Crop Conditions

Cukes and zukes are coming in by the bushel! Greenhouse tomatoes are being picked. Also harvesting now: bunching onions, chard, spinach, and other greens, and the first broccoli. Rhubarb and asparagus are still available. Potatoes are sizing up nicely and earlier varieties are in bloom. The rain storms early in the week caught some growers with their phones out! Smartphones are great for the field, but not as weather proof as some other tools - we heard a few farmers complain about broken, waterlogged phones. Though it was a perfect day for field work on Wednesday, about 50 people came out to Red Fire Farm for a tour of Ryan V oiland’s washing, packing and storage facility, and a presentation by Cornell’s Robert Hadad on post-harvest handling. Robert had some great ideas for building a modular produce washing system that can be modified and scaled up or down, depending on your needs, and that can be easily cleaned for GAP compliance and general food safety. For materials from the program and a link to the UMass GAP manual see the UMass FarmFood Safety Program website.

Pest Alerts

Vegetable scouting sheets can be found on the UMass Extension Vegetable Program website. When not given here, refer to the New England Vegetable Management Guide for scouting thresholds and treatment options.

Allium: Onion thrips: Onion fields scouted in Worcester Co., MA and Bristol Co., MA were both below threshold at 0.4 thrips per leaf. This was after a soaking rain, which likely washed insects off, and plants were still wet, which may have made the thrips harder to count. Try to scout when plants are dry, after a warm and sunny spell, and treat if thrips reach 1 per leaf. In the Worcester Co. field, green lacewings were also seen flying, and lacewing eggs were found (see picture). Keep in mind that at low pest levels, beneficials like lacewings, which feed on thrips among other insects, may help to keep pest populations in check, so be sure to scout, and treat only when thresholds are reached to protect beneficials.

Asparagus: Spotted Asparagus Beetle found feeding on fronds of asparagus in Hampshire Co., MA. While insecticide treatments are effective, many asparagus fronds are now in flower and attracting pollinators, so avoid using insecticides with toxicity to bees.

Basil: No new reports of basil downy mildew this week.

Brassica: Growing degree days indicate that cabbage root maggot has surpassed peak emergence throughout southern New England. Maggots were still active in southern New Hampshire, according to one scout, and present in 4% of the broccoli and kale plants scouted in Washington Co., RI. Diamondback moth larvae were found to be over threshold in an untreated cabbage field in Washington Co., RI. Flea beetles are out in all brassicas. Because brassica crops differ greatly in susceptibility and attractiveness there is no fixed economic threshold that applies to...
all crops and crop stages. A working threshold of 1 beetle per plant or >10% average leaf damage on 50% of the plants has proved effective in leafy greens and early stages of heading brassicas.

**Corn:** European corn borer: Egg hatch is expected at approximately 540 GDD and has occurred in all locations this week except for Middletown, RI which has had an unseasonably cool season. Peak flight (631 GDD) is also occurring in most locations reporting. Trap captures show pressure to be very high in Swansea MA (42 ECB this week) and climbing in other MA and NH locations. If releasing *Trichogramma* for control of ECB, remember that 2-3 releases 7 days apart is best for matching the timing of wasps in contact with host eggs. Since we have reached peak flight, the 2nd or 3rd releases should be going out now. Scout emerging tassels for the presence of ECB larvae by inspecting the tassels of 50 to 100 plants, in groups of 5 to 20 plants, throughout the field. Treat if more than 15% of the plants have one or more larvae present. If you have early corn in silk now, this corn will attract the most egg-laying, but treatment decisions should not be based on scouting. ECB will lay eggs near the ear and emerging larvae will bore directly into ears. Therefore, if you have silk now and GDDs indicate that ECB is laying eggs) or eggs are hatching, one or two insecticide applications at 5-7 day intervals can be effective for controlling ECB on this advanced corn. **Corn earworm:** If you have corn coming into silk, it is time to put out corn earworm traps.

**Cucurbit:** Striped cucumber beetles were found at high levels in an untreated summer squash field in Washington Co., RI. Squash vine borer moth captures are increasing; at a hot spot in Hillsboro Co., NH, which has served as a bellwether location in past years, 29 moths were captured in a week. Other locations in NH, and RI had captures in the low single digits. No moths were captured in MA. They usually fly for a couple of weeks before they start laying eggs. Put out your own Heliothis net traps with squash vine borer lures in summer squash, zucchini, or pumpkin fields to monitor this pest on your farm. A spray threshold of 5 moths per trap has worked well for both organic and conventional farms. Population pressures vary greatly from farm to farm, so it is important to trap in your own fields for this pest.

**Solanaceous:** Colorado potato beetle adults and small larvae were present, with adults over threshold and small larvae just under threshold at scouted locations. Not a lot of damage yet, but populations are about to take off. Be ready to treat for this pest. Scout fields, randomly checking 25-50 plants, and treat if thresholds of 0.5 adults, 4 small larvae, or 1.5 large larvae per plant are reached. Potato leafhopper adults were found in low numbers in NY in Norland potatoes, a particularly susceptible variety, and the first adults were found below threshold on potatoes in RI and Bristol Co., MA. This pest migrates up from the south and, like CPB may be just about to take off – treat if threshold of 1 adult per plant is reached. They can be hard to count; if you see one adult per plant fly up when you shake the foliage, a damaging infestation level is present. See article on PLH in this issue. Septoria was diagnosed by the UMass Diagnostic lab as severe on one tomato cultivar in a field indicating probable contamination of seed. Hot water seed treatment may be used prior to planting to reduce the risk of infection from seed. If you suspect a seed borne disease, the UMass Vegetable Program offers a Hot Water Seed Treatment Service. **Fulvia leaf mold** was found on greenhouse tomatoes in Worcester Co., MA on ‘cobra’, a susceptible variety, while adjacent plants of the resistant variety ‘trust’ were unaffected.

### Accumulated Growing Degree Days (F):
1/1/15 - 6/17/15

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<td>Middletown, RI</td>
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**Podisus attacking CPB larva A. Radin**

**ECB moth G.Maia**
SUMMER COVER CROPS

Following early season crops like peas, radish, or even winter wheat with a cover crop this summer is a great way to improve fields. Bare soil is subject to pounding rains, erosion and weeds going to seed. In fact, according to NRCS, agricultural soils in Massachusetts are most prone to erosion in early summer when we get heavy rains on tilled fields. Fill that open niche by planting a soil-improving, short-cycle cover crop. For planting in June or July, there are several good legume and non-legume choices that grow rapidly in the summer warmth recommended by Gordon Johnson, Extension Vegetable and Fruit Specialist from University of Delaware.

**Legumes**

**Cowpea (Vigna unguiculata)**

Also known as blackeye or southern pea, this crop is underutilized in our area. It is fast growing with peak biomass often in 60 days. Cowpeas can fix up to 100 lbsN/a with biomass of 3000-4000 lbs/a. Cowpeas grow well in poor soils and can handle droughty conditions. Drill at 40-50 lbs/a. Certain varieties such as California Blackeye #5 and Mississippi Silver are poor nematode hosts and will be beneficial in systems where root knot nematode is a problem. See this site for nematode ratings of different cowpea varieties [http://edis.ifas.ufl.edu/in516#TABLE_1](http://edis.ifas.ufl.edu/in516#TABLE_1). Cowpeas also can be harvested in the immature pod stage as a fresh legume so can serve dual purpose on small farms.

**Soybean**

Soybean can also be a good cover crop drilled at 60 lbs per acre. Forage-type soybeans produce considerable biomass and make excellent cover crops. For nematode suppression, use of root knot nematode resistant varieties may be beneficial. Edamame types can be harvested and sold in green pod stage and the residue returned to the soil for soil building, again serving a dual purpose on small farms.

**Sunnhemp (Crotalaria juncea)**

This tropical legume is used extensively for soil building in countries such as Brazil and India and has great potential in our humid tropic feeling summers. Drill 20-30 lbs of seed per acre. Sunhemp can produce very high amounts of biomass (10 ton biomass is not unheard of in Florida – amounts will be lower in Massachusetts, expect 3-4 tons). It is a high nitrogen fixing legume and can contribute over 100 lbsN/a to a following crop. Sunhemp grows very fast in the summer, reaching 6 feet or taller in 8 weeks. However, a better way to manage sunnhemp is to let it grow to about 1-3 feet tall, then mow it and let it regrow again. If allowed to get too tall and old the stems will become tough and fibrous and will not decompose rapidly. Sunnhemp is a day length sensitive crop. It will grow any time during the summer, however it will not flower and go to seed until the days start getting shorter in very late summer.

**Non Legumes**

**Sorghum-Sudangrass (Sorghum bicolor x S. sudanense)**

Sorghum-sudangrass is a cross between forage or grain sorghum and sudangrass. It is a warm-season annual grass that grows well in hot conditions and produces a large amount of biomass. Plant at 20-40 lbs per acre drilled. Of all the non-legumes, it is the most useful for soil building. Sorghum sudangrass will often reach 6 ft in height. Like sunnhemp, it can be mowed and allowed to regrow to enhance biomass production and have younger material that decomposes more quickly. Expect 3-4 tons of biomass addition per acre. As a grass, to get the most growth you will need to add nitrogen fertilizer (40-80 lbs/a). If incorporated at a young stage, the nitrogen will be re-released for the following crop in the same year. Sorghum-sudangrass is very effective at suppressing weeds and has
been shown to have allelopathic and biofumigant properties. Research on nematode suppression by sorghum-sudangrass is mixed, with some studies showing that sorghum-sudangrass suppresses nematode levels. Choose finer stemmed, leafy varieties when available. Brown midrib types will decompose more quickly because they have less lignin.

Pacelia (*Phacelia tanacetifolia*) also known as blue or purple tansy is a good cover crop for use in rotation on vegetable farms because it is not related to many crop families. This fast growing cover crop prefers mid-summer seeding. While it does not have a deep taproot, this crop is a wonderful soil aggregator in the top 2 inches. Seed at 1lb/a drilled and 3lb/a broadcast. Bees and pollinators are attracted by the fuzzy blue/purple flowers. This cover crop will winterkill at 15°F.

**Forage-type Pearl Millet (Pennisetum glaucum)**

Pearl millet is a tall summer annual grass that grows 4 to 8 ft. tall. It is well adapted to sandy and/or infertile soils and does well in the summer heat. Forage types are better adapted for soil improvement than the grain types. Seed at 20-30 lbs/a drilled. Expect 3-4 tons of biomass addition per acre. Again, as a grass, to get the most growth you will need to add nitrogen fertilizer (40-80 lbs/a). Pearl millet has been shown to suppress some nematodes. Forage pearl millet can make a good mulch for late-summer planted no-till or strip till crops.

**Buckwheat (Fagopyrum esculentum)**

If weed suppression is the main goal, buckwheat is preferable and can be sown as early as May 20. As a broadleaf plant, it covers the ground earlier than grass cover crops, especially in early June, and out-competes weeds. Buckwheat can be drilled at 50 lbs/a or broadcast at 70 lbs/a. A good stand of buckwheat attracts beneficial insects, improves soil tilth, and produces more biomass than any other cover crop in the short time it grows, but doesn’t do well if the plow layer is compacted. It scavenges phosphorus from soil and makes it available to subsequent crops. If the field is low in nitrogen and phosphorous, buckwheat will do well without additional fertilizer. Buckwheat should be mowed about 40 days after planting or right at flowering to prevent it from going to seed. Buckwheat decomposes quickly after incorporation. The main production risks associated with buckwheat are a failed stand and letting it go to seed.

**Additional Information**

Summer Soil Improving Crops for Vegetable Rotations, Gordon Johnson, Extension Vegetable and Fruit Specialist, University of Delaware.


Managing Cover Crops Profitably: [http://www.sare.org/publications/covercrops.htm](http://www.sare.org/publications/covercrops.htm)

Cover Crop Periodic Table: [http://www.ars.usda.gov/Main/docs.htm?docid=20323](http://www.ars.usda.gov/Main/docs.htm?docid=20323)

-Updated for 2015 by Katie Campbell-Nelson

**Leaf Spots of Cucurbits**

First reports of angular leaf spot in yellow squash and cucumber are starting to trickle in. This disease is usually one of the earliest to affect spring cucurbit plantings as it is commonly seed-borne. There are several diseases that cause leaf spots on these crops and they can often be confused. Below are descriptions of some of the more common fungal and bacterial leaf spots found on cucurbit crops in MA that we hope will help you tease them apart in the field. Of course, a diagnosis from a trained pathologist in the lab is ideal, but we understand it is not possible to test every spot in the field.

**Angular leaf spot**

This disease can affect all cucurbits, but cucumbers are most commonly affected. It
is caused by the bacterium *Pseudomonas syringae* pv. *lachrymans*. This disease starts in the early to mid-season. Small, round, water-soaked spots appear on leaf tissue, and expand until they are confined by veins, giving them the characteristic angular look. Under moist conditions a milky white exudate containing bacterial cells may ooze out of the lesion on the lower leaf surface. These wet-looking spots will dry out and turn yellow-brown or the dead tissue may fall out leaving a “shot-hole” appearance. Yellowing of the leaf between lesions may occur where disease severity is high. Similarly, water-soaked spots may appear on stems and petioles, drying out to form a whitish crust. Spots can also appear on fruit, where they are tiny and water-soaked but dry to form whitish, chalky, spots. These spots cause internal decay of fruit. Fruit that is infected early may be deformed. Affected plants will grow poorly and produce less fruit, and affected fruit will be unmarketable.

As with other bacterial diseases, outbreaks of angular leaf spot are often initiated from infected seed. Bacteria proliferate in warm, moist weather and are spread from plant to plant by water, commonly in the form of splashing rain or runoff. It can also be spread by insects or workers and their harvest knives moving through the field. Use drip irrigation to reduce spread of bacteria by overhead irrigation. Don’t work in wet fields or work in clean sections of the field first and infected sections last to avoid spreading the disease to unaffected areas or to new plantings. Sterilize knives after harvesting an infected section.

If you catch the disease early, copper may be effective in reducing its spread. Chop and till in residues quickly after harvest so that it breaks down quickly. Bacteria survive on residues as long as it is present, up to two years. Resistant varieties are available.

**Anthracnose**

This disease affects mostly melons, watermelons and cucumbers; squash and pumpkins are less susceptible. The disease is caused by the fungus *Colletotrichum orbiculare* which, like other anthracnose fungi, causes characteristic black sunken lesion on affected fruit. Leaf spots are light brown or reddish and appear near veins so may cause leaf distortion. These lesions dry out and the dead issue may fall out, again leaving a “shot-hole” appearance. On stems and petioles, lesions are elongated and tan. The fruit lesions are large, circular, sunken areas that turn black and may produce a pink ooze under humid or moist conditions.

The fungus can be seed-borne and also survives on crop residue or volunteer plants (maybe in your compost or cull pile). Humid, rainy weather is necessary for disease to occur. There are three races with races 1 and 3 affecting cucumber and melon, and race 2 affecting watermelon. Resistant varieties are available for cucumber and watermelon, but not for other melons. There are many fungicides labeled for control of anthracnose, please see the New England Vegetable Management Guide for recommendations.

**Alternaria leaf spot**

This disease affects all cucurbit crops but is most common on cantaloupe. The disease is caused by the fungus *Alternaria cucumerina* which, like other *Alternaria* species, can cause a characteristic target-like spot. Usually, leaf spots are small and start out as tan flecks that enlarge and grow together—these larger spots (up to a half inch) may exhibit the concentric rings common of *Alternaria* fungi.

This disease usually occurs in mid-season and can reduce late-season fruit production. Fruit lesions may also occur—they appear as zonate, sunken lesions with dark, olive-green, felt-like sporulation present. The fungus survives on crop residue in the soil as long as it is present, a two year rotation away from cucurbit hosts is usually sufficient.

**Scab**

This disease can be a significant problem for summer and winter squash, pumpkin, melon, and watermelon. Lesions may occur on leaves, stems, petioles, and fruit; fruit spots are the most damaging. Leaf spots are small, pale-yellow to white,
and again the dead tissue in the center of the lesion may fall out leaving a “shot-hole” appearance. Leaf lesions may not occur. Lesions on stems are elongate and light colored, and if numerous may cause the internodes to shorten, giving the plant a deformed virus-like appearance. Scab lesions on fruit are sunken, irregular cavities with corky margins, and may produce a golden brown ooze which dries into brown beads. Sporulation on lesions may occur, giving them an olive-green, felty appearance.

This disease usually occurs in mid-summer and is favored by cool, dry days and rainy or dewy nights. The pathogen survives in crop residues which persist one to two years in soil. Tolerant varieties of cucumber are available. Chlorothalonil, mancozeb, or polyoxin D can be used preventively, at the first sign of disease.

-Written by Susan B. Scheufele, 2015

WATCH FOR POTATO LEAFHOPPER IN POTATO, EGGPLANT, BEANS

The first potato leafhopper (PLH) adults of the season are starting to show up in potato fields and elsewhere, including strawberry plantings, around New England. Because low numbers of adults or nymphs cause injury and reduce yield, it is important to protect plants before adult numbers are high and before nymphs build up. Left uncontrolled, PLH populations will continue to grow rapidly. Plant injury and yield loss can be significant. In potato, yield loss occurs even before the development of obvious symptoms. Green beans are very susceptible, especially when they are infested prior to flowering.

Identification. Adults are about 1/4 inch long, light yellow-green, and fly up from foliage when it is disturbed or shaken. These are the first arrivals. PLH overwinters in the southern US and moves north annually. Nymphs will be found later on the underside of leaves, light green, wedge-shaped and very fast-moving. They tend to move sidewise, crab-like, on the leaf surface. Presence of nymphs indicates an established population.

Damage. Adults and nymphs feed by inserting a needle-like beak into the plant and sucking out sap. They also inject a toxin into the plant, which causes yellowing, browning, and curling of leaves. In potato, leaf margins turn brown and brittle first, followed by death of entire leaves, a condition known as ‘hopperburn.’ In eggplant, leaf margins and tips turn yellow and curl up. Feeding can reduce yield before damage is visible. Damage can be severe on early-season and red varieties of potato, as well as in green beans, eggplant and raspberries. Long-season cultivars tend to be more tolerant. Beans are more susceptible when they are young than at later stages. Field crops such as alfalfa, clover, soybean, sunflower and tobacco are also hosts.

Scouting and thresholds. It is difficult to count adults since they fly quickly when foliage is shaken or disturbed. Sweep nets can be used to detect adults – treat if more than 1 adult is found per sweep. If you see one adult per plant when you shake the foliage, you are in that range. Once nymphs develop, they can be monitored by visually inspecting lower leaf surfaces on lower leaves. Treat if more than 15 nymphs are found per 50 leaves. Use a threshold of 1.5 leafhoppers per leaf in eggplant.

Conventional products. In potato and eggplant, some materials registered for Colorado potato beetle adults will also control leafhopper, including neonicotinoid foliar sprays such as Admire Pro or Assail. These and several other carbamate, synthetic pyrethroid and organophosphate products are also registered for leafhopper in potato, eggplant and snap beans. Refer to the New England Vegetable Management Guide for registered products. While the classes of insecticides listed above generally have high toxicity to bees, there are variations within classes; for example, Assail (acetamiprid) has a lower toxicity to bees (rated as Medium) while most neonicots are rated as highly toxic to bees. Sivanto (flupyradifurone) is a new product in a novel class of chemistries, the
butenolides, that works against sucking pests, including PLH. It is also labeled for CPB control. This new active ingredient is being touted as an alternative to neonicotinoids, and has been given a bee toxicity rating of Low.

**Organic products.** PyGanic EC5.0 (Pyrethrin) has been shown to be the most effective product for reducing leafhopper numbers and damage. Good coverage is important. Pyganic breaks down quickly in sunlight, so the residual period is short. Spraying late in the day or in the evening may provide better control than spraying early in the morning. Don’t wait for numbers to build up. Row cover can be used to delay PLH infestation in snap beans until flowering, when plants are less susceptible to damage. Using row cover is recommended on young eggplant, as it protects from flea beetles, CPB and PLH.

**Pollinators and other beneficials.** Although bees do not forage extensively in beans or potatoes, they may be active in the field when these crops or the weeds within the crop fields are flowering. During that time, selection of products with lower toxicity to bees is advised. Look for toxicity information on the label, and also in the New England Vegetable Management Guide (Table 28, and in the products listed for each crop & pest).

For conservation of both native pollinators and honeybees, control weeds in the crop and avoid drift onto flowering borders or crops. However, encouraging some flowering areas in the margins is good for supporting pollinators before and after crops bloom. These can also be a nursery and refuge for beneficial predators and parasites of insect pests. Unfortunately they may also harbor tarnished plant bug which feeds on emerging leaves and flower buds in a very wide range of plants.

- Ruth Hazzard, Umass Extension Vegetable Program, updated by Lisa McKeag for 2015

**GARLIC UPDATE**

Bulbs are starting to form and scapes are emerging on garlic. The focus for this month is on making sure that the garlic plant that you have already grown is able to put all of its available energy into a strong, healthy bulb. Controlling weeds, maintaining adequate field moisture, and scaping will all help to maximize yield. Continued field culling will maximize quality, an especially important factor in seed garlic production.

**Avoid Over-Fertilizing Garlic:** Garlic will not respond with improved yield to applications of nitrogen after the summer solstice. These late applications of nitrogen could delay the normal maturity of garlic and may even aggravate some diseases.

**Weed control:** Continue to control weeds in the garlic planting for at least the next few weeks. Weeds will compete for moisture and will make it more difficult to harvest garlic. Most growers will want to complete at least one more cultivation pass on bare ground, and may need to hand-weed mulched beds.

**Maintain Field Moisture:** Garlic needs adequate moisture as it forms the bulb to maximize size. If you can, supply one inch of water per week to the garlic if we are not receiving rain. Plasticulture growers and those with heavy straw mulch should keep checking moisture levels under the mulch, though they may need to water less than bare ground growers. Keep watering until a couple weeks before harvest, as needed.

**Scaping:** Removing the scape may provide up to a 30% yield boost, depending on soil conditions and weed competition. If you can sell the scape to recoup the cost of labor used to remove it, even better! If you can’t sell them, snap them and leave them in the field to speed up the process.

**Field Culling:** Continue to walk the garlic field and pull plants which are unusually wilted on warm, dry days; plants that are distorted or curled; and plants that are an off color (yellow or bright green, usually) and discard them. All of these plants will either have a physical defect such as feeding injury or will have a disease such as Fusarium. This is a particularly important step if you plan to save your garlic for seed or to sell it as seed. Even sickly garlic will often still make a small bulb. Once it is cured, a small bulb with disease issues can look remarkably like a healthy small bulb, though the disease inoculum is still present. Field culling is your best quality control option.

- Crystal Stewart, Cornell University, Eastern New York Horticultural Program
EPA'S PROPOSAL TO PROTECT BEES

On May 29, 2015, the EPA issued a proposal to protect bees from acutely toxic pesticides. As stated in the announcement, “EPA is proposing to prohibit the application of pesticides that are highly toxic to bees when crops are in bloom and bees are under contract for pollination services. These restrictions would prohibit application of most insecticides and some herbicides during bloom.” The criteria used to determine which products would be prohibited from use during bloom were 1) Liquid or dust formulation as applied; 2) Foliar use (applying pesticides directly to crop leaves) directions for use on crop; and 3) Active ingredients that have been determined via testing to have high toxicity for bees (less than 11 micrograms per bee). To see the details of the proposal including the list of active ingredients that would be affected by this proposal, go to http://www.epa.gov/oppfead1/cb/csb_page/updates/2015/protect-bees.html. These proposed changes have the potential to drastically alter pest management practices for insect pests that must be controlled when crops are blooming, particularly those that bloom over an extended period of time. EPA is accepting comments from interested parties for a period of 30 days after the announcement. Growers who are concerned about the possible effects of these restrictions are encouraged to comment to EPA at http://www.regulations.gov/#!docketDetail;D=EPA-HQOPP-2014-0818.

-Rick Foster, fosterre@purdue.edu, 765-494-9572

Ruth Hazzard, Vegetable Specialist of 26 years to retire

Invitation to an Open House Reception for Ruth Hazzard
To celebrate her retirement from UMass Extension
Monday June 29, 2015, 4-7 PM
UMass Cold Spring Orchard Research and Education Center, 391 Sabin St, Belchertown MA 01007
Hosted by her friends and colleagues at UMass Extension and the Stockbridge School of Agriculture.

Click here or contact Kathleen Carroll at kcarroll@umext.umass.edu or 413-545-0895 for more information

EVENTS

IPM Field Walks
In this series, learn to identify and scout fruit and vegetable pests and select integrated pest management strategies that work for you whether you are a beginner, experienced, organically certified or not! We will walk farm fields with Extension Educators and farmers in Massachusetts, Rhode Island, and Vermont to learn how each farm is practicing IPM. Bring a hand lens if you have one. This series is funded in part by a Northeast IPM Center grant.

• July 1st, 4-6pm
Matunuk Vegetable Farm, South Kingston, RI - 0.6 mile south of US Route 1 on Matunuck Beach Road, on the right-look for High Tunnel behind a stone wall. Learn how to scout for key pests and diseases of early summer on cucurbits, brassicas, beans, tomatoes and more. We will discuss a variety of control and prevention measures with the farmer and Extension Educators Andy Radin, URI and Katie Campbell-Nelson, UMass. 2 pesticide recertification credits available.

• July 22nd, 4-6pm
Waltham Fields Community Farm, 240 Beaver Street, Waltham, MA
Learn to calibrate a backpack sprayer, select effective OMRI approved materials and calculate the economic threshold of vegetable crops after being trained to scout in the field with farmers Erin Roberts and Zannah Porter and UMass Extension staff Lisa Mckeag, Susan Scheufele and Rich Bonanno. 2 pesticide license contact hours available in the
vegetable category.

- **July 27th, 4-6 pm**
  Simple Gifts Farm, 1089 North Pleasant Street, Amherst, MA
  Come to this field walk to learn how to use pheromone traps to monitor Squash Vine Borer, use a microscope to identify plant pathogens, and learn to scout multiple vegetable crops with farmer Jeremy Barker Plotkin, UMass Extension staff Katie Campbell-Nelson, Lisa McKeag and Plant Diagnostician Angie Madieras. Leave after a discussion of control strategies for these pests on organic farms. **2 pesticide license contact hours available in the vegetable category.**

- **August 25th, 3:30-6pm**
  Hurricane Flats, 975 S. Windsor St. South Royalton, VT
  Join us to learn how to scout for disease and insect pests in the field and discuss effective organic control strategies with farmer Geo Honigford, Ann Hazelrigg and Gabriella Maia (UVM Disease Diagnostic Laboratory) and Katie Campbell-Nelson (UMass Extension Vegetable Program). Sponsored by Vermont Vegetable and Berry Growers Association and NOFA-VT.

### Professional Development Soil Health Workshop Series

The University of Massachusetts Extension has been funded by the Sustainable Agriculture Research and Education Professional Development Grant (2014-2017) to provide educational opportunities to Agricultural Service Providers and Farmers in Soil Health topics.

- **June 24th, 9:30am-1pm**
  UMass Agricultural Field Day: Cover Crops and Reduced Tillage, 89-91 River Rd. South Deerfield, MA
  Attend the UMass Agricultural Field Day and learn about current research in cover cropping and reduced tillage including “growing mustard as a biofumigant”, and “cover crop cocktails for weed management in no-till sweet corn” **Katie Campbell-Nelson, UMass Extension Educator, Vegetable Program** will facilitate a discussion over lunch to get to know other project participants and share your barriers, goals, and needs for implementing improved soil health practices for mitigating and adapting to the effects of climate change (Arrive at 11:30 for this portion only).

- **July 16th, 3-5 pm**
  Diagnosing Streams: Flood Protection Remedies for Farm and Forested Lands, 89-91 River Rd. South Deerfield, MA
  Christine Hatch, UMass Extension Assistant Professor, Geosciences, and Benjamin Warner, UMass PostDoc, Geosciences will present the latest science on “diagnosing streams” and provide best practices for farm and forest land managers to protect their land from the effects of stream flooding. Their goal is to help agriculture, forestry, and rural communities develop greater resiliency during extreme weather events. Christine and Benjamin are members of a New England “Fluvial Geomorphology” research group. The group has studied successes among restoration responses to Hurricane Irene in Massachusetts and Vermont and will be sharing findings from this work with Agricultural Service Providers in Massachusetts.

- **August 25th, 3:30-6pm**
  Soil Tests for New England and interpreting them for Phosphorous Management, 89-91 River Rd. S. Deerfield, MA
  Tom Morris, University of Connecticut Professor, Plant Science will present methods of different soil extractions and tests, with a focus on those appropriate for New-England soils. With his experience in field research on nitrogen and phosphorous, Tom will present Agricultural service providers with a basic understanding of the chemistry of Phosphorous in the soil, how it behaves, how best to assess P status of soil in different growing systems, how to assess potential loading from soil applications of fertilizer, compost or manure, and how to mitigate soil with excess Phosphorous aside from not adding more (e.g., cover crops or other ways to use up or sequester phosphorous to prevent off site movement or contamination. **Tom Akin, Natural Resource Conservation Service Agronomist** will present work on evaluating a new soil extraction method for New England with data from Massachusetts farms. The new Haney Soil Health Test is being tested in Massachusetts to evaluate it’s ability to better predict active carbon and other indicators of soil health.

### UMass Agricultural Field Day

**When:** Wednesday, June 24, 2015 9:30am-4pm  
**Where:** UMass Crop and Animal Research and Education Center, 91 North River Rd, S. Deerfield, MA 01373

The public is invited to come and take a guided tour through the farm to learn about current research projects at UMass. Professors and graduate students will be on hand to offer presentations on a variety of research topics. Closed-toed shoes
are mandatory. Sunscreen and hats are recommended. There is no registration fee; however, pre-registration is strongly encouraged. Lunch will be provided. Certified Crop Advisors will receive CEU credits: .5 credits for nutrient management and 2.5 credits for crop management.

**Projects will include but are not limited to:**

- Cover Crops in Potato Production
- Dual-Purpose Cover Crops for Fall Nutrient Capture and Additional Forage Production
- Production of Quality Malt Barley in New England
- Hardwood Biochar Amendment of Agricultural Soils
- Growing Mustard as a Biofumigant Cover Crop
- Evaluation of Reduced Risk Pesticides for Cabbage Root Maggot Control
- Effect of Bee Disease on Hedgerow Plantings

Contact Kelly Kraemer at kkraemer@umass.edu or 413-545-5221 for more info.

**2015 NOFA Summer Conference**

When: Friday, August 14 to Sunday, August 16, 2015
Where: UMass Amherst Campus

This year’s main conference features 144 individual sessions with 27 different topic areas. Workshops address organic farming, gardening, land care, draft animals, homesteading, sustainability, nutrition, food politics, activism, and more. The theme for this year’s Conference is “Healing the Climate, Healing Ourselves: Regeneration through Microbiology”.

This year’s conference will include sessions with UMass personnel:

- Amanda Brown, Director of the UMass Student Farm; Tour of the UMass Ag Learning Center
- Lisa McKeag, Extension Vegetable Program; Pest Scouting in the Field at Simple Gifts Farm
- Susan Scheufele, Extension Vegetable Program; Integrated Pest Management in Brassicas

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

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