UCONN | EXTENSION

Vegetable Pest Alert

Updates and Scouting Reports from the Field April 11, 2025

What to be on the lookout for…

An allium leafminer (ALM) fly left oviposition marks and feeding scars on a green onion. *Photo: Brian Kelliher, Easy Pickin's Orchard, Enfield CT*

Cabbage root maggots (CRM) damage plant roots interfering with water and nutrient uptake. *Photo: UC ANR*

Allium Leafminer

Allium leafminers (ALMs) are currently active. Earlier this week we received our first report of ALMs in a crop of green onions growing in a high tunnel on a farm in Enfield, CT. 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.

Chives with rows of white dots, evidence of ALM oviposition. Photo: Cornell University, Department of Entomology

This first flight (overwintering population) of ALMs will end in May. The second flight does not begin until September and typically extends into early October. Adults lay eggs in the top of an allium leaf making puncture wounds. Scout for characteristic oviposition marks .

The larvae mine the leaves, creating tunnels of damage as they eat. These tunnels provide entryways for fungal and bacterial pathogens that will 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 effectively reduce ALM damage.

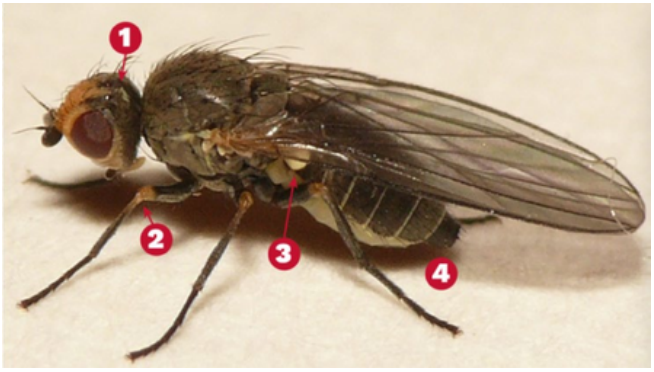

Photo: Cornell University, Department of Entomology.

ALM adults are larger than other vegetable leafminers in North America.
Key Identifying Features of ALMs:

1. Yellow areas (frons) on head
2. Yellow areas on the joint of the leg
3. White haltere (modified hindwing) in true flies
4. Ventral end of abdomen

Entrust, Radiant, Assail, and Scorpion are examples of some labeled pesticides for this pest. Research from Cornell Cooperative Extension found that Entrust (Spinosad) [Radiant is a semi-synthetic derivative of Spinosad] at the 6 oz/acre rate and M-Pede at the 1%-1.5% v/v solution rate effectively controlled allium leafminer when applied 2 times, 2-4 weeks after first detecting allium leafminer emergence. See the New England Vegetable Management Guide for more spray information.

Cabbage Root Maggots

CRM eggs are white, elongated, just over 1 mm long, and are laid in soil at the base of plants. Photo: UMass Extension Vegetable Program

Blooming winter cress is an indicator of the first peak flight of CRMs. Photo: UMass Extension

Be on the lookout for cabbage root maggot (CRM) at this time of year. It is a pest of all types of brassicas, but is particularly damaging in cabbage, broccoli, Chinese cabbage, radish, turnips, and rutabaga. Even light infestations can kill small seedlings and transplants, delay plant development, or render root crops like radish unsalable; high populations can kill older plants or reduce yield.

Flies overwinter as pupae near roots of fall brassica crops and weeds. A good indicator of the first peak flight (50% emergence) is blooming of the yellow rocket (aka winter cress) which is at about 450 growing degree days (GDD), base temp: 40°F. See picture on the left for reference.

Scout transplant trays before setting out plants in the field. A pencil is a good tool to gently stir the soil at the base of the plant and look for eggs. Yellow sticky cards placed near brassicas will capture adult flies. In the field, finding an average of 1 egg per plant can indicate a damaging population. Damage includes wilting, leaf discoloration, and plant death in leafy and heading crops and tunneling in root crops.

Row covers or insect netting will protect the crops from cabbage maggots, flea beetles, and many other pests if the pests are not emerging from the same location. Crop rotation is very important.

CRMs overwinter as an egg-shaped pupa burried in the soil. Here you can see maggots in the larval and pupal state. Photo: J.F. Dill, UMaine

Soil drenches of Coragen, Verimark, Radiant, or Entrust can control the cabbage root maggot if applied when eggs are first seen at the base of plants. Research done by Cornell University in 2022 found Verimark applied as a tray drench resulted in excellent control, and directed sprays at the base of the plant were the least effective. Verimark application as a soil drench also controls brassica flea beetles. Once larvae have been feeding in the roots for several weeks, chemical control is difficult.

See the New England Vegetable Management Guide for pesticide options and restrictions in the application.

Table 1. Maggot Comparative Table

	Seed Corn	Cabbage	Onion
Host	40 different plants, large germinating seeds, seedlings (including allium and brassica!)	Brassicas	Alliums
First peak flight	360 GDD base 40°F	452 GDD base 40°F	735 GDD base 40°F
Adult	Small: ~ 3mm, 3 stripes on the thorax	Medium: ~5mm, 2 stripes on the thorax.	Large: ~6mm.
Eggs	Hatch in 2-4 days	Hatch in 7-10 days	Hatch in 2-5 days
Larvae (maggot)	Active for 3 wks	Active for 2-4 wks	Active for 2-3 wks
Pupae	In soil for 1-2 wks before next gen adults emerge (last generation pupae overwinter)	In soil for 2-3 wks before next gen adults emerge (last generation pupae overwinter)	In soil for 3-4 wks before next generation adults emerge (last generation pupae overwinter)
Notes	Short, 21-day lifecycle. 3 gen per year. Usually only spring generation is damaging.	Long, 60-day lifecycle. 4 gen per year. Spring and Fall generations most damaging.	Medium, 30-day lifecycle. 3 generations per year. Usually only spring generation is damaging.

Growing Degree Days for Management of Insect Pests

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.

Growing degree days (GDD's) are a unit of measurement used to calculate the amount of heat required for an organism to develop into the next life stage. They may be thought of as accumulated heat units as they are an accumulated product of time and temperature between developmental thresholds per day. A key piece of calculating growing degree days for a specific insect is the insect's developmental threshold.

For example, the cabbage maggot forecast for spring 2025 can be calculated using these tools. Adult flights (emergence) can be predicted based on degree-day (base 40°F) accumulations. For more information on how to incorporate GDD calculations in your pest management, visit here's a helpful link from our colleagues at UMass Extension or contact UConn's Vegetable IPM Team for assistance.

Row Cover to Expedite Production

Row covers have been found to enhance yield of crops, primarily through temperature and humidity moderation. Their synthetic, spun-bonded fabrics are placed over crops to create a microclimate, typically to retain heat, increase humidity, exclude pests, and protect sensitive crops from frost or freeze. They can be used as "floating" row covers that are placed directly over crops such as brassicas, lettuce, greens, onions, and sweet corn, or draped and secured over wood, metal, or PVC supports for crops that have tender and exposed growing points such as tomatoes, peppers, and vining crops.

Covers vary in their insulation characteristics, but they can generally add 3 to 5 degrees to the ambient air temperature, helping to protect plants against low temperatures. If temperatures will dip below freezing, be sure to keep plant leaves from coming into contact with the cover as this can cause them to freeze.

Medium and light weight row cover can be used during warmer periods when coverage is needed for pest control, and light weight cover can be kept on from transplant to harvest, dependent on ambient temperatures. Row covers must be removed at bloom for fruiting crops to encourage bee or wind pollination. The efficacy and durability of row cover is contingent upon its proper use.

Drawbacks of using row cover can include excessive heating on warm days, the row cover's ability to tear or rip easily, or the way it can get picked up by wind either during application or if not properly secured. Pests can also become trapped beneath cover or overwinter in the soil and emerge under cover without you being able to notice. Weeds similarly benefit from the use of row cover. Removal and replacement of the cover to scout for pests or hand weed is necessary for sufficient control.

When deciding on whether to incorporate row cover in your operation, it is important to note the additional costs incurred. These include labor costs for administering and maintaining the row cover. The lifespan of row cover typically only extends between 1-3 seasons depending on wear and tear.

Direct Seeding Corn in April

There are many ways to produce early sweet corn. The most widely used system is to wait until temperatures have risen above 50°F. Once temperature is met, growers will go out every few days to plant corn. Since frost doesn't fatally impact corn, seed planted in mid-April can survive cold nightly temperatures throughout spring and be ready for harvest in July. However, with even more targeted or intensive management practices, farmers around the state have found ways to increase early pay offs, giving them a steady supply of corn from the 4th of July through September.

Sweet corn growing under plastic at Gresczyk Farms. Photos: Bruce Gresczyk Jr. Presentation from UConn Extension's 2025 Vegetable and Small Fruit Growers Conference in 2025.
Slides available online: https://ipm-cahnr.media.uconn.edu/wp-content/uploads/sites/3216/2025/01/Sweet-Corn-at-Gresczyk-Farms.pdf

Gresczyk Farms in New Hartford, CT grows nine varieties of sweet corn across 65 acres. In 2024, they harvested sweet corn daily from July 1 through October 15. Their secret? Direct seeding corn and covering it with plastic to create a greenhouse effect in their fields. This enables them to reduce the amount of stress their young plants undergo early in the season due to cold temperatures. The plastic layer provides warmer air and soil temperatures, supporting the early and steady growth of their crop.

Sweet corn growing on black plastic at Cold Spring Brook Farm. Photo taken from their Facebook page. For more info on how they grow corn, visit: https://ipm.cahnr.uconn.edu/transplanting-sweet-corn-at-cold-spring-brook-farm/

Cold Spring Farm in Berlin is another CT farm working hard to extend the growing season for locally grown corn. They use a combination of techniques to "push" sweet corn maturity and yields. They transplant sweet corn into raised beds covered with black plastic mulch, then cover the transplants with floating row cover. When necessary, the beds are irrigated for frost protection. If these inputs seem too expensive for sweet corn, then you will probably be surprised to hear that they keep transplanting this way until mid-May, with mid-season and late-maturing varieties. Due to limited field space, they use this technique to produce high-quality, high-yield sweet corn for their retail market while minimizing the land dedicated to this crop.

A Presentation on Early Season Vegetable Pests in Connecticut is on YouTube!

Watch here

Upcoming Events

FREE!

Climate Mitigation Field Days

Featuring:

- **Irrigation Management, Systems:** Trevor Hardy, Brookdale Orchards, NH
- **Climate Mitigation Strategies, Water Quality:**
  - Kip Kolesinskas, Consulting Conservation Scientist
- **Climate Mitigation and Fruit:**
  - Evan Lentz, UConn Extension Fruit Specialist
- **Climate Mitigation and Vegetables:**
  - Shuresh Ghimire, UConn Extension Vegetable Specialist
- **Agency Programs:** USDA FSA, CT Department of Agriculture
- **Crop Insurance:** USDA RMA

When:

Tuesday, April 15
@3:00 p.m.

Wednesday, April 16
@9:30 a.m.

Host Farm:

Gresczyk Farms
860 Litchfield Turnpike, New Hartford, CT
Free dinner included, pesticide credits offered

Bishop's Orchards
New England Rd, Guilford, CT
Free lunch included, pesticide credits offered

Registration:

This in-field program will cover climate adaptation strategies and is FREE of charge, but pre-registration is required for planning purposes.

s.uconn.edu/cmfd2025

Each host farm will discuss their current climate mitigation strategies; presentations will be the same on both days.

Questions?
Contact tolland@uconn.edu; 860-875-3331

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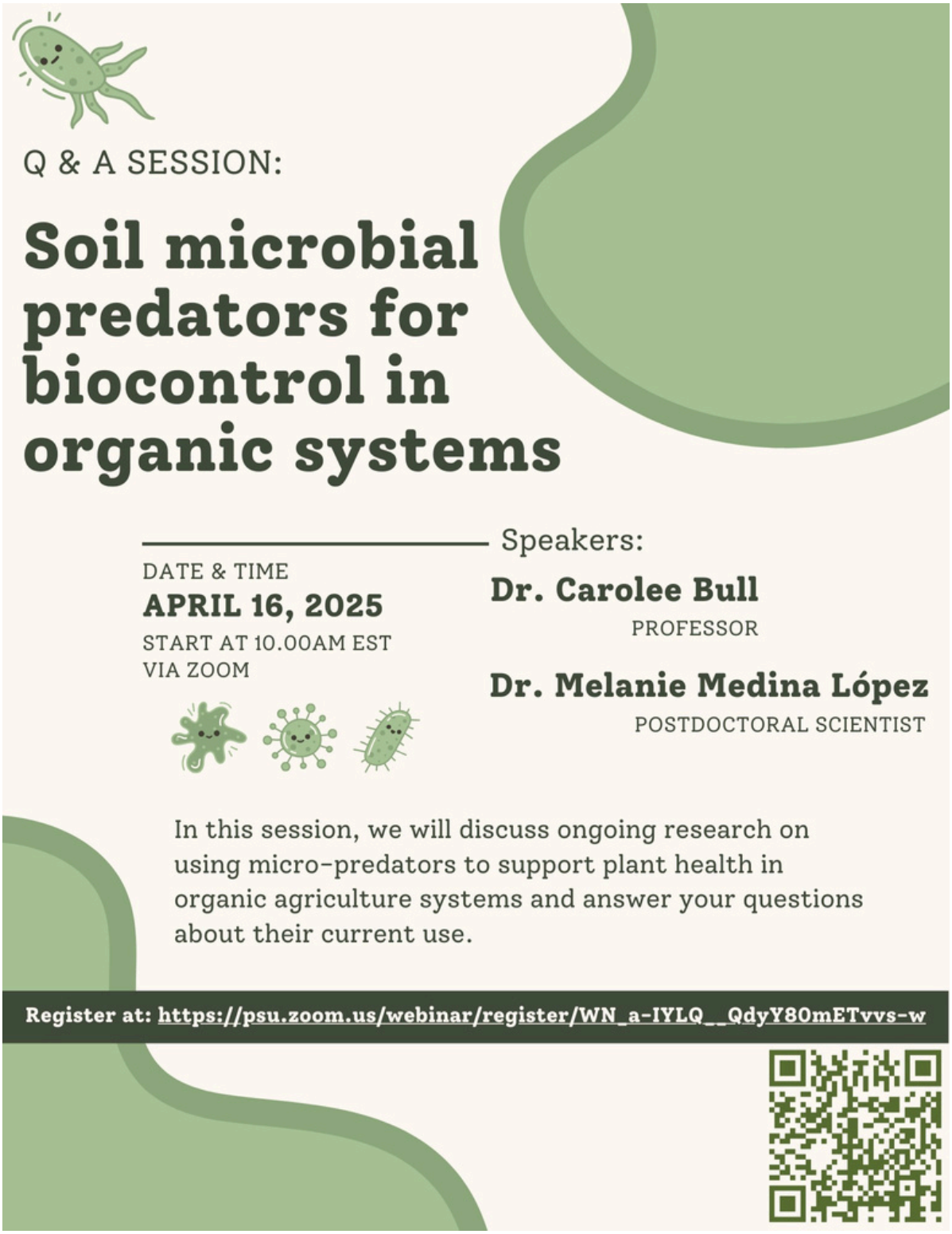
USDA United States Department of Agriculture
Risk Management Agency

This work is supported by the U.S. Department of Agriculture under award number RMA24CPT0013928.

Calling Organic Growers in CT!

A team of researchers from the University of Florida, Penn State, the Connecticut Agricultural Research Station, UC Davis, William Patterson University, and the USDA are studying the role of soil microbial predators in supporting plant health in organic agriculture. Join the conversation and learn more about ways to engage in this important research.



Stay in touch with us!

- **Share what you see:** If you've identified a pest or disease in your field, we're interested to hear from you. We track information from vegetable farmers throughout the state all season long. We're also here to assist with identification, management strategies, and guidance on best practices.
- **Facebook Group:** UConn Extension moderates a private Facebook group specifically for commercial vegetable producers. It is a space to share photos of insects and diseases you find in your fields, ask questions, share ideas, and stay engaged with growers across the state.
  Click here to join: "UConn Extension – Vegetable IPM"
- **Schedule a Consultation:** Is there something in your vegetable fields or high tunnels that is giving you reason for pause? Would you benefit from meeting with an Extension Specialist to provide insight on pest or disease identification, management strategies, and more? If so, please contact our Vegetable Extension Specialist, Shuresh Ghimire, to setup a farm visit. You can email him at shuresh.ghimire@uconn.edu or call the office at 860-870-6933.

The Vegetable IPM Pest Alert Phoneline – Coming Soon!

With the start of a new growing season and the return of our Pest Alert messages comes the return of the Vegetable IPM Pest Alert Phoneline. It will be a convenient alternative for folks who prefer an audio version of our weekly message.

These weekly audio reports will be updated every Friday. Please save and share this number with local growers that would benefit from listening to phone recordings of our pest alert messages: 860-870-6954.

Thank you for reading!

This report was prepared by Nicole Davidow, Outreach Coordinator, and Shuresh Ghimire, Commercial Vegetable Specialist, UConn Extension.

Contact Information

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Vegetable IPM Office: 860-870-6933

Vegetable IPM Pest Alert Audio Recording (coming soon!): 860-870-6954