early October.

Allium crops, including leek, onion, shallot, chives, garlic, and green onion are susceptible to this pest. Some species of wild onion and ornamental alliums may be hosts as well, but the full host range is currently unknown.

Figure 1. Adults lay eggs in the top of an Allium leaf making punctures. Scout for characteristic oviposition

marks, as displayed in the image.

The larva mine the leaves, creating tunnels of damage as they eat. These tunnels provide good entryways for fungal and bacterial pathogens to cause more damage to the plant. Larva will move down to the bulb, where they pupate either in the plant or drop into the soil.

The removal of infected host plants and other allium residues from earlier harvested alliums is an important practice for reducing potential outbreaks in fall allium crops. Insect exclusion netting or other types of row covers can effectively exclude ALM flies if securely applied before flight begins. Foliar chemical applications have also been shown to be effective for reducing ALM damage. Entrust, Radiant, Assail, and Scorpion examples of some labeled pesticides for this pest.

Beet leafminer

Beet leafminer larvae are also active—scout any uncovered beet, chard, or spinach plantings. They attack crops in the family Chenopodiaceae (chard, beet, and spinach).



Figure 2. Beet leafminer injury, eggs, and larva. Female flies lay oblong white eggs (<1mm) in neat clusters on the underside of the leaves. Eggs hatch in 3-6 days. The larva tunnels between the layers of a leaf eating everything but the epidermis. Early damage is a slender, winding 'mine', but later these expand and become blotches on the leaves. Inside the mine is a pale, white larva/maggot. The larvae may migrate from leaf to leaf down a row. They become fully grown in just a few weeks and drop into the soil to pupate. The entire life cycle is 30-40 days. There are three to four generations per season.

A commercially available biological control, the tiny wasp parasitoid, *Diglyphus isaea* has been known to control beet leafminers. They work best in warm weather. Spinosad (e.g. Entrust) plus a spreader-sticker to aid in leaf penetration provide good control. It will be most effective if applied before eggs hatch and larvae enter the leaf.

Deep plowing in early spring or fall to destroy infested weeds and plant material can reduce the severity of leafminer outbreaks. Covering susceptible crops with floating row cover to exclude adult flies from laying eggs may also help. Another best practice is thorough harvesting where all

leaves are removed, as well as destroying crops at the end of harvest to reduce the egg and larval population. Alternate weedy hosts such as pigweed, lamb's quarters, plantain, chickweed, and nightshade should be destroyed to reduce overwintering populations.

Plan for pest monitoring:

Corn earworm (CEW) moths migrate annually into the Northeast, traveling north on storm fronts, and may arrive anytime from late June through September. Monitoring moth flight with pheromone traps is key to successful season-long control, because it enables farms to respond quickly to changes in flight and to avoid unnecessary sprays. *Heliothis* net traps baited with Hercon *Heliothis zea* pheromone lures are commercially available and widely used in the region. Place traps in blocks with fresh silk and count moths twice weekly to monitor average nightly catch. Replace lures every 2 weeks and move traps to a block with fresh silk as soon as silk dries.

European corn borer (ECB) is a resident pest that has 2 generations per year in southern and central New England. Growing degree days (GDD) with a base temperature of 50°F may be used to predict the beginning of moth flight (374 GDD), first eggs (450 GDD), and peak flight (631 GDD). Traditionally, ECB flight have been monitored with 2 Scentry *Heliothis* net traps baited with either a New York E (II) or Iowa Z (I) lure, placed at least 50' apart in weedy borders of corn fields with the bottom at weed height. Both types of lures are needed in New England because both E and Z strains are present. However, in the last few years, a new strain of ECB (hybrid between E and Z) has been captured in NY using hybrid lure. Check traps once or twice per week and replace lures every 2 weeks.

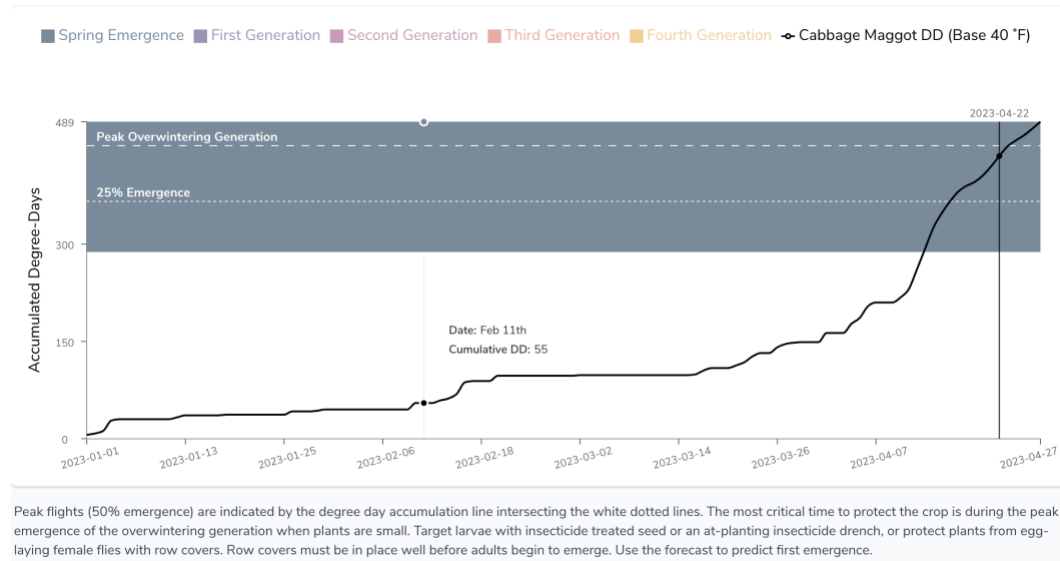
The fall armyworm (FAW) does not overwinter in New England. Infestations result from moths carried northward on storm fronts from mid-July into September. Monitor fall armyworm moth flight with a bucket trap (e.g., Universal Moth Trap or Multiplier traps) with a lure clipped under the lid (Scentry 4-component lure is recommended) and a vapor strip placed inside the trap. Hang the trap on a stake at plant height in whorl stage corn. Identify and count FAW moths at least weekly. Flag the location well and move the trap to younger corn at tasseling. Replace the lure every 2 to 4 weeks, and the vapor strip every 6 to 8 weeks.

Squash vine borers (SVB): Monitor with a Scentry *Heliothis* pheromone trap from early June through early August. Make 2 to 4 weekly applications if more than 5 moths per week are captured. Timing is very important.

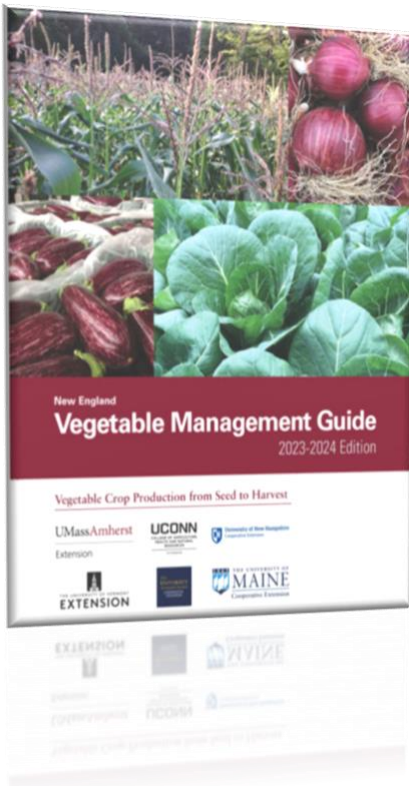
I have some funds to purchase traps and lures and would like to work with commercial growers to monitor above-mentioned pests in their farm. If you are willing to work with me to make our overall pest monitoring robust, please email me at shuresh.ghimire@uconn.edu with the acres of sweet corn and/or squash you plan to grow this year and your town.

Pest forecast tool suggests cabbage maggot are emerging now!

The Network for Environment and Weather Applications (NEWA) provides web-based apps such as [Degree Day Calculator](#) and [Pest Forecast Models](#) that can be used for IPM and crop production decisions. An example below is a cabbage maggot forecast. Adult flights (emergence) can be predicted based on degree-day (base 40°F) accumulations.



2023-2024 New England Vegetable Management Guide (hardcopy) is available to purchase



[online](#). This is a comprehensive guide to current production and pest management techniques for commercial vegetable crops. There are in-depth sections on cultural practices, vegetable transplant production, integrated pest management for insects, weeds and diseases, and on individual vegetable crops. Fertility and pesticide information has been fully updated for both organic and conventional production.

Reminder- Facebook group for vegetable growers

Just to remind new people on the email list, we have a private Facebook group [“UConn Extension- Vegetable IPM”](#) for Connecticut Vegetable growers specifically commercial producers to use it as an interactive and useful resource. Feel free to join the group if not already done and share photos (insects/diseases), questions, ideas, etc. that may be helpful to you and other growers!

If you have something you need looked at regarding field and high tunnel vegetable production issues, please contact shuresh.ghimire@uconn.edu. I look forward to working more closely with you this season.

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