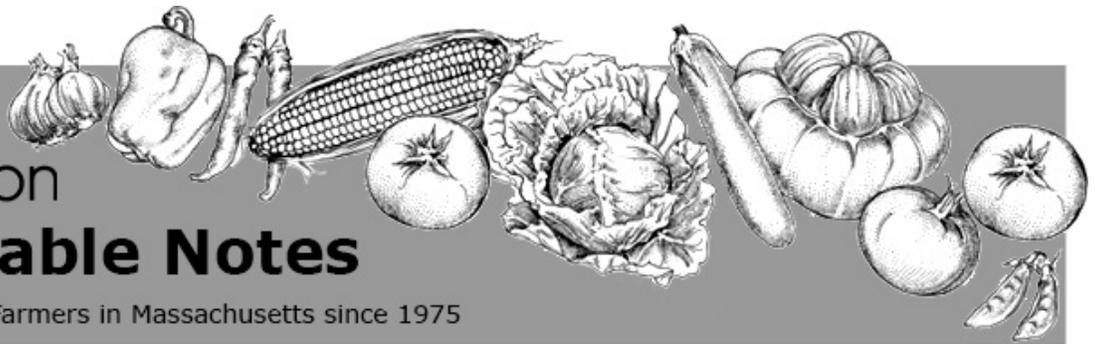




UMass
Extension

Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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Recently hilled potatoes in Hampshire County.

distortion, and can also provide entry points for bacterial diseases that cause bulb rot in storage. Scout for thrips by counting thrips per plant on sets of 3 plants at 10 sites throughout a field, then calculate thrips per leaf. The threshold for chemical control is 1-3 thrips per leaf; organic growers should use the lower 1 thrips per leaf threshold. Labeled conventional materials include neonicotinoids (e.g. Assail, Admire Pro), pyrethroids (e.g. Delta Gold, Declare, Warrior, Pounce, Mustang), spinetoram (e.g. Radiant), and spirotetramat (e.g. Movento). Movento and the neonicotinoids are systemic or translaminar and will work by ingestion; pyrethroids work on contact and will not have long residuals. The most effective OMRI-listed material is spinosad (e.g. Entrust), which can be combined with insecticidal soap (e.g. M-Pede) for increased efficacy. Include a surfactant with sprays unless prohibited by the label.

CROP CONDITIONS

We got almost an inch of rain across the state last night and this morning, which hopefully eased some dry conditions out east. The first summer squash and zucchini is being harvested now, along with early heading brassica crops and strawberries. Potato foliage is sizing up, filling in rows. Farm crews are busy planting, weeding, and harvesting. We're getting to the time in the season where work can start to swallow you up, so prioritize yourselves along with your crops - eat lunch, stay hydrated, and stop at a reasonable hour in the evening. There's always more to do, but it's not worth putting yourself at risk -- take care of yourselves out there!

For those of you out in southeastern MA, we hope you can join us and [SEMAP](#) next Wednesday for a twilight meeting at [Elliot Farm](#) in Lakeville from 4-6pm. We'll be discussing high tunnel tomato fertility, using pre-sidedress nitrate tests in sweet corn, sunflower plantings for pollinators, and sweet corn pest management, and there will be plenty of time after to talk with fellow growers over pizza. This meeting is free and welcome to all—please [register in advance](#) to give us a head count for food. See the events section of this issue for more details, and see you there!

PEST ALERTS

Alliums

[Onion thrips](#) populations are starting to increase after the warm, dry weather last week, but may be knocked back by today's rain, which tends to wash thrips off of leaves. We saw a significant amount of thrips feeding damage on onion foliage at one farm in Hampshire Co. this week. This feeding damage can render crops unmarketable and cause leaf

CONTACT US:

Contact the UMass Extension Vegetable Program with your farm-related questions, any time of the year. We always do our best to respond to all inquiries. **Office phone:** (413) 577-3976 *We are currently working remotely but checking these messages daily, so please leave us a message!* **Email:** umassveg@umass.edu

Home Gardeners: Please contact the UMass GreenInfo Help Line with home gardening and homesteading questions, at greeninfo@umext.umass.edu.

Brassicas

Imported cabbageworm and **diamondback moth** larvae are continuing to feed in brassica crops. Row cover will prevent egg-laying in crops; as the season warms up, consider switching to insect netting that doesn't trap heat as opposed to spun-bonded covers. Kaolin clay (e.g. Surround) will also deter butterflies and moths from laying eggs in the crop. A chemical treatment is warranted if 15% of plants have 1 or more caterpillar in leafy brassica crops (e.g. kale, collards) or in heading crops (broccoli, cauliflower, cabbage) after the head has begun to form. Heading crops can tolerate 35% infestation prior to head formation. Some populations of DBM are resistant to carbamates (Group 1A, e.g. Lannate, Sevin, Vydate) and synthetic pyrethroids (Group 3), so do not rely on these groups alone to control this pest. Bt products (e.g. Dipel for organic growers, Xentari), neonicotinoids (e.g. Asana, Declare, Warrior, Mustang), and diamides (e.g. Exirel, Verimark) will effectively control DBM.

Leaf mining damage in brassica greens at a farm in New York was found to be caused by **Zimmerman's flea beetle** larvae. The flea beetles usually found in brassicas are the brassica flea beetle and striped flea beetle—the larvae of both live in the soil and feed on brassica roots but do not cause noticeable damage. Zimmerman's flea beetle larvae feed within the layers of leaf tissue, like leafminers. We've never seen this pest in MA, so we're curious if anyone has extensive leaf mining damage in their brassicas currently. Let us know if so – umassveg@umass.edu or 413-577-3976. There is also a cabbage leafminer pest and generalist leafminer species that regularly cause minimal damage in brassica crops.

Solanaceous

Colorado potato beetle: Below-threshold numbers of small larvae were seen in potatoes in Hampshire Co. this week, and adults are continuing to mate and lay eggs. Eggplants can remain covered until flowering to exclude adults. In small plantings, larvae, egg masses, and adults can be hand-picked/-squished. For larger plantings, chemical control is likely necessary and is most effective if targeted to kill small larvae. Potato thresholds are 4 small or 1.5 large larvae per plant (once plants are >12" tall, count larvae per stalk instead of per plant). Eggplant thresholds are 2 small or 1 large larvae per plant before plants are 6" tall, or 4 small or 2 large larvae when plants are larger than 6" tall. CPB populations readily develop insecticide resistance, so do not use the same chemical class on successive generations of CPB in the same year. In recent years, we have observed resistance to both neonicotinoids and synthetic spinosyns in New England. Labeled conventional products include pyrethroids, neonicotinoids, novaluron (e.g. Rimon), cyromazine (e.g. Trigard), and diamides (e.g. Verimark, Exirel). OMRI-listed materials include spinosad (Entrust), azadirachtin, pyrethrin (Pyganic), and *Beauveria bassiana* (Mycotrol O, Botanigard), which can be tank-mixed and/or rotated. For organic growers, Entrust is most effective but can only be used 2x on only 1 generation of CPB per season. Other options for organic growers include azadirachtin products (e.g. Aza-Direct, Azatin O, Neemix) or pyrethrin (e.g. Pyganic), and the bioinsecticide *Beauveria bassiana* (Mycotrol O or Botanigard).



Newly hatched Colorado potato beetle larvae.

Solanaceous flea beetles are continuing to feed in eggplant and potato, and on solanaceous weeds. Controls include pyrethroids (e.g. Azana XL, Baythroid XL, Brigadier, Bifenture, Mustang Maxx, Warrior II), and Admire Pro (soil treatment only). If CPB are present, consider a non-pyrethroid. Spinosad (e.g. Entrust) is the most effective material for organic growers but cannot be applied more than 2x consecutively; pyrethrin (e.g. Pyganic) will provide a quick

knockdown of FB for organic growers as well. Row cover or exclusion netting can also be used to exclude FBs early in production, before flowers develop.

Sweet corn

European corn borer larvae are active in sweet corn now.

ECB eggs are laid on the undersides of leaves, and the larvae will bore into stems of whorl-stage corn, and then into the developing tassels. Once the tassel fully emerges, larvae will move down the stalk to feed within the ear. Larvae feeding in the whorl are protected from insecticide sprays, so it's best to wait for tassel emergence to spray. Scout by inspecting 50-100 plants, in groups of 5-20 plants throughout the field. Treat if more than 15% of plants have 1 or more caterpillars present. Practice resistance management with pyrethroids (e.g. Mustang, Warrior) by mixing or rotating with a material from another class. Good options include carbamate (e.g. Lannate, will also control sap beetle), spinetoram (e.g. Radiant), spinosad (e.g. Blackhawk), or diamides (e.g. Coragen, Exirel).

Miscellaneous

Potato leafhoppers are moving into potato, bean, and eggplant crops now. They are small (~1/8" long), lime green insects that will fly up quickly away from the plant when disturbed. A good way to scout for them is to brush your hand against foliage while watching the air just above the plants—look for tiny flying specks that fly upward, like sparks from a fire.

Sweep nets can also be used. Nymphs will appear soon – nymphs don't fly but will walk sideways like a crab when disturbed and are most often on undersides of leaves. Potato leafhoppers feed on foliage with piercing, sucking mouthparts and also inject a toxin into the plant as they feed, which causes a condition called hopperburn where leaf margins turn yellow and then become scorched.

In potatoes, treat at a threshold of 1 adult per sweep net or 15 nymphs per 30 leaves. In bean, use a threshold of 2 adults per row foot in seedlings and 1 nymph per leaflet or 5 adults per row foot after the 3rd leaf stage. In eggplant use a threshold of 1.5 leafhoppers per leaf. See the appropriate [crop section of the New England Vegetable Management Guide](#) for labeled insecticides.

Tarnished plant bugs have emerged from overwintering sites in crop residues and on field edges and are feeding in crops now. Many vegetable crops are hosts to TPB. Damage is often most apparent on diversified vegetable farms in strawberry, where TPB causes catfacing. TPB damage in lettuce

Table 1. Sweet corn pest trap captures for week ending June 9

Location	GDDs* (base 50F)	ECB NY	ECB IA
Western MA			
Deerfield	532	2	0
Hatfield	520	1	2
Whately	553	5	1
Central MA			
Leominster	488	2	0
Eastern MA			
Millis	-	1	0
North Easton	524	-	-
Sharon		2	0
Seekonk	571	0	0
Swansea		4	0
Bolton	492	4	0

- no numbers reported for this trap
 N/A this site does not trap for this pest
 *GDDs are reported from the nearest weather station to the trapping site. Some locations are not near a station and therefore GDDs are not reported.



Left: bright green leafhopper adults on a bean leaf, Right: hopperburn in beans



Left: Tarnished plant bug. Photo: L. Tedders USDA ARS, Bugwood.org
 Right: Catfacing in strawberries as a result of tarnished plant bug feeding

is also relatively common – discolored scars and scabs on leaf stems and midribs. In vegetables, TPB are not usually highly damaging, unless there is extensive habitat—weedy fields or field edges, alfalfa fields—for the pest around a crop. Scout strawberries by shaking flower clusters onto a white surface to catch TPB nymphs. Check plants in groups of 5 at 6 locations throughout the field. Treatment is warranted if 4 or more clusters have nymphs. Several neonicotinoids and pyrethroids are labeled. Do not spray when bees are active, as incomplete pollination can also lead to fruit distortion—spray in the evening when bees are not actively foraging. There are no established thresholds in vegetable crops.

STRIPED CUCUMBER BEETLE: FOCUS ON EARLY CONTROL

As we head into the second week of June, striped cucumber beetles (SCB) are active and feeding on cucurbit foliage throughout New England. Adult beetles overwinter in plant debris at field edges and move rapidly into cucurbit crops with the onset of warm weather. High tunnel and greenhouse cucumbers draw beetles first, followed by early field crops. Densities can be very high, especially in non-rotated fields or fields close to last year’s cucurbit crops. Adult beetles feed on cotyledons and young leaves, which can cause stand reduction, delayed plant growth, and reduced yield. They lay eggs in soil near plant stems, and larvae feed on plant roots. This hidden damage also reduces plant vigor and yield. Striped cucumber beetles also vector the bacterium *Erwinia tracheiphila*, the causal agent of [bacterial wilt](#) – this disease can be more damaging than direct feeding injury. It is important to focus on early, effective control to avoid yield impacts and to protect pollinators.



Striped cucumber beetle on a cucurbit seedling.

Cultural controls

Crop rotation can reduce the impact of cucumber beetles, as can **transplanting**, and protecting young cucurbits with **row covers**. In addition to insect protection, row covers also provide extra early-season heat, though it is important to remove them during flowering to allow for pollination.

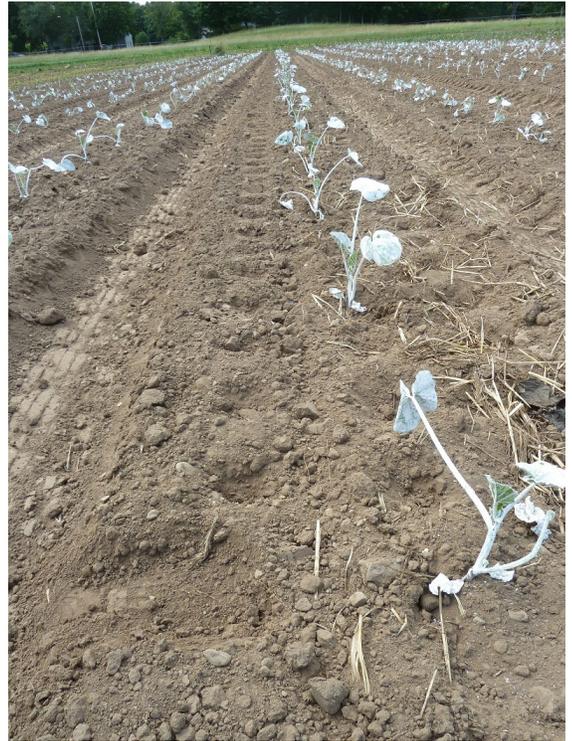
Perimeter trap cropping is another cultural control that has been shown to reduce or eliminate main crop sprays while providing effective beetle control. Trap cropping exploits the fact that SCB are more attracted to *Cucurbita maxima* crops (e.g. buttercup and hubbard squashes and giant pumpkins) than *C. pepo* or *C. moschata* crops (e.g. pumpkins, summer squash, butternut squash, other winter squash). Note that some specialty pumpkin varieties are *C. maxima* types and very attractive to beetles. Plant 1 or 2 rows of a *C. maxima* variety in an unbroken perimeter around the field. Always use 2 rows near woods or last year’s fields, and space plants no wider than the between-row spacing that is used in the main crop. Do not use a crop that is highly susceptible to bacterial wilt (see next paragraph) in the border. Beetles must be killed in the border, either by applying foliar insecticide when beetles first arrive or using a systemic insecticide at planting. Scout both borders and main crop to assess beetle numbers regularly. Repeat perimeter-sprays if needed to prevent influx into the main crop, and spray the main field if thresholds are exceeded. Attractive crop types that are planted in rows within the main field also work as trap crops that draw beetles as they move around within the field. These trap crops can be selectively sprayed.



Bacterial wilt in squash.

Beneficial nematodes: Some growers have expressed recent interest in applying entomopathogenic nematodes to the soil in order to control SCB. These nematodes would target the soil-dwelling, larval stage of SCB. Significant research has not been done on this topic, but theoretically it would be difficult to successfully control SCB using nematodes because of the high populations of SCB in the environments surrounding a field—if the SCB larva in the soil in a field were successfully killed, more adults will continue coming in from field edges throughout the season.

Insect netting in high tunnels: SCB can be especially damaging early in the season in high tunnels. An increasing number of growers are experimenting with covering high tunnel sides and doorways with insect netting to exclude SCB. We've heard some success stories with this tactic, and some frustrations about ripping expensive netting, reduced airflow in netted tunnels, and incomplete exclusion that leads to resident high tunnel SCB populations. One way to increase success with this tactic is to combine it with crop rotation out of cucurbits in a netted tunnel so that the beetles that do make it into your tunnel one year will be unable to find food the following year.



Cucurbit seedlings treated with Surround.

Scouting and thresholds. Cucurbit plants at the cotyledon and 1-to-2 leaf stage are more susceptible to infection with bacterial wilt than older plants. Thus, it is especially important to keep beetle numbers low before the 5-leaf stage. Scout frequently (at least twice per week up to SCB emergence, and for two weeks after) and treat after beetles colonize the field. Scout at least 25 plants to monitor the number of beetles and damage. Use this [UMass Cucurbit Scouting Form](#) to help keep track of what you find. The economic threshold depends on the crop. To prevent bacterial wilt in highly susceptible crops such as cucumber, muskmelons, summer squash, and zucchini, we recommend that beetles should not be allowed to exceed 1 beetle for every 2 plants. Less wilt-susceptible crops (butternut, watermelon, most pumpkins) will tolerate 1 or 2 beetles per plant without yield losses. Spray within 24 hours after the threshold is reached. Proper timing is key.

Conventional foliar insecticides

There are a number of broad-spectrum conventional insecticides which can be used for foliar control, including carbamates, pyrethroids, and neonicotinoids. All are highly toxic to bees and should only be used before bloom. Avoid using foliar neonicotinoid sprays (Actara [thiamethoxam] or Assail 30SG [acetameprid]) if systemics in the same class were used (see below). See the [cucurbit insect management section](#) of the New England Vegetable Management Guide for more details.

Systemic insecticides. Two neonicotinoid products, imidacloprid (multiple trade names) and thiamethoxam (Platinum) are registered for use in cucurbits as an in-furrow, banded, drench, or drip irrigation application to the seed/seedling root zone during or after planting/transplanting operations. Note specific application methods and rates on label. Commercially applied seed treatments (e.g. thiamethoxam, Farmore) are also available for early season control.

Organic insecticides. Kaolin clay (Surround WP), pyrethrin (Pyganic Crop Spray 5.0 EC), and Azera (mixture of pyrethrin and azadiractin) are labeled for SCB. Surround does not kill the beetles but instead acts as a physical deterrent. With direct-seeded crops, apply Surround as soon as seedlings emerge if beetles are active. Transplants can be sprayed or dunked before setting out in the field. As with other insecticides, Surround must be re-applied after heavy rain and on new growth. Pyganic is a contact insecticide that provides a short-term knock-down with no residual effect. Spinosad (Entrust) is not labeled for and is not effective against SCB.

Reducing risk to pollinators: The [New England Vegetable Management Guide](#) describes many steps that growers can take to protect honey bees and native pollinators when using insecticides. The issue of neonicotinoids, in particular, has received a great deal of attention in recent years. This is a group of insecticides that have a chemical structure very similar to nicotine. They have been widely used in agriculture because they are effective against a wide range of insects, have lower mammalian toxicity compared to older classes of insecticides, and because they can be absorbed by roots and moved through the entire plant, reducing the need for foliar sprays. This trait allows for applications to be made to soil or on seeds, with less exposure to humans and to natural enemies of insect pests. Neonicotinoids are highly toxic to bees, and label requirements prohibit use on blooming crops or where there are blooming weeds or borders. Additional concern about impact on bees arises because research has shown that detectable, low concentrations of neonicotinoids can move into pollen or nectar. These are present at sublethal concentrations but may affect the foraging behavior of bees or sup-

press their immune system. The long-term or colony effects of sublethal concentrations of neonicotinoids are difficult to assess in the field because bees from each colony travel long distances and forage in many different habitats and types of plants. In cucurbits, both native bees (e.g. squash bees and bumblebees) and honey bees visit flowers to gather both pollen and nectar, and are essential to crop pollination. Research in cucurbits has shown that higher levels of neonicotinoids were found after foliar treatments and chemigated insecticides were applied during flowering. Lower levels were detected in treatment regimens that involved a single application at planting via seed treatment, a drench application to transplant trays, or transplant water treatment. Thus, growers should avoid high rates and multiple applications, especially through trickle irrigation as the crop approaches flowering.

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PHEROMONE TRAPPING FOR SWEET CORN CATERPILLAR PESTS

Sweet corn is growing quickly, on track for first harvests by July 4. One of the biggest challenges in sweet corn production is caterpillar damage and the presence of caterpillars in ears. There are 3 major caterpillar pests of sweet corn in New England – European corn borer, corn earworm, and fall armyworm. European corn borer is the earliest of these to show up in the Northeast, and was caught in low numbers in most parts of the state this week. All three species can be present in a corn field at once. The best tactic for managing the caterpillar pests of sweet corn involves a combination of trapping using pheromone lures and scouting to determine the optimal times to spray your crop.

A brief overview of the 3 major corn caterpillar pests:

European corn borer (ECB) is the first corn caterpillar pest to show up in sweet corn, as they overwinter in the Northeast. They emerge in May (at 375 GDD base 50°F. Most of the state is at 450-600 GDDs now). ECB eggs are laid on undersides of leaves and caterpillars bore into the corn tassel, stalk, directly into the ear, or enter ears through the silk channel. At this time of year, signs of ECB infestation will be shot-hole damage in leaves or lodged tassels, accompanied by lots of tan-colored frass. There are two generations of ECB caterpillars per year. There are two strains of ECB – a NY strain and an IA strain – which are trapped using lures specific to each strain.

Corn earworm (CEW) has not historically overwintered in the Northeast, although early arrivals hint that there may be pockets of overwintering CEW in the region. They largely blow in on storms coming from the South or from western NY, where they overwinter, arriving



ECB larva and adults.

Photos: Clemson Univ. (L), USDA Cooperative Extension, Bugwood.org (R)



CEW larvae and adults.

Photo: Richard Clark II (L) and E. Burkness, Bugwood.org (R)



FAW larva and adult.

Photos: F. Peairs, Colorado State U. (L) and C.D. Barrentine, Bugwood.org (R)

in mid-July. Eggs are laid in fresh silks and caterpillars enter the ear through the silk channel. There are two generations of CEW per year.

Fall armyworm (FAW) is also blown northward on storms, usually arriving in the Northeast in mid-July. Eggs are laid preferentially in whorl-stage corn, and caterpillars create large, ragged holes in the leaves and drop big clumps of frass.

See our [Identifying Caterpillars in Sweet Corn](#) article for more information on each of these pests.

What is pheromone trapping?

Pheromones are volatile chemicals produced by organisms to communicate with one another. Pheromones from one species can usually only be detected by that species. There are many different types of pheromones that insects use, but the most common type is the sex pheromone. Usually, females will emit a tiny amount of a chemical that attracts the male to them and increases the likelihood of mating. These sex pheromones are volatile, meaning they easily evaporate into gaseous form at daytime summer air temperatures, so they are carried on air currents and intercepted by receptors on the males' antennae. The males then flies upwind to find the source of the pheromone, a prospective mate.

The chemical compositions of pheromones for a number of pest species have been identified and can be synthesized in the laboratory. These synthetic pheromones can be used in conjunction with traps to catch male insects. Extension networks throughout the Northeast use pheromone-baited traps to monitor ECB, CEW, and FAW, as well as squash vine borer, a pest of cucurbits. Traps are set up in active sweet corn fields, and are checked weekly for moths. The pheromone lures are changed regularly.

For all three corn caterpillar pests, pheromone trap captures tell us when each pest has emerged or arrived in that field. For ECB and FAW, the trap captures tell us when to begin scouting a corn crop for eggs

and caterpillars, and the decision of whether or not to spray is made from scouting results. For more information on scouting for corn caterpillar pests, see our [Managing Sweet Corn Pests Through Scouting & Pheromone Trapping](#) article and the [UMass Sweetcorn Insect Management Field Scouting Guide](#). We publish trap counts from sites across the state weekly in the Pest Alerts section of Veg Notes, so if you aren't trapping on your farm, you can use trap counts from the location nearest to you to tell you when to begin scouting your corn. Once CEW arrives in the region, and trap counts exceed 1.4 moths/week, spray schedules are determined by CEW trap counts, with higher counts triggering tighter spray schedules.

There are two types of traps commonly used for corn pest pheromone trapping:

Scentry Heliothis net traps can be used to monitor ECB, CEW, and squash vine borer. (*Heliothis* is a genus of moths that CEW used to belong to, although it has now been reclassified as part of the genus *Helicoverpa*). Heliothis traps are tied to a pole, with the bottom of the trap drawn wide. The pheromone lure is clipped to a string at the bottom mouth of the trap. Moths are attracted to the lure then fly up into the top portion of the trap, a behavior which would

Pest	Trap # and type	Trap setup	Trapping Dates	Lure replacement interval
ECB	2 white heliothis traps (1 for NY, 1 for IA)	Place traps at least 50 ft apart, in weedy border of field. Opening should be level with top of weeds.	May 15 (even if corn isn't up yet) – September 15	4 weeks
CEW	2 white heliothis traps	Trap in silking corn. Move one trap into a block with fresh silk each week.	July 15, or as soon as you have silking corn – September 15	2 weeks
FAW	1 yellow & white bucket trap	Hang trap at plant height on metal stake. Place at edge of field in whorl-stage corn. Place lure in cage and VaporTape in bucket.	July 15 -September 15	4 weeks. Vaportape will last the entire season.
SVB	1 white heliothis trap	Place trap in-row with squash. Opening should be directly above the plant canopy.	June 1 – October 1	4 weeks

help them find their prospective mate in the field, and are trapped.

Universal Moth Traps, or **bucket traps** are used for monitoring FAW, among many other insects. The pheromone lures are placed in a compartment beneath the trap lid, and VaporTape (a small PVC strip containing the insecticide dichlorvos) is placed in the bucket. Don't forget to use gloves with the VaporTape! Bucket traps come in green or yellow and white – yellow and white traps are used for fall armyworm.

To get the most from your pheromone traps, they must be used properly:

Place the traps and the pheromones out before you would normally expect the adult insect to be active. That way you can be sure to catch the first adult flight and get an early warning that adults are present in your field, laying eggs that will soon hatch into larvae that cause crop damage. *See Table 1 for information about when you should set up traps for different pests.*

Keep lures frozen or at least refrigerated until ready for use. If you keep them on the dashboard of your truck, they won't work well when you place them in the trap.

When handling pheromone lures or VaporTape, do not touch them with your hands. Use a pair of forceps or wear latex gloves. This is especially important when you are using pheromones for more than one pest. Contamination of a lure with another pheromone will likely reduce the effectiveness. VaporTape is insecticidal tape and shouldn't be touched with bare skin.

Make a schedule of when to change lures. *See Table 1 for information about how often to replace lures for different pests.*

Check traps weekly, on the same day every week.

If you'd like to begin trapping for corn pests on your farm, we can help get you started! Contact us at umassveg@umass.edu or 413-577-3976.

Here are some, but certainly not all, suppliers of pheromone trapping materials. Different brands of lures are available for each pest – use the same brand over the course of a season to get consistent trap counts.

[Alpha Scents, Inc.](#) 503-342-8611

[Gempler's](#) 800-382-8473

[Great Lakes IPM](#) 517-268-5693

[Insects Limited Inc.](#) 317-896-9300

[Pacific Biocontrol Corporation](#) 800-999-8805

[Scentry Biologicals Inc.](#) 800-735-5323

[Trece Incorporated](#) 866-785-1313

For management recommendations, see the [Corn](#) section of the New England Vegetable Management Guide or this article on [Corn Earworm Management](#).

-- UMass Vegetable Program

HOW TO RUN A FARM-FAMILY MEETING

-- Adapted by Extension Human Development Specialist Leslie Forstadt and Extension Professor Tori Jackson, University of Maine with permission from the original author, Clint Bentz, "Running a Successful Family Meeting," *Farm and Ranch Survival Kit 3* (Washington State University and Oregon State University)

This article is part of a series of bulletins from UMaine Extension on *Life and Business in Balance*, which provides a



Yellow and white bucket trap for FAW (above) and a heliothis trap for ECB, CEW, and SVB (below).

Photos: R. Meagher, USDA-ARS and UMass Vegetable Program

starting point for farm families to think about issues that range from family conversations to managing stress and sharing ideas about life and business balance. To see the full list of bulletins in the series, see <https://extension.umaine.edu/publications/4802e/>.

Regular meetings are essential to the success of any family business. Farming is no different. A good meeting can draw a team closer, sharpen the vision for the farm business, and rekindle the passion for farming. Family meetings can be a time for business issues or family issues — the most important thing is that everyone is clear about the purpose of the meeting. If one meeting focuses on farm business issues, there may be a need to schedule a different meeting that focuses on family issues.

Meetings are a time for everyone to be educated about what is happening on the farm. These meetings can help assure that all farm family members are working toward the same goals, and can be a time and place to come to an agreement. Meetings are also an opportunity to recognize and appreciate special efforts that make the farm successful.

Consider the following tips to run productive and helpful family farm meetings.

Where and When

- Find a time that works on a regular basis and a place that has the least distractions. Pick a time and place that will create the best environment to accomplish the purpose of your meeting.
- Decide who will answer the business phone if it goes to voicemail for the duration of the meeting.
- Meet on a regular basis, rather than only when big decisions need to be made. This avoids surprises and gets people into the habit of discussing issues and making decisions together, both big and small. The practice of making small decisions together will lay a strong foundation for larger decisions.
- If you use **whole-farm planning** (see David L. Marrison, [Whole Farm Planning Model](#)) — including the creation of annual and quarterly goals for the business, the family, and the land — you can use this time to review your goals.

Who

Decide who will be at the meeting. Will you invite all of your children? Their spouses? Grandchildren? Managers? Apprentices? Will you have a mix of family and non-family members in attendance? Will the attendees vary depending on the topic? Will the meetings always be led by the same person, or will people take turns? What about your advisors (attorney, accountant, financial planner, etc.)? Is there a cost associated with having advisors there?

What and Why

Prepare a written agenda. Family meetings work best when there are no surprises or hidden agendas. Write up a proposed agenda and send it out to all of the participants before the meeting. This is the time to ask for their feedback and any additional agenda items they want to see covered. If the family members know before the meeting that their concerns will be heard, they will be more likely to participate.

Keep notes of the agenda, who attended, decisions made, and action items. Before or during the meeting, identify proposed “action items” in the agenda, i.e., the decisions or actions that should result from the meeting. Not all items have to have a decision or an action: sometimes an item may be brought up just to keep everyone informed. Keep the notes in a binder or shared online document. These records can be useful in the case of future disagreements, in case someone missed a meeting, and as a historical record of the farm.

Have working agreements (also known as ground rules) for your meetings. These might include the following:

- Everyone gets a turn to weigh in.
- Everyone will try to take no more than [] minutes for their turn.
- Everyone’s opinion is valued.
- Stick to the agenda (and create a “parking lot” for other items to be discussed at the end of the meeting, or a future meeting).

One of the difficulties with operating any family business is how intertwined personal and business issues can be. It can be useful to create a two-part agenda, with business issues being half, and personal issues being the other half. It is not always possible to separate them, but it can be helpful to keep the conversation topics focused. And as stated

above, a “parking lot” can be very helpful to stay on track with the meeting agenda.

How

Decide and talk about how decisions will be made at meetings. Consider these three major decision-making models: advise and consent, majority rule, and consensus.

- **Advise and consent** means that the group gives advice to the primary farm decision-maker(s). He, she, or they then do what is felt to be best, hopefully taking the advice into account. This model can work as long as everyone knows and agrees that this is the model being used.
- **Majority rule** means the group votes by ownership or percentage. The votes of those with a larger ownership stake in the farm carry more weight.
- **Consensus** means all agree after a process of discussion.

There is a place for all of these models, depending on the issue being discussed and the dynamics of the family. There may be a parent or parents with young children. In this case, it is the parents or partners who are the primary farm decision-maker(s), and it is important that they communicate as a couple. Separate conversations about what is important, and three- to five-year goals for the farm and for individuals and the family as a whole.

The Whole Farmer

Allow part of each meeting’s agenda to consider personal, non-business issues as suggested above. Make sure that you give as much time to people as you do to production. This means including agenda items for sharing passions, like “why the farm is important to us as a family” and “how we want to participate in community activities.” The agenda can provide time to share each person’s vision and to build human capital in the form of educating, informing, and inspiring one another. Ask one another where you see this business (and our family) going over time. What do you like and dislike? What is important to you? What are your dreams and hopes for the future? What are your challenges today? What was accomplished off the farm today?

Realize that there is often a tension in the very phrase, “family business.” When the business is the farm and you also live on the farm, it can often feel as if you’re working every minute. Each family member or meeting participant will have a different view of his or her relationship with the family and with the farm, and of the relative importance of each. Some people will view the farm as primary, with the family serving the needs of the farm. Other members will view the family as primary, with the farm serving the needs of the family.

You likely feel like you are on one side or the other at different times depending on the time of the season, the financial situation, and your personal state of mind. Discussing and recognizing this tension among the family members will help a lot in your conversations and decision making for the farm and family.

Conflict

Conflict often arises when two people have needs that are not being met. Developing good communication skills can help you the next time conflict happens during a meeting. Instead of avoiding conflict, there are ways to find common ground to have a conversation.

- Establish working agreements. This can allow and encourage all participants to speak out and share their ideas and concerns without fear of being put down or judged. All insights have value, even if they are not acted upon.
- Practice reflective listening. When you hear something that you disagree with, instead of confrontation or challenge, try to learn more. “What I heard you say is X, can you tell me more about that?”
- Put yesterday behind you and start today. Try not to let old disagreements or actions from the past color today’s discussions. When the past creeps into today, try to understand what needs are not being met (being listened to, being valued, having a say in the decision).
- If necessary, bring in an outside facilitator or mediator to help with important and particularly stressful discussions.

Conflict happens and it can feel uncomfortable. There are many ways to develop skills that will help you have conversations and meetings in a way that conflicts don’t create ongoing tension and hostility.

Moving Forward

After the meeting, follow up on action items and do what you said you were going to do. If family members see that their input is valued and acted upon, they will be much more willing to participate in the future.

Most of all, have fun. Celebrate your successes. Play together. Share family stories. Recognize accomplishments by individuals in the family team. Rejoice and talk about what makes your family unique and special. For couples, set aside time for non-farm activities, where you can be together and remember why you like each other's company, and why you chose to pursue your dreams in the first place.

NEWS

2022-23 SMALL FRUIT MANAGEMENT GUIDE - NOW AVAILABLE!

The newly updated New England Small Fruit Management Guide is now available – both online AND in hard copy. This resource is the result of a collaboration between Cooperative Extension systems of all the New England states, and is a valuable resource for any small fruit grower - strawberry, blueberry, raspberry, ribes, and grapes are covered in the guide. Hard copies cost \$20 each, plus \$5 shipping if we need to mail it to you. To purchase a hard copy, please contact Becky Sideman (becky.sideman@unh.edu, 603-862-3203).

SOME PESTICIDES CONTAINING NEONICOTINOIDS TO BECOME RESTRICTED USE AS OF JULY 1, 2022

On July 1, pesticides containing neonicotinoids that are labeled for turf, trees, shrubs, golf courses, and ornamentals will become state restricted use. This includes any product that has the above use patterns on the label, even if the product is also labeled for vegetable or fruit use. Products containing neonicotinoids that are labeled for agricultural use only (aka labeled for use on food crops only) will remain general use. You do not need a pesticide license in order to apply general use products, but you do need a license to apply restricted use products. As of July 1, in order to apply these newly restricted use products, you will have to have a Commercial Certification Pesticide License. You can also apply these materials without a license if you are working under the direct supervision of someone with a Commercial Certification.

[Click here for a complete list of products that will become restricted use as of July 1.](#)

[Click here to begin the process of obtaining a pesticide license.](#) (A helpful guide to the ePLACE Portal is available [here](#)). The [UMass Pesticide Education Program](#) provides education around pesticide safety and classes to prepare individuals for pesticide license exams.

UMASS EXTENSION HIRING URBAN AGRICULTURE EXTENSION EDUCATOR - APPLY TODAY!

UMass Extension is excited to add some dedicated capacity in the important and growing area of Urban Agriculture with the hire of an Extension Educator to be based in Eastern Massachusetts. We hope to develop a great pool of candidates who are capable of integrating well with others in Extension while developing and maintaining strong relationships with urban ag practitioners and organizations in Greater Boston and beyond. The application does not have an official closing date, but our goal is to **begin review of external candidates the week of June 13.**

[Click here for more details about the position and to apply.](#)

APPLICATIONS OPEN FOR MDAR'S SNAP EQUIPMENT GRANT

SNAP Equipment Grant, Spring/Summer Application Round 2022: Free mobile SNAP processing equipment from Novo Dia Group is available to direct-marketing farms and farmers' markets through DTA, in collaboration with MDAR and with financial support from the United States Department of Agriculture (USDA).

- Application period: April 20 to September 23, 2022, or earlier if funds run out.
- Eligibility is limited to SNAP-authorized farms and farmers' markets that do not currently have working equipment received through previous federal grants.
- Applications will be evaluated on a rolling basis.
- To apply and read more info: www.mass.gov/snapequipmentgrant
- Questions? Email David.Webber@mass.gov

Additional resources

- Looking for SNAP processing equipment but not eligible for the SNAP equipment grant? Learn about other options [here](#).
- Farmers and farmers market managers can learn more about accepting SNAP benefits on MDAR's [website](#).
- Information on the Healthy Incentives Program can be found on the [HIP website](#).
- One on one assistance with the SNAP retailer application is available through [MarketLink](#).

EVENTS

TWILIGHT MEETING AT ELLIOT FARM

When: Wednesday, June 15, 2022, 4-6pm

Where: Elliot Farm, 202 Main St., Lakeville, MA 01247

Registration: This event is free! But please register [here](#) in advance so we know how much food to provide.

Join the UMass Extension Vegetable Program, SEMAP, and Elliot Farm for an in-person twilight meeting at in Lakeville, MA! We'll cover the following topics:

- High tunnel tomato fertility
- Using PSNTs on vegetable farms
- Sweet corn pest management
- Sunflowers for pollinators

Pizza will be provided following the meeting.

SOIL HEALTH DEMOS AT THE UMASS RESEARCH FARM

When: Tuesday, June 21, 2022, 1-4:30pm

Where: UMass Crop & Livestock Research & Education Farm, 89 River Rd., South Deerfield, MA

Registration: Event is free, but registration is required. Register [here](#).

Demonstrations will include:

- New York Soil Health Trailer demonstration
- No-till transplanting vegetables into a crimped cover crop
- Cover crop residue management
- Strategies for terminating cover crops: roller crimper, use of tarps, mowing

TWILIGHT MEETING AT HARVEST FARM

When: Wednesday, August 24, 2022, 4-6pm

Where: Harvest Farm, 125 Long Plain Rd., South Deerfield, MA 01373

Join us at Harvest Farm in Whately/South Deerfield for a twilight meeting covering several post-harvest topics, including the vacuum cooler Harvest Farm recently purchased with a MA Food Security Infrastructure Grant. More information coming soon!

THANK YOU TO OUR 2022 SPONSORS!



Become a sponsor!

Vegetable Notes. Genevieve Higgins, Lisa McKeag, Susan Scheufele, Hannah Whitehead co-editors. All photos in this publication are credited to the UMass Extension Vegetable Program unless otherwise noted.

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