



UMass  
Extension

# Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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## IN THIS ISSUE:

Crop Conditions

Pest Alerts

Harvest and Curing Tips for Onions

Scout for Onion Thrips in Brassicas

Summer to Fall seeding for Winter Markets

Events

Sponsors



*Susan Scheufele —UMass Vegetable Program— takes a nap in her giant pumpkin patch that is part of our cucurbit downy mildew sentinel plot. Still no sign of cucurbit downy mildew, but the squash vine borers do seem to love the giant pumpkins!*

to report observations or send samples, see [this article from Cornell](#).

**Beans:** [Mexican bean beetle](#) adults, eggs and larvae were found on the last succession of beans in Franklin Co., MA. Till deeply to reduce overwintering adult population after the last harvests. Some who typically release *Pediobius* as a biological control were not able to make many releases this year due to shortage of supply. [Bacterial blight](#) can look like hopper burn and was diagnosed on Fava, and Hedorite dry beans in multiple locations in VT. The disease can be seedborne and

## CROP CONDITIONS

Well folks, it's August, and late blight and cucurbit downy mildew aren't here yet. That's the good news. Despite the 2 inches of rain we got in some parts of the state earlier this week, most of the state is still in a 'severe drought' according to the [US Drought Monitor](#). Take our drought survey to inform the Farm Service Agency of fields experiencing more than 30% crop losses this year: <https://www.surveymonkey.com/r/72TY7JF>. Data from this survey will support a disaster declaration for increasing support to MA farmers. Looking to improve your irrigation systems this year? Dan Wright, Assistant State Conservationist for NRCS Programs informs us that "NRCS MA has completed EQIP award funding for fiscal year 2016, but now is the time for farmers to start thinking about next year (Fiscal 2017 begins in October 2016). The sooner farmers get their conservation plan updated (or new farmers begin the conservation planning process) and decide which conservation practices they want to implement, the sooner farmers can apply for financial assistance by submitting an EQIP application." Applications are accepted year-round and may be found [here](#).

Onions have started coming in to cure (see article this issue) and even some potatoes ravaged by hopper burn and drought stress are now being dug for storage. Thinking about how you might organize your harvest and wash area for the fall harvest boom? Come to our twilight meeting next week at Tangerini Farm in Milis, MA to see some wash equipment, get FSMA updates, and talk shop (Wednesday August 10th, 4-6pm).

## PEST ALERTS

**Alliums:** More foliar diseases are being reported as onions near harvest. [Purple blotch](#) has been diagnosed on leeks in Franklin Co., MA this week where overhead irrigation has been used and [fusarium basal plate rot](#) was confirmed on several garlic samples in VT. Still, not as many diseases are being diagnosed on harvested alliums this year as last.

No new reports of [basil downy mildew](#) in MA or RI this week, but most counties in these states have reported infections. No reports yet from Vermont. For management recommendations and to find out how

seed produced in arid areas and tested negative for Halo blight should be used. Furrow or drip irrigation is preferred to prevent secondary spread of the bacteria. Rotate to non-leguminous crops for 2-4 years.

**Brassicas:** [Flea beetle](#) second generation is very active. and Pressure is high at scouted locations. Young transplants are especially vulnerable, but even larger, waxy-leaved crops like Brussels sprouts and cabbage, which under wetter, cooler conditions might be able to tolerate some feeding damage, are struggling. Treat plants that are <12" when you count an average of 1 FB per plant; thresholds are not well established for these crops after they're about 12", but flea beetle should be managed if damage will reduce leaf or sprout marketability (collards, kale, Brussels) or stunt growth of plants. **Wire stem** caused by *Rhizoctonia solanai* was diagnosed affecting about 30% of fall transplanted brassicas last week after heavy irrigation. This disease is the same organism that causes damping off in greenhouses and can sometimes be seen in fields. Crops usually establish themselves and once the initial damage is done, they will survive. Avoid over-irrigating transplants when they first go out.

**Cucurbits:** [Phytophthora blight](#) was diagnosed on a cucumber crop in Hartford Co., CT after rain earlier this week. Even one rain event can cause a flare-up of *P. capsici* if any standing water was left in the field. Till affected sections of the field deeply once the area dries out and dry weather is expected to continue in order to reduce sources of inoculum for future rain events. [Cucurbit downy mildew](#) was newly confirmed on cucumber in Erie and Niagara Cos., NY this week, though cucurbits in Massachusetts continue to be at minimal risk for the disease according to the current forecast, which can be found here: <http://cdm.ipmpipe.org/current-forecast>. Continue to scout for CDM as well as [powdery mildew](#).

**Solanaceous:** [Late blight](#) has still not been reported anywhere in MA, RI, NH or VT; the farthest north this disease has been diagnosed is in Queen Anne's Co., MD. When potato fields go down quickly due to hopper burn, symptoms can sometimes be confused for late blight. [Bacterial canker](#) was diagnosed on pepper in Franklin Co., MA this week. This disease, which is often seed-borne, can be managed with hot water seed treatment.

**Sweet Corn:** [Red wing blackbird](#) is starting to switch from eating weed seeds and insects to grain this time of year and farmers in Berkshire and Worcester Cos., MA and inland RI are reporting crop losses greater than 30%. Birds invade sweet corn fields about three days before picking. Time any control techniques from then until harvest is complete. Birds eat insects, which is good, but they also like succulent grains. Some growers are leaving harvested corn as a reservoir for the birds. Reservoirs near bird nesting sites such as cattails and tall reedy grasses can be helpful. Keep August-maturing fields planted farther away from nesting sites if possible. Make sure to alternate control strategies including lasers, noise makers, cannons, repellants, balloons, or even the wavy balloons found on car sales lots as birds easily

Table 1. Corn pest trap captures for the week of 7/28 - 8/4/2016

Location	ECB	FAW	WBC	CEW	Spray Interval for CEW
<b>Western, MA</b>					
Sheffield	2	4	18	1	No Spray
South Deerfield	6	1	10	2	6 days
Whately	7	2	-	2	6 days
<b>Central, MA</b>					
Bolton	3	0	-	6	5 days
Leominster	2	-	-	2	6 days
<b>Eastern, MA</b>					
Concord	3	0	-	1	No Spray
Haverhill	10	1	-	1	No Spray
Ipswich	0	4	-	3	6 days
Sharon	6	-	-	10	4 days
Seekonk	16	-	-	12	4 days
Swansea	26	-	-	33	3 days
Tyngsboro	5	0	-	0	No Spray
<b>NH</b>					
Litchfield	1	14	0	0	No Spray
Hollis	1	26	0	0	No Spray
Mason	0	3	0	0	No Spray
<b>Cortland Co., NY</b>	0	4	41	0	No Spray

European corn borer (ECB), Fall armyworm (FAW), Western bean cutworm (WBC), Corn earwom (CEW)



Western bean cutworm from pheromone traps in Berkshire Co., MA.  
photo: B. Jankowski

Table 2. Accumulated Growing Degree Days (°F): 1/1/16 - 8/3/16

Location	GDD (base 50F)
Western, MA	
Ashfield	1415
South Deerfield	1653.4
Pittsfield	1358.8
Central, MA	
Bolton	1645.9
Northbridge	1526.2
Phillipston	1423.9
Eastern, MA	
Ipswich	1467.7
Sharon	1712.4
Waltham	1689.1
Seekonk	1739.7
Hollis, NH	1564.9
Burlington, VT	1672.4
Newport, RI	1548.1

get accustomed to any single strategy. **Fall armyworm** trap captures remain high in Southern NH but remain low MA. **Corn earworm** trap captures remain low in most of MA, except in the Southeastern part of the state (see Table 1). These 2 pests typically blow in on storm fronts such as we had earlier this week. **Western bean cutworm** numbers are starting to increase in the Western part of the state. They should reach 75% emergence at 1,536 GDD base 50°F, which we are at in most parts of the state (Table 2). In Western MA, scout for WBC eggs, larvae and injury now.

**Misc:** **European corn borer** larvae were found causing damage in dahlias in RI 2 weeks ago at 1,100 GDD base 50°F, which is late for the first generation to be active and too early for the second. One possible explanation is that a ‘univoltine’ (producing one generation in a season) European corn borer, which is another strain of this pest found in NY, has migrated further east. The univoltine corn borers are more attracted to the New York or Z-race lures than to the Iowa or race-E lures and break their winter dormancy more slowly, meaning that one generation will be present throughout the season. Now is the time to release *Trichogramma* for ECB in peppers and sweet corn as the second generation has laid eggs (1450 GDD) and even hatched (1550 GDD) in some parts of the state.

High numbers of **potato leafhopper** adults and nymphs have taken down many drought stressed potato crops this season and some growers are harvesting early. Beans and other susceptible hosts such as hops, strawberries and raspberries are now more at risk for hopper burn as leafhoppers run out of potato foliage to feed on. UVM has conducted trials on dry bean varieties with different tolerances to hopper burn. See results of [the 2015 Heirloom Dry Bean Variety Trial here](#).

\* When not given here, refer to the New [England Vegetable Management Guide](#) for scouting thresholds and treatment options.

## HARVEST AND CURING TIPS FOR ONIONS

As onions mature, their dry matter content and pungency increase, with a resulting increase in storage potential. Onions are ready for harvest when at least half the leaves are dead. Tops are beginning to fall in early, direct-seeded onions and many transplanted fields. Pull the bulbs by hand, or use equipment such as a potato digger or under-cutter to cut the roots and lift the bulbs. If you wait until all the leaves are dead and dry, it's likely that the outer skins will be loose rather than firm. This may not hurt the keeping quality, but the onions will not look as nice. However, pulling when the foliage is too green will make it difficult to cure them well. Harvest when the weather is dry; harvesting after a rainfall or when the humidity is high increases susceptibility to post-harvest disease. There may be instances when leaves are declining in quality due to insect, disease or environmental conditions and the crop is not growing but necks are still green. Or leaves may show symptoms of bacterial infections, in which case it may be advisable to pull onions a little early —before tops have fallen over—to prevent bacteria from traveling down the foliage into bulbs. In these cases, pay special attention to curing under optimum conditions to promote rapid drying down and closing of necks.

For optimum storage quality, onions must be cured soon after harvest. Curing decreases the incidence of neck rot, reduces water loss during storage, prevents microbial infection, and is desirable for development of good scale color. Optimum conditions are 68-86°F and 70% relative humidity for at least 12 to 24 hours. A greenhouse or hoophouse provides a good environment for curing, where temperature, airflow and moisture can be controlled. Be sure to keep the temperature in the house **below 85°F**, which will probably require turning on fans and/or leaving sides and doors wide open—consider using a black shade curtain over the house to help moderate temperature. Curing can be done in the field, but it is harder to achieve good conditions for curing in an uncontrolled field setting. Avoid field curing onions if rain is forecast and, if it does rain, let the onions dry fully before handling—don't handle the bulbs when



*A greenhouse or hoophouse provides a good environment for curing, where temperature, airflow and moisture can be controlled, but be sure to keep the temperature in the house below 85°F, which will probably require turning on fans and/or leaving sides and doors wide open—This house in Franklin Co. MA is using white shade cloth to help moderate temperature. photo: K. Campbell-Nelson*

they are wet. If the field is weedy, it may be excessively moist and air circulation may be limited, conditions not suitable for curing. Temperature and sun are also factors to consider—sunshine and temperatures in the 80's will enhance the bronze color in the skins, but extremely hot sun and temperatures in the 90's can cause sunscald. Onions curing on a sandy soil will heat up more quickly than those curing on a heavier soil. Curing is complete when the neck is completely dry and tight. If the neck remains open, it allows entry of pathogens such as Botrytis neck rot.

The next step is topping. Mechanical onion toppers are essential for larger plantings. These machines can be expensive; for the needs of a small diversified farm, they are probably best obtained second-hand. Onions can also be topped by hand using clippers. Handle gently to avoid bruising. Avoid cutting tops too close to the bulb (leave 2-3 in. of stem), especially if there is any chance of disease entering bulbs from the leaves. Defective onions (i.e. sprouted, insect-damaged, sun-scalded, green, bruised, or soft) should be discarded. Grade for size according to your markets.

To ensure maximum storage life, onions must be promptly stored after curing. Get them out of the sun as exposure to light after curing will induce greening of the outer scales. The optimum temperature for long-term storage of onions is 32°F with 65-70% relative humidity, but it is important to bring them down to this temperature slowly. In fact, holding onions in a barn or garage so that they cool along with the average outdoor temperature in late-summer and fall works quite well. Avoid cooling bulbs to well-below the average daily temperature because they will draw moisture from the warmer air, which can lead to disease. If you are selling the onions within a couple of months, keeping them in an un-insulated barn is fine. An insulated storage room is needed for longer-term storage.

### Harvest Tips for Best Quality

1. Be sure onions are well-dried and necks are tight (i.e. the tissue does not slide when you roll the neck between your fingers) before topping. Bacterial diseases and Botrytis Neck rot can move through green tissue into the bulbs. These diseases do not move in dry tissue.
2. Leave 2-3 inches of neck on the bulb. This increases the distance from the cut surface to the bulb for these pathogens to travel.
3. Minimize mechanical injury during harvest & topping. Reduce drops to 6" and pad sharp surfaces. Bruises provide direct entry points for diseases to get started.
4. Grade out damaged onions before putting them into storage. Damaged bulbs give off moisture, which is favorable for development of diseases in storage.

- John Howell, Andrew Cavanagh, & Ruth Hazzard. Resources: CSU Extension and the University of Saskatchewan Vegetable Program

## SCOUT FOR ONION THIRIPS IN BRASSICAS



Thrip nymphs (circled) feeding and causing damage on the underside of a brassica leaf. photo: S. Scheufele.

While growers have been scouting for and battling onion thrips (*Thrips tabaci*) in their alliums for a couple of months now, the struggle doesn't end with the onion harvest. Onion thrips can be a significant problem on cabbage, where thrips feed on inner leaves of the head which are difficult to target when spraying. Damage may also occur on leafy brassicas such as broccoli, kale and collard, especially fall crops that are planted near a maturing onion crop. Thrips cause rough, golden or brown scars to form on the underside of open leaves, produce scars and discolored layers within cabbage heads and generally reduce vigor in plants. Inspection with a 10X lens shows wounds to the epidermis from the rasping mouthparts, and scars from wounds that healed over. Thrips damage can be confused with oedema, a physiological disorder.

Tolerant varieties are the most cost-effective means of controlling thrips in cabbage. Varietal resistance is generally not

available in other brassicas. Cabbage varieties that have showed tolerance in trials\* include Benelli, Cairo, Superkraut 86, Bravo, Brutus, Cheers, Huron, and the various Vantage varieties. Varieties that are rated as susceptible include Atlantis, Bajonet, Charmant, Checkmate, Market Prize, and Rinda. There are a great number of varieties, and not all have been tested. Also, available varieties change. Some seed catalogues rate thrips tolerance. Consult your seed suppliers and search recent research trials regarding thrips tolerance on new varieties. The [Cornell Organic Production and IPM Guide for Cole Crops](#) has an extensive list of cabbage varieties and their thrips tolerance.

Avoid thrips by not planting cabbage or fall brassica crops near alliums, or field crops such as alfalfa, clover, wheat, or oat that can harbor large populations of thrips, which may migrate to brassicas when these crops are cut or harvested. Scout young plants for presence and feeding injury. Begin applications when damage is first noticed; in cabbage, apply foliar treatments before heads form. In fall brassicas, the need for thrips controls may coincide with sprays for flea beetle or caterpillars and some insecticides control both. Broad-spectrum products include neonicotinoids (Admire Pro, Assail) and numerous synthetic pyrethroids (including Warrior, Pounce, Baythroid, Brigade, Mustang). Biorational or organic products include spinosad (Entrust, OMRI listed; has both contact and ingestion toxicity); spinetoram (Radiant SC); novaluron (Rimon 0.83EC, insect growth regulator for immature stages only; not for mustard greens); pyrethrins (PyGanic EC5.0, OMRI listed). Repeat applications at 7 to 10 day intervals based on scouting. Use a shorter interval in hot, dry weather. Use a spreader-sticker for better coverage and to improve residual. Apply in early evening, using high pressure and 100 gal water/A for best results. Systemic insecticides applied as a side dress up to 4-6 weeks after transplanting may provide adequate control in long-season cabbage. Rotate between insecticide groups to help prevent or delay resistance.

\* Information on the relative tolerance/ susceptibility of storage, kraut and summer cabbage varieties evaluated in Cornell trials from 2005 to 2009 is available online at the Cornell Vegetable Program website: <http://cvp.cce.cornell.edu>; from the sliding menu on top, click on “cabbage”; you will need to “view the complete list of cabbage content” to see all the reports.

- UMass Vegetable Program, 2016

## **SUMMER TO FALL SEEDING FOR WINTER MARKETS**

Many farmers in Massachusetts are now commonly extending their harvest season into the fall and even over the winter. With the drought this year hurting summer yields, some may be interested in recouping some of those losses this winter, by seeding crops now through the fall, especially if irrigation and appropriate cover is available. If you are interested in trying some fall and winter crops, it's not too late!

**Field:** At this point in the season, the options include direct seeding leafy crops or small, fast-growing root crops in the field. Here are some crops suggested by Danya Teitlebaum of Queens Greens in MA to seed by mid-August for a fall harvest.

**Roots:** Hakurei turnips, radishes and fast-growing beet varieties for bunching.

**Leaves:** Lettuce, mustard greens & other Asian bunching greens, arugula, kale, chard, spinach, bok choi.

**Herbs:** Cilantro, parsley and dill.

For growing outside in the open or with protection from hoops and row cover, seeding and transplanting could be done through around mid-September — depending on your location. Growth rates decline rapidly this time of year, as day length shortens and temperatures gradually drop. These crops would be ready for harvest from October through November.



*This spinach transplanted into high tunnels in August and September improved yields over direct seeded spinach that germinated poorly during high heat.*

**High Tunnel:** For production in high tunnels for late fall, winter, or spring harvest, seeding or transplanting may go even later. Transplanting can give you a 3-week head start which may be needed when a tunnel is occupied with tomatoes until October. When planning your plantings and choosing seed, look for varieties that are specifically labeled to be cold hardy. In winter high tunnels, they will be subjected to sub-freezing temperatures and multiple freeze-thaw cycles. Some crops will only be in the ground for a relatively short time, while others will need longer to mature for harvest. Below are some good variety choices in each category:

#### Suggestions for shorter residency varieties:

**Spinach:** Space, Tyee (see research reports below for more recommended varieties)

**Brassica greens:** Red Russian Kale, Tatsoi, Komatsuna, Mizuna, Green Wave

**Bok Choi:** Black Summer, Mei Qing Choi

**Lettuce:** Tango, Red Salad Bowl, Rouge, D'Hiver

**Claytonia**

#### Suggestions for longer residency varieties:

**Radish:** Tinto, Cherriette, D'Avignon

**Beet:** Red Ace, Merlin, Touchstone Gold

**Chard:** Fordhook Giant

**Leek:** Tadorna

**Scallion:** White Spear

**Turnip:** Hakurei

**Carrot:** Napoli, Mokum, Nelson

**Kale:** Winterbor, Redbor, Toscano, Siberian, Red Russian

**Collards:** Champion

**Head Lettuce:** Scyphos, Ermosa, Winter Density



Overwintered low tunnel onions. photo: B. Sideman, UNH

“Days to maturity” are longer as the daylight hours get shorter and temperatures drop. The date that crops are seeded, the climate in your growing zone, the microclimate both on your farm and inside of a tunnel, and the severity of the weather in a given year will all affect plant growth and survival. Short intervals between seeding dates become longer intervals between harvest dates. Cutting-lettuce and cutting-brassica crops need many seeding dates at close intervals. Full-sized kale, chard, collards, spinach—plants where you harvest the outer leaves only—need 1 or 2 seeding dates. Some farmers have had success planting during the period with less than 10 hours of daylight—in New England, this is from around the second week in November to the fourth week in January—but there are also reports of poor germination and early bolting. Good record keeping over the years will help you to develop a fall seeding schedule that is specific for your farm.

See Table 1 for seeding date recommendations from Eliot Coleman in Maine. Here in Massachusetts, we may experiment with later planting dates as confirmed by research conducted in New Hampshire by Becky Sideman and Kaitlyn Orde. Also, Johnny's Selected Seeds has developed a useful tool at <http://www.johnnyseeds.com/t-InteractiveTools.aspx> to calculate fall seeding dates for your area.

Becky Sideman and her team at the University of New Hampshire have conducted research over the past several years on high tunnel spinach and low and high tunnel onion production. Here are their most recent research updates:

**Winter Spinach Production in Unheated High Tunnels:** Over the two winters of 2014-15 and 2015-16, we conducted studies focused on fall-planted spinach in unheated high tunnels. This work was done in Durham NH at the Agricultural Experiment Station's Woodman Farm. We looked at several different planting dates and varieties, to determine effects of planting date and variety on total season-long yield. Graduate student Kaitlyn Orde has just finished preparing a [new research report](#) that describes what we've learned. In general, September transplant dates resulted in much higher yields than later transplant dates, and these plantings started producing marketable yields by late fall. Transplanting from mid-

October through early November resulted in good spring yields, but these plantings did not produce before spring. A few varieties stood out as particularly low and particularly high yielding, but more important were qualitative differences in leaf shape, ease of harvest, etcetera . You can read the [full report here!](#) -Becky Sideman, UNH Extension

**Overwintering Onions for Spring Harvest:** For those who are considering growing fall-planted onions for overwintering, it's time to begin planting soon! In our experiments, we looked at several different varieties of onions at several planting dates, to narrow down the best time of planting and find new varieties (especially red ones) that will perform well in this system. We evaluated onions in high tunnels and low tunnels to determine whether onions might mature much earlier in high tunnels. Here's a brief synopsis of what we found: First of all, we did find a couple of promising red varieties. Also, we found that varieties varied greatly in terms of sensitivity to bolting. Planting early increased the chances of bolting in general, but for the most bolting-resistant varieties, planting early resulted in earlier maturity and bigger bulbs. To learn more, check out [the full report!](#) -Becky Sideman, UNH Extension

**Table 1.** Eliot Coleman's seeding dates for winter growing.

Summer-Fall seeding for Winter Markets on a 44 <sup>th</sup> Parallel Vegetable Farm in Maine (Eliot Coleman)			
T/D <sup>1</sup>	Crop	Sowing Dates	Notes
D	Arugula	8/29 -9/16, and 9/22-10/2	Sow successions every 2 days until 9/16 for outdoor fall harvest and sow in late September in unheated high tunnel for winter harvest
T	Beets	7/5, 7/19, 7/26, 8/2	Sow early July for storage and later for outdoor harvested baby beets
D	Carrots	7/5, 7/28, 8/4 -8/15	Sow early July for storage and later for fall and winter markets. Cover after November 1 <sup>st</sup> and harvest before February to preserve sweetness
T	Kale	7/16, 8/1, 8/13, 8/27	Sow July for outdoor fall harvest, and mid-late August in high tunnels and greenhouses for winter harvests
T	Lettuce	8/12 -9/9	Sow outdoor and under cover. Baby leaf is available outdoors from sowings made as late as 9/6
T	Onion	8/25 <sup>2</sup>	For low tunnel overwintered onions
T	Scallion	7/21, 8/1, 8/8	For fall harvest
D	Spinach	8/16-9/3 and 9/15 -9/21 <sup>3</sup>	Sow in August for harvest outdoors until thanksgiving. Sow in September for over wintering in high tunnels
D	Turnip	8/22-9/9 and 9/20 – 10/13	Sow late August and cover with low tunnels for winter harvest. Sow in September-October in greenhouses for harvest until Christmas.

<sup>1</sup> T = transplant D = direct seeded.

<sup>2</sup> Note: in New Hampshire trials, the highest low tunnel yields came from onions seeded mid-August and transplanted September 15-October1.

<sup>3</sup> Note: in New Hampshire trials, transplanting spinach was recommended for August-September high tunnel plantings to overcome VERY poor germination in high heat. Also, planting until late October did not compromise spring yields.

*Compiled by K. Campbell-Nelson, 2016 from Danya Teitlebaum, Queens Greens, Hadley MA, Eliot Coleman Four Season Farm, Harborside ME, Becky Sideman and Kaitlyn Orde, University of New Hampshire Extension.*

## EVENTS

### [Twilight Meeting: Equipment for Mechanical Cultivation & Product Washing and Packing](#)

**When:** Wednesday, August 10, 2016 from 4pm to 6pm

**Where:** Tangerini's Spring Street Farm, 139 Spring St, Millis, MA 02054

Tangerini's Farm is a 65-acre farm located in Millis, Ma. Produce is marketed through a 500 member CSA, an on-site farm stand, farmers' markets, food coops and wholesale buyers. Over the last two years, with support from an MDAR Food Safety Improvement Program grant, they have developed a washing and packing area to prepare all their pro-

duce. They will demonstrate the use of many pieces of equipment including wash tanks, barrel washer, bunch washer, onion topper and a conveyer system. They will discuss the flow of produce in the packing area as well as how it is stored. They will also show off some new investments and innovations in their cultivation equipment.

Lisa McKeag, from the UMass Vegetable Program, will also provide an update on the roll-out of the Food Safety Modernization Act (FSMA) in Massachusetts.

Contact Lisa McKeag at [lmckeag@umext.umass.edu](mailto:lmckeag@umext.umass.edu) or 413-577-3976 for more information.

### **IPM Climate and Weather Conference**

**When:** Monday, August 15th, 2016 from 9am - 4:15pm

**Where:** Albany County Cornell Cooperative Extension, 24 Martin Rd., Voorheesville, NY 12186

Organized and hosted by the New York State Integrated Pest Management Program (NYS IPM)

Supported in part with funding from Cornell Cooperative Extension

A wide variety of speakers from New York and the Northeast will provide background information on the current state of knowledge on climate change, changes in our weather patterns, and how collecting climate and weather data can help us predict and manage pests. Topics include climate change; agricultural, forest and landscape pests; human health; decision tools; and weather monitoring. Open discussion sessions are included so you can ask questions. Katie Campbell-Nelson, from UMass Vegetable Program will present on *Weather forecasting and modeling for diversified vegetable growers*.

Cost: \$45. Pre-registration closes on **August 10**. If you have questions, please contact Amanda Grace at [arw245@cornell.edu](mailto:arw245@cornell.edu) or 315 787-2208.

### **The 32nd Annual Massachusetts Tomato Contest**

**When:** Wednesday, August 24th, from 9am-1pm

**Where:** Boston Public Market, corner of Congress St. and Sudbury St. Boston, MA

The contest will be held in the KITCHEN at the Boston Public Market (entrance is on the corner of Congress St. & Sudbury St.). Tomatoes will be judged by a panel of experts on flavor, firmness/slicing quality, exterior color and shape. Always a lively and fun event, the day is designed for commercial growers with the goal of increasing awareness of locally grown produce. The 32nd Annual Tomato Contest is sponsored by the Massachusetts Department of Agricultural Resources, New England Vegetable and Berry Growers Association and Mass Farmers Markets in cooperation with the Boston Public Market and The Trustees of Reservations.

For more information or questions regarding the Tomato Contest contact [Julia.Grimaldi@state.ma.us](mailto:Julia.Grimaldi@state.ma.us), 617-626-1763.

### **Managing Phosphorus in Organic Residuals Applied to Soils**

**When:** Wednesday, November 2, 2016 from 8:45-4pm

**Where:** Holiday Inn, 265 Lakeside Ave. Marlborough, MA 01752

How do we develop a balanced system for use of organic residuals, with all their benefits, without adding to negative environmental impacts caused by phosphorus (P) leaching and runoff? This symposium will provide technical, research-based information and dialogue on the presence, forms, dynamics, transport, and fates of P applied to soils in organic residuals such as composts, biosolids, manures, and digestates from anaerobic digestion. This symposium is intended to help in developing guidelines for the use of P-containing organic residuals in accordance with nutrient management regulations.

Approval has been requested for the following professional certifications: CGCS, CSFM, MCH, MCLP, and AOLCP.

**Event Website:** <https://www.regonline.com/phosphorus>

**Contact:** Kelly Kraemer, 413-545-5221, [kkraemer@umass.edu](mailto:kkraemer@umass.edu)

## SPONSORS



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

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