



UMass
Extension

Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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Sponsors



Ethan Grundberg (pictured) and Teresa Rusineck from the Cornell Extension Eastern New York Commercial Horticulture Program trained the UMass Veg team on scouting for allium leafminer in an on-farm trial in Dutchess Co., NY. Thanks!

PEST ALERTS

Alliums:

Onion Maggot: Peak flight is occurring in southeastern MA now and is predicted to occur in the rest of the state by the end of this week or beginning of next week (Table 1). If you have had maggots active in your onions already, they are likely seed corn maggot which has an earlier emergence of 360 GDD (see [May 10 issue](#) for comparative table).

Allium Leaf Miner (ALM) was found in Berkshire Co., MA on overwintered scallions in a high tunnel, but not on chives, shallots, walking onions, or on any alliums outside of the tunnel. This is the first observance of this pest in MA. ALM was first observed in Pennsylvania in the fall of 2016, and has since spread to many counties in the Northeast (Figure 1, next page). Adults emerged in late April, and will remain active until the end of May. They have an orange-yellow head and are rather lazy (photo next page). Oviposition marks appear in vertical rows on leaves (photo next page). Not all oviposition marks have eggs in them. Flies make the marks and then turn around and suck plant juices out of them. Eggs look like translucent grains of rice within the leaf but are very small and hard to see without a hand lens. Larvae are feeding now (photo next page), creating long, thin

lines - peel open leaves with oviposition marks to find larvae. When scouting in Dutchess Co., NY on Monday, we found 5-6 larvae per infested leaf, but in Berkshire Co., MA we found only one per leaf. In heavily infested leeks scouted in Ulster Co., NY, 100 pupae per plant were found! Larvae move down leaves into necks and bulbs where they cause the most damage, allowing for entry of soft-rot pathogens. The larvae will begin to pupate in late May/early June. They will then remain as pupae in the allium or near the plant on the soil until September, when it is cool enough for them to emerge as adults for a second flight. This second flight is most damaging to leeks, which have a dense mass of tissue for the larvae to feed in. Pupae from the fall generation then overwinter in the field.

Brian Nault of Cornell and Shelby Fleisher of PennState are conduct-

Table 1. Accumulated Growing Degree Days and Onion Maggot Peak Emergence Dates

Location	GDD 40° F	Onion Maggot Predicted Peak Flight Date
Western MA		
South Deerfield	554	5/19
Deerfield	548	5/20
Amherst	549	5/20
Westfield	569	5/18
Central MA		
Leominster	610	5/17
Northbridge	595	5/17
Eastern MA		
Seekonk	645	5/15
Sharon	618	5/16
Waltham	639	5/15
Ipswich	551	5/20
NH		
Hollis	539	5/20
Walpole	456	after 5/20
NY		
Hudson	583	5/18
Castleton	567	5/18

Peak flight for Onion Maggot starts at 613 GDD

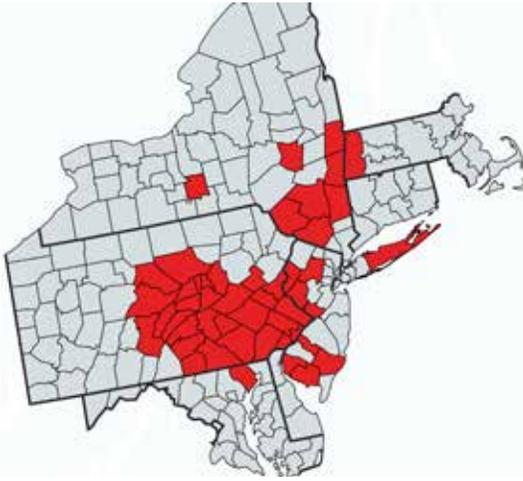


Fig 1. Counties confirmed with allium leafminer

ing insecticide trials this season, so expect results by the end of the year. Agri-Mek (abamectin, IRAC Group 6), Radiant (spinetoram, IRAC Group 5), and Exirel (cyantraniliprole, IRAC Group 28) are labeled for thrips and leafminer management in allium crops. Pay attention to the number of applications allowed per year for both products and do not exceed the labeled allowance. Organic growers unable to use row cover are encouraged to use Entrust (spinosad, IRAC Group 5) at the 2 oz/acre rate. Entrust has some translaminar activity, especially if mixed with a 1%-1.5% v/v solution of M-Pede

(potassium salts of fatty acids) for better penetration of the waxy cuticle once adult feeding has begun.

Allium Downy Mildew was found on an overwintered onion crop in Dutchess Co., NY. The appearance was of a fuzzy sooty mold on the leaf surface. Typically not seen until July, this early infection can cause yearlong problems and may become a recurring issue if onions are allowed to overwinter again. Dithiocarbamate fungicides such as maneb and mancozeb, applied to control Botrytis leaf blight, also provide protection against downy mildew.

Brassica:

Cabbage Root Maggot: Peak flight (50% emergence) ended around 466 GDD, which means MA should be safe from cabbage maggot infestations until the fall! A field in Franklin Co., MA had an 80% infestation last week. The grower has cultivated in this field, which may have helped expose the eggs and dry them out to prevent their development into larvae.

Beets/Spinach/Swiss Chard:

Leaf Miner was found in spinach in Dutchess Co., NY and Berkshire Co., MA this week. Treat before eggs hatch to target larvae as they emerge. Once they enter the leaf, only systemic materials are effective.



Sweet Corn:

European corn borer traps are being deployed in MA, NY, and NH this week and next. 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). Corn started under plastic that survived April's cold, is now 6" tall at one farm in Hampshire Co., MA (photo: A. Flynn).

Tomato:

Bacterial Canker was found in high tunnel tomatoes in Orleans Co., VT. This farm has had bacterial canker before, and proper sanitation can help reduce this issue from year to year. Left over plant tissue in tunnels, stakes, string, and clips can be reservoirs of the pathogen. Bacterial canker is present in tomato stems, which decompose much slower than leaves, allowing it to overwinter in crop residue for up to 3 years. This is much longer than bacterial spot or speck, which only infect tomato foliage.



From top: allium leafminer adult, oviposition scars with long, thin lines created by larval tunneling (photos: Barringer), and larva. (photo:K. Campbell-Nelson)

JOIN THE BRASSICA PEST COLLABORATIVE!!!

What is it?

A NE-SARE-funded project conducted by UMass, UNH, UConn, and Cornell Cooperative Extension of Suffolk County bringing together Extension educators, researchers and growers who are dedicated to finding and sharing new ways to combat brassica pests.

A coordinated new approach to outreach and education focused on managing perennial insect pests. An Extensive research program focusing on ecological, multi-faceted, cost-effective control strategies.



Our goals

Increase farm revenue by reducing crop damage and increasing marketable yield as growers adopt effective, ecological pest management practices. Increase understanding of pest biology and confidence in implementing best management practices and getting control of brassica insect pests.

What does it include?

- **Website:** A clearinghouse of information on pest biology, scouting, management, record keeping
- **Short videos and online workshops:** Short, pest-specific videos and presentations to dig deeper on the most troublesome pests and learn new, effective management tactics
- **Email forum:** Regional, timely discussions among Extension educators, researchers and interested brassica growers including pest alerts, observations, questions, and research updates
- **Facebook Group:** Open to commercial growers and educators in the Northeast to share and discuss relevant pest alerts, observations, research findings, useful resources
- **Field days:** Come out to see our extensive research program on brassica pest management. Field days will be hosted in NY, CT, MA, and NH to showcase and see demonstration plots
- **Grower Collaborators:** Work with the research team to implement a new pest control strategy on your farm and share your results like an on-farm trial—contribute to a regional effort to understand the cost efficiency of various practices

How to get involved?

- Send us your questions! We will use them to prioritize topics for making videos and other resources, just follow this link: <http://bit.ly/growerneeds>
- Sign up for the email forum: <http://bit.ly/bpcforum>
- Use the resources on our website here: <http://bit.ly/brassicapestcollaborative>
- Become a grower collaborator: email brassicapest@umass.edu
Please include farm name, brassica acreage, and crop-pest-control strategy of interest

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This project will involve being asked to be part of research, you can participate in some or all of it!

EVENTS

Twilight Meeting Summer Series

This series of Twilight meetings is an opportunity to learn from fellow farmers and find out what's new in Extension research. A light meal will be provided at each program. We will ask you to RSVP later, but for now, please save the date/s!

Fruit and Vegetable Twilight Meeting

Featuring: Carl Hills and Kimball Fruit Farm's **hydroponic tomato greenhouse**.

George Hamilton, UNH Extension, will demonstrate and discuss proper **boom sprayer calibration** for fruit and vegetable crops.

Sonia Schloemann, UMass Extension, will provide an update on managing **spotted wing drosophila**.

**1.5 Pesticide recertification credits have been approved for this meeting

When: Monday, June 25th, 2018 from 4:00 pm to 7:00 pm

Where: Kimball Fruit Farm, 184 Hollis St, Pepperell, MA 01463

Organic Weed Management

Featuring: Langwater's Kevin O'Dwyer and their flame weeder and leaf mulching techniques. Invited presenters include: Katie Ghantous (UMass Vegetable Weed Technician) with a vinegar weed injector, on-farm trial and information on weed ecology; Sonja Birthisel (UMaine PhD candidate studying Weed Management) with results of her research using occultation and solarization, and farmer Tyson Neukirch with his experiences using silage tarps in a reduced tillage system for weed management.

When: Tuesday, July 24th, 2018 from 4:00 pm to 7:00 pm

Where: Langwater Farm, 209 Washington St., North Easton, MA 02356

UMass Extension Vegetable Program Research Tour and Round Table

Featuring: Sue Scheufele's research on cucurbit downy mildew resistance, pollinator protection in butternut squash, effects of different mulches on broccoli pests, and natural predators of cabbage aphid. Also, Madelaine Bartlett's research on corn genetics and the importance of genetics in crop development and improvement, Omid Zandvakili's research on lettuce nutrition, Kelly Allen's research on Fusarium wilt of basil, presentations on pollinators & agriculture and solar & agriculture, and more! Research presentations will be followed by dinner and a round table discussion.

When: Tuesday, August 14th, 2018 from 4:00 PM to 7:00 PM (Rain date: August 16th)

Where: UMass Crop and Animal Research and Education Farm, 89-91 River Rd., South Deerfield, MA 01373

Reduced Tillage and Transplanters for Vegetable Farmers

Featuring: Farmer Jim Ward and his reduced till vegetable cropping systems which he has practiced for over 10 years with the help of an Unverferth Deep Zone Tiller, Davidian Farm's two-row Monosem vacuum precision planter mounted with Dawn Biologic roller crimpers (first ones in the state!), the UMass Research Farm's grain drill and roller crimper, and Brookdale Fruit Farm's new line of no-till transplanters from Checchi-Magli. There will also be demonstrations on Soil Health with Maggie Payne, Soil Scientist at NRCS.

When: Tuesday, August 28th, 2018 from 4:00 PM to 7:00 PM

Where: Ward's Berry Farm, 614 S Main St., Sharon, MA 02067

Respirator Train-the-Trainer Course for Farmers, Beekeepers, and other employees who need to use respirators

UMass Extension is offering a series of Respirator Train-the-Trainer workshops in 2018. Farmers, beekeepers and other who need to wear respirators, required by pesticide labels, can benefit from the workshop. Participants will learn how to fit test a respirator and select, use, clean, maintain and replace respirators. All handlers must be trained under the EPA Worker Protection Standard (WPS) Respirator Requirement if they apply any pesticide that requires a respira-

tor. Several organic approved (OMRI) pesticides and some miticides used by beekeepers require respirators.

The respirator train-the-trainer workshops are 2 hours long and will be held in Marlboro, Taunton, Hadley, and Marlborough. The registration fee is \$30.00 per person. Participants will receive a Certificate of Attendance, a check list for respirator training, and a fit test protocol. This is an hands on workshop. Bring your respirator or use one of ours.

There is one workshop left in this series. To register via the mail please [click here for the registration form](#). To register online with a credit card (extra \$5.00/person) see below.

When: Tuesday, June 19, 2018 from 1:15 PM to 3:45 PM

Where: Best Western Royal Plaza Hotel, 181 Boston Post Road West, Marlborough, MA 01752

REGISTER HERE: <https://www.regonline.com/registration/Checkin.aspx?EventID=2267202>

THANK YOU TO OUR SPONSORS



FARM CREDIT EAST



Vegetable Notes. Katie Campbell-Nelson, Lisa McKeag, Susan Scheufele, co-editors.

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