UMass Extension
Vegetable Notes
For Vegetable Farmers in Massachusetts since 1975

Volume 27, Number 23 November 5, 2015

IN THIS ISSUE:

Crop Conditions
Compost Analysis and Interpretation
Searching out Winter Greens Pests
FSMA Update: Preventive Controls Rule - Farm Definition & Exemptions
NE-SARE Farmer Grants Due Nov 12
USDA GroupGAP offered in 2016
USDA Web Tool for Beginning Farmers
Events
Sponsors

Taking advantage of a calm morning this week to skin a high tunnel in Amherst, MA

CROP CONDITIONS

The fall has remained relatively dry, with the exception of one or two bigger rainstorms, and most of the state is operating at a moisture deficit for the month and for the whole season. Less water can be a good thing though; overall, there was enough moisture to maintain good crop growth without promoting disease, and the rain last week watered in cover crop seed that had been pretty slow to get started in early-October. While temperatures have been pretty mild on the whole, a sudden and hard frost on October 18 and 19th caused damage to many semi-tolerant crops and ended the season for others. Folks tried to get sensitive crops covered or out of the ground before the frost but some crops like Swiss chard and other hardy greens that normally can survive a frost easily got zapped because they hadn't been previously exposed to much in the way of cold weather. At this point the focus has shifted to harvesting root crops like beets and carrots, celeriac, turnips, as well as leeks and Brussels sprouts and loads of spinach, kale, and other brassicas. Other fall tasks like soil testing and manure amendments are being completed now, and growers are generally getting ready for the winter. CSA shares are ending and farmers' markets are winding down, but harvest and sales of fall staples like pumpkins, potatoes, apples, and squash have been strong. The farmers we've talked to are ready for a break and counting the days until Thanksgiving! Though, if you're growing winter greens, you're probably busy irrigating, weeding, scouting for pests, and anxiously awaiting the first harvests. As you start thinking more about winter and the snow flying, please consider registering for the New England Vegetable and Fruit Conference—pre-register by November 30 to receive the discounted registration price, and don't forget to book your hotel—it's a primary year in NH and we're anticipating company!!

COMPOST ANALYSIS AND INTERPRETATION

Compost users have many goals; sanitation (ex: kill pathogens, insect larvae, intestinal parasites, weed seed); bioremediation (ex: pesticides, petroleum contamination, sewage sludge); build soil organic matter, improve soil structure and moisture holding capacity, enhance soil microbial activity, or fertilize crops. These goals can be achieved when compost goes through the stages of decomposition and is properly cured, matured or finished. Decomposition begins with sow bugs, dung beetles, millipedes, centipedes, beetles, mites, springtails, earthworms etc. breaking down larger pieces of organic debris and then bacteria and fungi begin to decompose the matter further. During the **mesophilic** (40-100°F) stage of decomposition, proteins, sugars, and starches are oxidized, the microbial population increases rapidly, and the compost begins to heat up. The **thermophilic** stage of decomposition is most rapid at 100-140°F which is the temperature that most heat loving bacteria such as the actinomycetes are active and the most microbial activity in general occurs. One way to monitor your compost during the decomposition process is to smell it. If it smells like 'earth' that is a good sign that the actinomycete filamentous bacteria are producing geosmin (the fresh earth smell) as they die off. If the compost smells like sulfur, then the pile is likely too anaerobic and sulfur respiring bacteria are active. Finally, compost must cure and will be ready for use when it is about 86°F. Keep in mind that vermicomposting occurs at cooler tempera-

tures as it is driven by worm activity and studies have shown that a long period (30-50 days) is required to kill any human pathogens that may be present in the parent material of the compost.

In Massachusetts, several regulations impact the way that compost is made and used. If producing compost for commercial use, the EPA definition requires that a compost: **must stay at 104°F for 5 days and reach at least 131°F for 4 hours during that time.** Regulations governing the heavy metal content of composts made from feedstocks have been promulgated at the State and Federal levels as well. In 2014, Massachusetts placed a ban on the disposal of commercial organic wastes into landfills by businesses and institutions producing one ton or more of these materials per week. Also, no leaves or yard waste are allowed in landfills. This regulation has increased the amount of municipal and institutional composts being produced and used across the state especially in municipalities such as Worcester and Boston which require soil for growing food crops to be built on top of existing soils due to frequent lead contamination. Finally, 330 CMR 31.00 Plant Nutrient Application Regulations will go into effect December 5th, 2015 requiring that all sources of plant nutrients applied, including composts, be recorded for all sized operations and test analyses be kept as part of a nutrient management plan for farms growing on 10 acres or more at a time.

There are many agricultural, environmental, and regulatory reasons to get a compost analysis and interpret results for plant available nutrient content. So how is this done? Here's how:

Compost Sampling for Analysis:

Take samples with a shovel or trowel from uniform parts of the pile. Take 10-15 sub samples total from the top, middle and core of the compost pile, mix together and submit 2 liters for analysis (approx. 1 gallon ziplock bag). Two liters are needed to determine bulk density. Submit the samples as soon as possible rather than drying them ahead of time. The samples should be less than 60% moisture when submitted (should not form a ball in your hand). If it has less than 40% moisture the compost may be too dry to finish curing; more than 80% moisture and it likely does not have enough oxygen to finish curing. Submit compost samples to the UMass Soil and Plant Tissue Testing Lab for analysis.

Mature Compost has approximately:

pH 7
Total N 1%
Ammonia content <100mg/kg
C:N ratio 15-20:1
Soluble salt <3.5 mmhos/cm (<2mmhos/cm in greenhouses)

Maturity test: Place 2 liters of compost in a sealed container with a thermometer for 2-3days at room temperature. Mature compost should be at 86°F. Immature compost can reach 140°F or more.

Useful Conversions:

Parts per million times 2 = lbs/acre
1 ton = 2,000 lbs
1 acre = 43,560 ft^2

Cubic yards of compost required to cover a specific area: _____ ft^2 x _____ inches of compost x 0.0031 = _____ yd^3

Example: 43,560 ft^2 x 1 inch of compost x 0.0031 = 135 yd^3 per acre

Calculating nutrient application rates from compost

Click on the compost test report at right to follow along with the examples**.** The compost test used in this article is from a vegetable farmer who manages his culled vegetables carefully to make compost; letting one pile cure for a year before use while making a new pile each year, so he always has 2 piles in production. They use yard waste from local landscaping companies who do not use herbicides and do not add any manure feedstock to their compost. Manure based composts are also common and will typically have higher nutrient content (sometimes more P in particular) and higher pH of 7.5-8.

Sample compost analysis.
Click for larger image.

A) Volume method

1) Calculate cubic yards of compost applied per specific area (see useful conversions above)

2) Determine lbs nutrients applied per specific area:

a. Compost application rate (yd^3/area) x nutrient content (lbs/yd^3)
   = lbs of nutrient/specific area
b. **Example:** 135 yd^3/acre x 6.56 lbs N/yd^3 (from test) = 885.6 lbs Total N/acre

B) Weight method

1) Convert compost application rate from cubic yards to pounds:
   a. Compost application rate (yd^3/area) x compost bulk density (lbs/yd^3)
      = lbs of compost/specific area
   b. **Example:** 135 yd^3/acre x 1025 lbs/yd^3 (from test) = 138,375 lbs moist compost/acre
2) Determine compost application rate (per area) on a dry weight basis:
   a. Application rate (lbs/specific area) x dry solids content of compost (%)
      = lbs of dry compost applied
   b. **Example:** 138,375 lbs compost/acre x 0.57 = 78,873 lbs of dry compost applied
3) Determine nutrient application rate:
   a. Lbs of dry compost applied x percent nutrient on dry weight basis
      = lbs (total) of specific nutrient applied
   b. **Example:** 78,873 lbs dry compost x 0.0112 Total N (from test) = 883.4 lbs Total N/acre

Calculating Soluble Nitrate in compost

Soluble Nitrate represents what is immediately plant available at the time of application, making compost a helpful 'starter fertilizer'.

1) Convert moist weight mg/kg to %: 146 mg NO_3/kg (from test) x 0.0001 = 0.0146 %
2) Calculate lbs NO_3 /yd^3 of compost: 0.0146% NO_3 x bulk density 1,025 lbs/yd^3 (from test) /100 = 0.15 lbs NO_3/yd^3.
3) Calculate soluble nitrate available to your crop at the time of application: 0.15 lbs NO_3/yd^3 x 135 yd^3/acre = 20.25 lbs NO_3/acre

Calculating Plant Available Nitrogen (PAN) from compost

In most New England soils, a common mineralization rate is 10-15% N made available to the crop in the first year following application. Each subsequent year, half the amount mineralized in the year prior will be available. For example:

First season: 10% (885.6 lbs Total N/acre x 0.1) = 88.56 lbs PAN
Second season: 5% (885.6 lbs Total N/acre x 0.05) = 44.28 lbs PAN
Third season: 2.5% (885.6 lbs Total N/acre x 0.025) =22.14 lbs PAN

If applying compost annually, don't forget to account for nitrogen being made available from the prior year's application!

Calculating Plant Available Phosphorus from compost

See nutrient removal rates from soil for vegetable crops in the New England Vegetable Management Guide and you will notice that vegetable crops remove less P than is recommended for applications as a fertilizer. For example, broccoli removes approximately 10 lbs/acre of P from the soil while the recommended fertilizer application for soil with "optimum" P levels is 50lbs/acre for that crop. This is because in the first season following application, only 15-20% P is available; the rest precipitates as sparingly soluble iron, aluminum and calcium phosphates when incorporated into the soil. Once these binding sites are full, phosphorus will leach or run off. It is easy to over-apply phosphorous while achieving the nitrogen demands for a given crop when using compost. One strategy to remedy this problem is to apply less compost by calculating crop P needs, then supplementing the crop with N only fertilizers to meet N needs. Topdressing compost also increases the risk of leaching because the compost needs to be incorporated with iron, aluminum, calcium or magnesium in order to form phosphates and remain fixed in soil rather than in soluble form. Applying P in starter fertilizer or to the

crop root zones is the best management strategy for using P fertilizers. In the example below, a 135 yd^3/acre application rate of this compost would result in an excess of 66 lbs P (116 lbs P/acre – 50 lbs P/acre) applied for a broccoli crop to a soil in the "optimum" P range.

Example: 135 yd/acre x 0.86 lbs P/yd^3 (from test) =116.1 lbs P/acre

116.1 lbs P/acre x 0.15 = 17.4 lbs P available

You may also choose to use the table below to estimate compost application rates for P management based on soil test results in the future. The compost example used for this article has 0.15% P and falls into the "Low" category in the table below.

Maximum Compost or Organic Amendment Application and total P_2O_5 per Soil Test Category and P_2O_5 Concentration[1]

Compost/organic amendment P_2O_5 content	Soil Test Phosphorus Category				
	Very Low/Low Optimum		Optimum		Above Optimum
% P_2O_5 (dry wt.)	P_2O_5 (lbs/acre)	Compost (tons/acre)	P_2O_5 (lbs/acre)	Compost (tons/acre)	
Low (0.1 to 0.5%) 0.25%[2]	330	120	82	30	No application
Medium (0.5 to 1.5%) 1%	330	30	55	5	No application
High (1.5% to 3.0%) 2%	330	15	No application		No application

[1] Assumes moisture content of the compost or organic amendment of 45%.
[2] Percentage used to calculate amounts of P_2O_5 applied for various rates of compost applications.

-by K. Campbell-Nelson with special thanks to Bill OBear of Bear Path Farm Compost (www.bearpathfarm.com) and Iken Marjo of Greenfield, MA Water and Sewage for reviewing.

Resources:

Field Guide to Compost Use, 2001: http://compostingcouncil.org/wp/wp-content/plugins/wp-pdfupload/pdf/1330/Field_Guide_to_Compost_Use.pdf

New England Vegetable Management Guide, 2016-2017 ed: https://nevegetable.org/

UMass Soil and Plant Tissue Testing Lab:

Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: http://soiltest.umass.edu/

Compost analysis form:
https://soiltest.umass.edu/sites/soiltest.umass.edu/files/forms/Compost_102714.pdf

US Composting Council: http://compostingcouncil.org/tmecc/

SEARCHING OUT WINTER GREENS PESTS

By Elizabeth Buck, CCE Cornell Vegetable Program. Originally published in Cornell Extension's Veg Edge, Volume 11 issue 23, October 1, 2015

Fall is here and we're just about done with the growing season. Unless you happen to grow cool season greens. In that case, the fun is just beginning.

What kind of fun? Well, how about the thrill of watching all your little seedlings germinate, seeing the transplants take root and start growing? With the nice weather the past two weeks, no doubt they are looking good and lush, vigorous, amazingly delicious…for pests.

Turns out that the pests get pretty hungry this time of year, and of course they'll come enjoy that buffet you planted in the tunnel. Slugs are the most common diners, and they're politely not picky about what they eat. Aphids start to move in as their summer food sources die back, cabbage pests find your mustards and kale after the neighborhood cabbage is harvested, and sometimes flea beetles refusing to die and temporarily seek shelter inside. At least the flea beetles will actually die off with the winter.

Most pests set up shop and never leave, munching away happily all winter long. Cold won't kill them. Instead, they just take a little January nap deep in the canopy or just under the soil surface. Don't worry, they'll wake up voraciously hungry on the first sunny day in February. Several times we've documented caterpillars pupating overwinter in a tunnel, and butterflies can emerging in March.

See, a small fall feeding nuisance frequently becomes a big "spring" (ok, February/March) pestilence. Over the course of four years CVP staff followed pest problems in winter high tunnels. After spending that much time counting aphids and examining caterpillar droppings, I can say with confidence that pest populations left unchecked in the fall will be a much larger, significantly more difficult issue in the spring. Two reasons why: 1) the pests continue to multiply, and do so quickly with sunny days in late winter. 2) The control tactics simply do not work in the middle of winter – cold temperatures and dense canopies render them ineffective.

To successfully grow a low-cull winter greens crop, you have to adopt proactive management of pests (and disease). Start with simple things like cleaning up weeds around the tunnel edge. That'll help minimize aphid problems, especially if you have weedy sowthistles, lambsquarters, and pigweeds and would like to raise a clean lettuce crop. Next take care of weeds inside the tunnel. Chickweed is the worst offender in a winter tunnel, followed by henbit/purple dead nettle, and shepherd's purse. Slugs love to hide out under a weedy canopy, where it stays moist and cool all day.

Next, set the planting up to enjoy lots of good airflow. Use a bit wider spacing, install that louver vent, and make an easy system for pulling row cover on any sunny day, regardless of outside temperature. Better air drainage will decrease humidity. Decreasing humidity goes after both slugs and diseases – two birds, one stone.

Caterpillar frass.
Photo: Elizabeth Buck, Cornell Vegetable Program

Finally, commit to weekly scouting and aggressive treatment. Here's how to be most efficient, should take less than 30 minutes a week/3000 sq ft of a 5-6 species planting. I'm going to lay out the scouting what, where, and how for some common crops. When pest pressure begins ranges from now through Thanksgiving, so start scouting soon.

Aphids look like small sesame seeds and can be black, green, rosy, gray, and even yellow. They blend in with the foliage. Look for them on leaf undersides, and protected areas of plants like curled leaf margins, petiole bases, hearts, and next to midribs. **Action threshold**: 1 aphid/leaf.

Caterpillars come in 2 types: "cabbage" caterpillars (diamond backs, imported cabbage worms, and loopers) tend to be in the upper 2/3rds of a canopy, on either leaf surface. They are often found on the leaf, though may blend in well, and can be quite small when young. Armyworms and cutworms will feed aggressively and leave tremendous damage on young plantings. They'll go after chard, beets, and lettuce, and transplants before most cole crops. You're more likely to see their feeding or large frass pellets than the actual worms (see photo, top right). Caterpillars leave frass pellets that may fall to the base or center of a leaf/plant, and feed by biting, not peeling layers off the leaf. Action threshold for "cabbage type": presence on more than one plant, or more than one caterpillar per plant. **Action threshold** for other caterpillars: presence.

Slug feeding damage and frass.
Photo: Elizabeth Buck, CVP

Slugs are particularly tricky. I don't find the "look for a slime trail" method reliable. They like to hide in dark, dank places during the day. It works much better to put a small piece of scrap wood down in a couple locations and check underneath. Look in any place that stays moist, like edges of houses, in dense plantings, under plastic, or in weedy patches. On the crop itself, look for stringy, messy frass and characteristic "layer by layer" feeding

patterns (see photo, previous page). **Action threshold**: Always assume you have slugs. Treat with slug bait at planting and reapply as needed.

Kale: Aphids, slugs, and cabbage worms
Pick a plant. Start at the bottom and work your way to the top, giving it a general look for feeding damage, frass, and slime trails. Closely inspect three leaves for damage. The first should be low on the plant, ideally touching but not on the ground. Look for slug feeding, slime, or frass. Aphids will often show up first on lower kale leaves – be sure to look closely along the midrib and in the frilly tips. Next pick a middle leaf, look for aphids and slugs and caterpillars. Caterpillars on middle leaves tend to be on both surfaces and may be small. Choose a small upper leaf that has lots of frills and roll them back to check for caterpillars and frass in the center of the leaf. Check for aphids on all parts, including the frilly margins. Repeat for 10-15 plants. Scouting is similar for leafy brassicas.


Spinach crown mite damage.
Photo: Elizabeth Buck, CVP

Spinach: Aphids, slugs, spinach crown mite
Pick 3-6 spots in a planting. At each spot examine 5 plants for slug feeding and abnormally shaped new growth. Spinach crown mite is invisible to the naked eye, but it will present as new growth with small holes in the leaves, puckering, and deformed leaf margins (see photo, right). Examine the leaves for aphids. Pick one plant at each spot and tear it apart, looking for aphids at the base of the leaves and in the crown.

Beets, chard: Aphids, caterpillars, slugs
Caterpillar feeding is very obvious and fairly destructive. You'll have no problem finding it. Slug feeding is common on chard, but not so common on beets. Be sure to check for slug feeding on the juicy leaf stalks. Frass will often roll down to the leaf bases. When beets get aphids, they tend to be badly infested. Catch it early by examining 10-15 plants, checking 2 large and 2 small leaves for aphids. Be sure to look in rolled leaf margins.

Lettuce and heading brassicas: Aphids, slugs, caterpillars
Pick 3-6 spots and examine 3-5 plants per spot, more plants if you do fewer spots. Pick one side of the plant and start looking at leaves – both surfaces and don't forget to check on the stalks and leaf bases. Check each leaf following one path to center. Write down the total number of aphids and leaves examined, and divide aphids by leaf to get your pest population. Make note of any slug/caterpillar activity. Remember that frass will often fall to the base of the leaves.

FOOD SAFETY MODERNIZATION ACT UPDATE: PREVENTIVE CONTROLS RULE - FARM DEFINITION & EXEMPTIONS

By Wes Kline, Rutgers University Extension. Originally published in the Rutgers Plant & Pest Advisory, October 15, 2015

The Risk-Based Preventive Controls for Human Food final rule was published in the Federal Registry September 17, 2015. This is the first of two which may directly impact fruit and vegetable growers. To review the complete rule, go to https://www.federalregister.gov/articles/2015/09/17/2015-21920/current-good-manufacturing-practice-hazard-analysis-and-risk-based-preventive-controls-for-human.

This rule updates good manufacturing practices related to processing and clarifies the farm definition and exemptions. Under the original proposed rule there were several activities on farms in our region that would have had to comply with this rule. However, with the revised definition most activities are exempt or fall under the Produce Rule which will be published at the end of October. [*Editor's note: the final Produce Safety rule was submitted to the Federal Register on November 2. Documents submitted to the Federal Register can publish several days after they are submitted, with larger documents taking longer to process and display. View the* proposed Produce Safety rule in the Federal Register.*]*

Under the final definition there are two ways to be considered as a farm: as a "Primary Production Farm" or as a "Secondary Activities Farm."

A primary production farm is defined as "An operation under one management in one general (but not necessarily contiguous) physical location devoted to the growing of crops, the harvesting of crops, the raising of animals (including seafood),

or any combination of these activities." This includes harvesting, packing and holding as well as some processing/manufacturing as long as it does not change the raw agricultural product into a processed food. Some examples include: drying/dehydrating raw agricultural products, treatments to ripen a raw commodity (i.e. ethylene gas) and packing and labeling raw agricultural products as long as there is no additional manufacturing. A farm can pack and hold raw agricultural commodities even if not grown on that farm.

A secondary activities farm is defined as "An operation, not located on a primary production farm, devoted to harvesting (such as hulling or shelling), packing, and/or holding of raw agricultural commodities (RACs). However, this definition only applies if the primary production farm(s) that grows, harvests, and/or raises the majority of the raw agricultural commodities harvested, packed, and/or held by the secondary activities farm owns, or jointly owns, a majority interest in the secondary activities farm." To be considered a secondary activities farm the primary production farm(s) must own the majority of the secondary farm and provide the majority of the product to the secondary farm. This can apply to a cooperative where the primary farms own the cooperative and supply the majority of the product to the cooperative.

Retail food establishments are also exempt from registering with FDA, and the Preventive Control Rule does not apply. The definition of a retail food establishment is "An establishment that sells food products directly to consumers as its primary function. The retail food establishment may manufacture/process, pack, or hold food if the establishment's primary function is to sell food from that establishment, including food that it manufactures/processes, packs, or holds, directly to consumers. A retail food establishment's primary function is to sell food directly to consumers if the annual monetary value of sales of food products directly to consumers exceeds the annual monetary value of sales of food products to all other buyers. Consumers are not businesses under this definition. Retail establishments include community-supported agriculture (CSAs), roadside stands, farmers markets, tailgate markets, grocery stores, convenience stores and vending machine locations.

There are many details to the Preventive Control rule, but the bottom line is most farms in our region will not need to comply with this rule. If you process or manufacture fresh fruits and vegetables on a larger scale then you may need to comply. The threshold for an additional exemption is 500 employees and less than $1,000,000 in sales.

For a good explanation of the requirements go to the National Sustainable Agriculture Coalition blog to read a three part series entitled "Who is subject to FDA's New FSMA Food Facilities Rule.":

Part 1: Exemptions
Part 2: Small Biz/Low Risk
Part 3: Full Requirements

NORTHEAST SARE FARMER GRANT DEADLINE IS NOVEMBER 12

Northeast SARE is offering farmer grants for commercial producers who have an innovative idea they want to test using a field trial, on-farm demonstration, marketing initiative, or other technique. A technical advisor--often an extension agent, crop consultant, or other service professional--must also be involved. Projects should seek results other farmers can use, and all projects must have the potential to add to our knowledge about effective sustainable practices. Grants are awarded up to $15,000 and the application deadline is November 12th, 2015. Click here for the application: http://www.nesare.org/Grants/Get-a-Grant/Farmer-Grant. Questions? Contact MA-SARE State Coordinator, Katie Campbell-Nelson at kcampbel@umass.edu or 413-545-1051.

USDA WILL OFFER GROUPGAP AUDIT SERVICE IN 2016

The USDA will begin offering GroupGAP among its 3rd-party audit services for food safety certification in Spring 2016. This is an expansion of a pilot program that began in 2010, under which groups of small and mid-sized farmers can organize as a single entity, such as a food hub or grower cooperative, to obtain a single GAP certification. Participating farms collaborate to develop a food safety plan and maintain documentation, perform their own internal audits and undergo an external USDA Specialty Crops Inspection Division audit. This may be a good opportunity for smaller farms to share information and costs related to farm food safety. See the USDA press release from October 22 and this blog post from the National Sustainable Agriculture Coalition for more information about this new service.

New USDA Web Tool for Beginning Farmers

The USDA recently announced its commitment to expand its support for new and beginning famers by $5.6 billion. Their targets are outlined in this fact sheet describing the various programs to which they are committing funding, including increasing the percentage of EQIP dollars and farm loan programs benefitting beginning farmers. Their new web tool, created based on feedback from beginning farmers around the US, allows farmers to search for information on topics such as farm business planning and tax filing, and to find loan and grant opportunities, with special sections for new farmers, women, young farmers and veterans.

Events

Get Ready for Spring 2016: Growing Spring Greenhouse Crops

When: Tuesday, November 10, 2015 from 9:30 am to 3:00 pm
Where: Town Place Suites, 50 Rosebrook Place, Wareham, MA 02571

This is a good opportunity to hear about the latest on greenhouse crop production:

- *Greenhouse Sanitation and Weed Management* - Russ Norton, Barnstable County Extension
- *Managing Plant Nutrition of Greenhouse Crops* - Dr. Douglas Cox, UMass Extension
- *Managing Insects and Mites* - Tina Smith, UMass Extension
- *Managing Diseases* - Dr. Angela Madeiras, UMass Plant Disease Diagnostic Lab

3 pesticide credits approved – private certification.
Program and Registration Details *(on-line or mail-in registration available)*

Better Process Control School

When: Tuesday, November 17, 2015 to Friday, November 20, 2015
Where: UMass Amherst, 102 Holdsworth Way, 243 Chenoweth Laboratory, Amherst, MA 01003

This course will train food processors on the principles of acidification, and container closure evaluation programs for low-acid and acidified canned foods as required by FDA regulations in CFR 108, 113 and 114. The purpose of these regulations is to help ensure the safety of consumers by training producers. This course will satisfy both USDA and FDA requirements. For guests that are traveling out of the area, we have a room block rate of $125/night at the UMass Hotel until October 19th. The code is BEP15C and guests can either reserve online (http://www.hotelumass.com) or call 877-822-2110.

FDA Public Meeting in New England: Food Safety Modernization Act Final Rules

When: Monday, December 14, 2015 from 9:30 am to 3:00 pm
Where: Latchis Theatre, 50 Main Street, Brattleboro, VT 05301

Join FDA subject matter experts for an overview of three final Food Safety Modernization Act (FSMA) rules:

- Produce Safety
- Preventive Controls For Human Food
- Preventive Controls For Animal Food

... And ask YOUR questions about what the rules cover and who must comply.
This is the only public meeting that the FDA will hold on final FSMA rules in the Northeast!
Free and open to the public. No registration required. This event is accessible to people with disabilities. For more information or to request accommodations such as seating, interpreting, etc., call (802) 522-7811 or email kristina.sweet@vermont.gov in advance of the event.

The 2015 New England Vegetable and Fruit Conference

When: Tuesday, December 15 to Thursday, December 17, 2015
Where: Radisson Hotel – The Center of New Hampshire, 700 Elm St, Manchester, NH 03101

December 15-17th

NEVF New England Vegetable & Fruit Conference 2015

New England Vegetable & Fruit Conference and Trade Show includes more than 25 educational sessions over 3 days, covering major vegetable, berry and tree fruit crops as well as various special topics. A Farmer to Farmer meeting after each morning and afternoon session will bring speakers and farmers together for informal, in-depth discussion on certain issues. There is also an extensive Trade Show with over 100 exhibitors.

This conference is special because it is put together with close collaboration between growers and Extension from across the region. The steering committee gathers the best speakers from within our region and across the country to tell you about the latest innovations and advances in the fruit and vegetable industry. Almost every session includes both farmers and research or extension personnel, so you are getting the "best of both worlds." On-line registration is open!

Introduction to HACCP

When: Tuesday, January 12, 2016 to Thursday, January 14, 2016
Where: UMass Amherst 102 Holdsworth Way, 243 Chenoweth Laboratory, Amherst, MA 01003

This course covers the fundamentals of HACCP (Hazard Analysis Critical Control Point) and is taught by certified International HACCP Alliance instructors. This particular course will have an emphasis on fresh-cut produce, beverages (including juice and cider), baked goods, and dairy products. The concepts will be reinforced by breakout group activities in which participants will have the opportunity to prepare a HACCP plan. All participants will receive an International HACCP Alliance certificate issued through the University of Massachusetts upon successful completion of the course.

Course topics will include: HACCP overview Perquisite Programs, Overview of the Seven Principles, Sanitations and SSOPs, Biological, Physical, and Chemical Hazards, Conducting a Hazard Analysis, Determining Critical Control Points, Establishing Corrective Actions, Establishing Monitoring, Establishing Verification & Validation Procedures, Documentation Practices & Record Keeping, Regulatory Issues, Auditor Expectations

For guests that are traveling out of the area, we have a room block rate of $125/night at the UMass Hotel until December 14th. The code is HAC15C and guests can either reserve online (http://www.hotelumass.com) or call 877-822-2110.

THANK YOU TO OUR SPONSORS

Vermont Compost Company — Feed the Soil

Farm Credit East

New England Vegetable & Berry Grower's Assoc.

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