UMass Extension
Vegetable Notes
For Vegetable Farmers in Massachusetts since 1975

Volume 31, Number 24 November 14, 2019

In this issue:

Readying a tractor for bulk root harvest on a frosty morning this month at Wintermoon Roots Farm in Hadley, MA. Photo: G. Higgins

Crop conditions

It's starting to feel more like winter out there over the last few days, with temperatures dropping into the teens for a few nights late last week and early this week and some parts of the state getting their first snow. The cold temps sent many farmers into a harvesting frenzy, trying to get any cold-sensitive crops out of the ground and into storage. Some of the more frost-tolerant crops—carrots, spinach—are still hanging on in the fields. The first winter greens successions are sizing up for harvest now, so while the outside world is going to sleep, the second growing season is just starting to ramp up! One grower told us this week that while it's always nice to have fall crops that keep on giving despite dropping temperatures and frosty ground, part of them can't wait until the field crops are finally finished for the season so that they can slow down and switch into planning mode for next season. As you start to think about crop planning, seed orders, and pest management strategies for next year, think about whether you routinely have problems with seed-borne pathogens in specific crops and consider hot water treating your seed to help eliminate those pathogens. See the article in this issue for information on hot water seed treatment—the UMass Vegetable Program can do it for you!

For more ideas about how to spend your planning time this winter, see the article on developing an IPM plan to further help you think about your pest management strategies, and thinking longer-term, consider attending Land For Good's Farm Succession School (see Events in this issue for details).

Hot water seed treatment

Some plant pathogens, including specific fungal, oomycete, and viral pathogens, can be carried on seed; some can only infest the seed surface, but others are able to penetrate the seed coat and survive within the seed. In both cases, the pathogen can then grow with the seed when it is planted, resulting in an infected plant. Therefore, starting with disease-free seed is an important step towards growing disease-free crops. Seeds can be treated with chlorine or pesticides to eliminate pathogens that are associated with the surface of seeds. However, these treatments cannot penetrate the seed coat, and therefore leave internal pathogens untouched. Hot water can penetrate the seed coat and can also kill pathogens, making it a useful tool for managing seed-borne pathogens.

Treating your seeds with hot water can help prevent the establishment of seed-borne diseases on your farm, or prevent their reintroduction year after year. However, it's important to note that while hot water seed treatment will kill pathogens on and within your seeds, it does not protect crops from disease and does not guarantee disease-free crops. Crop rotation and field sanitation are key for preventing diseases that overwinter on crop debris, and crops need to be scouted regularly for wind-, water-, and insect-borne diseases.

Hot water seed treatment has the beneficial effect of priming seeds, resulting in faster germination than untreated seed. However, the treatment can decrease germination rates, especially of older seed (more than 1 year old) or seeds that were grown under stressful environmental conditions. Treated seed does not remain viable for as long as untreated seed and

should be planted during the growing season immediately following treatment.

Deciding which seeds to treat: To decide whether to use hot water treatment, first determine the likelihood that seed-borne pathogens could be present based on the crop (see Table 1 for reference). Tomato, pepper, and brassicas are good candidates for hot water seed treatment because there are common bacterial and fungal diseases of these small-seeded crops that can be easily killed through treatment. Next, ask your seed supplier if the seed was produced in a way to minimize exposure to seed-borne pathogens and if the seed was tested for their presence. Find out if the seed has already been treated with hot water or if it has been primed (pre-soaked to promote earlier and more uniform germination), as treating again could adversely affect the seed. You should also not treat seed that has a fungicide or insecticide treatment coating, as it will wash off during treatment. Only a few companies routinely hot-water treat seeds—many are reluctant because there is a risk that germination rate will drop if the water is too hot or if the seeds were already exposed to stressful environmental conditions.

Large-seeded crops (beans, cucurbits, peas, corn etc.) are usually not effectively disinfested with hot water treatment because the temperature required to heat the whole seed would kill the outer seed tissue and the seed will not germinate. In some cases, hot water has been used to disinfect just the surface of larger seeds, for example, treating anthracnose on beans.

Treatment procedure: The general protocol for seed treatment is the same across all crops, with just the water temperature and treatment time varying depending on the crop. The temperature of water for treating seed varies from 115 to 125°F, and the treatment period varies from 10 to 60 minutes. It is important to use the appropriate protocol for each crop to control pathogens without damaging the seed. While hot water seed treatment can be done effectively on a stovetop in a large pot with an accurate thermometer and careful temperature control, it is easier and safer to use precision water baths which provide an even, stable, and accurate temperature.

We use a strip of insect netting, folded in half and stapled along either side to make reusable treatment packets. The open edge of the packet is clamped shut with binder clips.
Photo: UMass Vegetable Program

Before you treat all of your seed, you may want to conduct a seed germination test, as different varieties and lots may react differently to hot water treatment. Treat a 50 or 100-seed sample using the procedure below, then test the germination of both the treated seeds and an equal number of untreated seeds, either in the same growing medium that you plan to use for transplant production, or in a moist paper towel. If the test gives acceptable germination rates, treat as much seed as you expect to use in the coming season.

1. **Preheat water baths.** Heat one bath to 100°F and another to your treatment temperature (see Table 1). The first bath will be used to preheat the seed so that the temperature of the treatment bath doesn't drop when the seeds are added. Heat enough water to allow water to move around seeds freely. We treat about six 4"x3" packets at a time in our six liter water bath. Use an accurate laboratory thermometer. It is important that the water be maintained at a uniform temperature throughout the bath, that the recommended temperature not be exceeded, and that the seed be treated no longer than the time interval specified. A stirring hot plate helps to provide continuous agitation and uniform water temperature, though it can be done with continuous, consistent manual agitation or an aquarium bubbler. Keep a separate container of room temperature water close by to add, if necessary, to prevent overheating.
2. **Prepare the seed.** Make a packet for the seeds out of cheese cloth, screen, a coffee filter, or insect netting. Fill each packet no more than halfway with seed, to allow for water movement throughout the packet. Include a metal bolt, coin, or other weight to keep the seed submerged. Label all packets, especially if you're treating more than one variety at once!

Treat seed in an ample amount of water so that the water can move throughout each seed packet.
Photo: UMass Vegetable Program

3. **Pre-heat the seed.** Submerge the seed in the pre-heat bath for 10 minutes, constantly checking the temperature to ensure that it does not rise above 100°F.
4. **Treat the seed.** Move the seed to the treatment bath and treat for recommended time (see Table 1). Again, check the temperature constantly to ensure that it does not rise above the recommended temperature. Remove the seeds promptly and run them under room temperature tap water to cool them.
5. **Dry the seed.** Pat dry with towels, then air dry at 70 to 75°F by spreading the seed on dry paper towels. We use a simple food dehydrator with a fan only option (no heat! Look for a dehydrator with a fan only option; not all have this) to dry the seeds quickly.

Table 1. Treament times, temperatures, and diseases controlled by hot water seed treatment for vegetable crops

Crop	Treatment Temperature and Time		Diseases Controlled
Broccoli	122°F	20 minutes	Alternaria leaf spot, Bacterial leaf spot, Black leg, Black rot
Brussels sprouts	122°F	25 minutes	
Cabbage	122°F	25 minutes	
Collards	122°F	20 minutes	
Kale	122°F	20 minutes	
Carrot	122°F	20 minutes	Alternaria leaf blight, Bacterial leaf blight, Cercospora leaf spot, Crater rot/foliar blight
Celery/Celeriac	118°F	30 minutes	Bacterial leaf spot, Cercospora leaf spot, Septoria leaf spot, Phoma crown and root rot
Eggplant	122°F	25 minutes	Anthracnose, Early blight, Phomopsis, Verticillium wilt
Lettuce	118°F	30 minutes	Anthracnose, Bacterial leaf spot, Lettuce mosaic virus, Septoria leaf spot, Verticillium wilt
Onion	122°F	20 minutes	Purple blotch, Stemphylium leaf blight, Basal rot, Botrytis blight, Smudge, Black mold, Downy mildew
Pepper	125°F	30 minutes	Anthracnose, Bacterial leaf spot, Cucumber mosaic virus, Pepper mild mosaic virus, Tobacco mosaic virus, Tomato mosaic virus
Parsley	122°F	30 minutes	Bacterial leaf blight, Alternaria leaf blight, Black rot, Cercosporoid leaf blight, Septoria blight
Spinach	122°F	25 minutes	Anthracnose, Cladosporium leaf spot, Cucumber mosaic virus, Downy mildew, Fusarium wilt, Stemphylium leaf spot, Verticillium wilt
Tomato	122°F	25 minutes	Alfalfa mosaic virus, Anthracnose, Bacterial canker, Bacterial speck, Bacterial spot, Cucumber mosaic virus, Early blight, Fusarium wilt, Leaf mold, Septoria leaf spot, Tomato mosaic virus, Verticillium wilt, Double virus streak

Source: "Managing Pathogens Inside Seed with Hot Water" – Meg McGrath, Cornell University Long Island Horticultural Research & Extension Center

Equipment: There are many options for water bath equipment; cheaper options likely require you to watch and adjust the temperature constantly where more expensive options may be more precise and hands-off. Stirring hot plates start at about $400. Both analog and digital precision water baths run at about $700 minimum. Laboratory thermometers are about $15.

UMass Hot Water Seed Treatment Service: If the procedure above sounds daunting or you're not sure you want to invest in hot water treatment equipment, we can treat your seed for you! We are currently only able to treat seed that will be used by the submitter—we cannot treat seed that will be resold or distributed. Submissions are generally treated and returned to the submitter within 10 days of receipt. For information about this service, including shipping and pricing information, please see our Hot Water Seed Treatment Submission Form.

--Updated for 2019 by G. Higgins, UMass Vegetable Program

IMPROVE PEST MANAGEMENT BY PLANNING AHEAD

Integrated Pest Management (IPM) is a stepwise approach to managing pests that combines accurate knowledge of the pest and level of potential harm with multiple tactics to prevent, reduce, or eliminate the effect of pests (disease, insects, weeds, or even abiotic issues) on your crops. It is not an alternative to organic or conventional production, but is a strategy that can be used by any grower, whether using organic or conventional materials.

Over decades of working directly with growers to implement IPM on their farms, we have developed an IPM planning template to help you focus and be successful with your pest management strategies. Following are instructions for completing an **IPM Plan** (click on the link for a blank template):

1. **Crop & Pest** columns: Choose up to 5 pest-crop combinations you would like to work on most this season. We have found that choosing no more than 5 pest issues each season leads to more successful pest management because it allows you to focus on learning pest identification and life cycles and become more confident at using control strategies that work. Often, growers will choose to focus on their most valuable or newest crop(s). Each season, you can choose new pests and crops to build on your IPM knowledge from the previous year.
2. **Past Control Strategies** column: Write down what strategies you have tried before.
    a. **What worked? What didn't work?** Take a moment to think about your crop quality, inputs, and yields this season in terms of the pest in question. Did you implement a practive that reduced pesticide use, labor, or other inputs on the crop? Was the crop more profitable? Perhaps some of your strategies worked, but not others; write down both. "I don't know" may be what you write down, especially if you are working with a crop or pest that you don't have much experience with.
3. **Future IPM Strategies** column: Some of the core IPM strategies are listed below. List the strategies that you plan to use. Be picky; only write down the strategies you think you will actually use.
    a. **Accurate identification:** Determine the true underlying cause of the pest problem through soil or plant tissue testing, disease diagnostics, insect and weed identification, or other methods. Often, pest identification is the most important task in the first year of developing an IPM plan.
    b. **Pest scouting:** Determine pest levels, damage, and life stages, and keep records over time. We recommend weekly scouting for most crops (sometimes more frequnetly, for example as pest levels approach thresholds). See our scouting resources page for pest scouting sheets that we have developed for different crops.
    c. **Monitoring & Forecasting:** Use data loggers, pheromone traps, online networks, pest models, and pest or weather forecasts to monitor or predict pest arrival/emergence and potential for damage.
    d. **Cultural practices:** E.g. crop rotation, mulches, irrigation, resistant varieties, row covers.
    e. **Biological control:** Attract and/or release beneficial insects, predators, or parasitoids to control pests.
    f. **Chemical control:** Choose the right materials and spray timing. Improve coverage, and manage for resistance.
4. **This Year's Plan** column: Fill in the year here. Get more specific with the strategies you listed in the previous column. Use our **Scouting Toolkit Inventory** to find out what supplies you will need for the season and where to buy them. *Write down the tools and supplies needed, people involved, resources to use, etc. Write down the steps necessary to implement your plan and who will do them.*
5. **Calendar Alert** column: *When does each task need to be completed or planned?* Jot down dates or set calendar reminders to make sure you set up traps on time, know when to begin scouting for a pest, etc. Review past *Pest Alerts* in *Vegetable Notes* to get an idea when pests first appeared in your area or rely on past experience to plan.
6. **Notes** column: Consider other factors that may impact your pest management success but may not be directly related to your plan. For example: equipment or labor shortages, unpredictable weather, underlying field conditions (e.g., rocky, low fertility, prior crops, surrounding environment), etc. *Write down any of these outside influences that may have a specific effect on your plan.*

Here is a sample IPM plan from a grower we have worked with in the past to guide you. In this example, we select one

pest to tackle using the IPM principles of accurate pest identification, scouting, monitoring, and implementing an effective chemical control at the right time.

Crop	Pest	Past Control Strategies	Future IPM Strategies	This Year's Plan: _2018_	Calendar Alert	Notes
Summer Squash, Zucchini, and various winter squash: Delicata, Butternut Acorn Spaghetti	Squash Vine Borer (SVB)	We identify the larvae in stalks, but it's too late to treat once they are infesting the crop. We lost about 30% of yield to fruit infestation in the fall. We didn't know there could be 2 generations of SVB per year! **What didn't work?** Treatment was too late since Entrust must be consumed by the larvae before they enter the stalk and row cover is not practical on a large scale. We need to know when adults arrive, how to identify eggs and when to treat so that we can target larvae before they enter the plant.	**Accurate Identification:** Adult and eggs. **Monitoring:** Use pheromone trap to determine arrival of adults. Trap is to be placed in the top of the crop canopy about 3ft. above the ground. **Chemical Control:** Use Entrust targeting based of plant at a threshold of 5 adults/ trap in non-vining crops and 12/trap in vining crops.	Get Pest ID guide from UMass Extension. Manager order trap and pheromones from *Great Lakes IPM*. Manager will set up the trap with field crew and assign a scout. First place the trap in the field where the winter squash was last year, then when the first adults are captured, move the trap to the summer squash field. Scout will check traps weekly and scout for eggs then report to Manager. Farmer will treat at threshold.	December 3rd: Order trapping supplies and ID Guide. May 15th: Set up trap. Early June (likely): Scout for eggs near the base of the plant. Weekly, May 15th – harvest: Check trap and scout field. Spray if threshold is reached.	Summer Squash is being grown in the field adjacent to last year's winter squash which had a high infestation, so heavy pressure is expected. The winter squash was not tilled under to destroy pupae because this is a No-till field, so higher populations are also expected.

--Written by K. Campbell-Nelson & S. Scheufele, 2017. Updated for 2019 by L. McKeag

OPTIMAL CONDITIONS FOR STORAGE CROPS

Ethylene and chilling injury, shown at left in cabbage and sweet potato, respectively, are common problems for storage crops. See the table on the next page for optimal storage temperature and humidity for different crops, as well as crop sensitivity to ethylene, maximum storage time, and other important storage considrations. Photos: UC Davis

Crop	Storage	Notes	Ethylene Sensitivity*
Beet, Radish, Turnip & Rutabaga	Store at 32°F and 95% RH with greens removed. Radishes can be stored for 2-4 months, turnips and rutabaga for 4-5 months, and beets for 4-6 months.	Low humidity causes shriveling and weight loss, and shortens storage life.	LOW
Cabbage	Store cabbage at 32°F and 98- 100% RH. Can last 4-6 months in optimum conditions.	Cabbage and other Brassicas freeze at 30°F, and storability starts to decrease at >34F. Presence of light in storage can decrease leaf yellowing during storage.	HIGH (promotes leaf yellowing, wilting, and abscission)
Carrot	Store carrots at 32°F and 98- 100% RH. Can be stored 5-9 months. Potential storage time increases with higher RH.	May be stored washed or unwashed. Washing immediately after harvest may reduce disease incidence in storage. Storing with ethylene- producers (like apples), and wounding and bruising during washing, can cause bitterness.	HIGH (causes bitterness)
Garlic	Store at 32°F and 65-70% RH. Seed garlic should be stored at 50°F. Garlic should keep for 6 to 7 months at 32°F.	High temperatures (>65°F) cause dehydration, intermediate temperatures (40-65°F) promote sprouting, and high RH promotes root growth and molding.	LOW
Onion	Store at 32°F and 65-70% RH. Avoid condensation by cooling gradually and maintaining steady temperature. Storage potential depends on variety.	As onions mature, their dry matter content and pungency increase. Onions produced from seeds store longer than those from sets. High temperature increases sprouting, high RH stimulates root growth, and the combination increases likelihood of rotting.	LOW
Parsnip	Store at 32°F and 90-95% RH with greens removed. Parsnips will keep for 2-6 months at optimum conditions.	Starches in parsnip roots convert to sugars at cold temperatures. Early fall-dug parsnips can be induced to sweeten with a short (2-3 weeks) cold storage treatment.	HIGH (causes bitterness)
Potato	Lower temperature gradually to 40-45°F for tablestock or seed. Store at 50°F for chip stock varieties. Maintain RH at 90%. Store 5-8 months.	Curing and storage environments must be dark to prevent greening. At colder temperatures, starches convert to sugar.	LOW
Sweet potato	Store at 55-60°F at 90% RH. Well-cured roots can store for up to a year in optimal conditions.	Starches in roots convert to sugars for the first 30 days postharvest; wait until 3 weeks after harvest for best flavor. Avoid chilling injury by keeping roots above 50°F. Chilling injury promotes root decay and decreases storage potential.	MODERATE (causes discoloration)
Winter Squash	Store at 55-60°F and 50-75% RH. Storage potential varies with variety, from 2-6 months.	Avoid chilling injury in field or storage, which occurs when temperatures are below 50°F. Injury increases as temperature decreases and/or length of chilling time increases. Decay accelerates after chilling. High temperatures decrease flesh quality, and high RH promotes decay.	MODERATE (causes discoloration)

Crops that produce significant amounts of ethylene during storage include:* ***apple**, pear, peach, plum, cantaloupe, tomato, plus several tropical fruits.*

--Written October 2011 by A. Brown, A. Cavanagh, R. Hazzard, University of Massachusetts, and B. Sideman, University of New Hampshire. Funded by Northeast SARE Winter Vegetable Project UMass - UNH - CISA- SEL. Updated January 2018 by G. Higgins.

News

Deadline to send questions about MA Overtime and Minimum Wage Law is November 15th

According to a March 2019 ruling of the MA Supreme Judicial Court, workers on farms performing "secondary" activities such as sorting, packing, or cleaning are entitled to minimum wage and, for workweeks over 40 hours, overtime rates for those activities. There are still some grey areas as to when the Department of Labor would consider an activity "secondary".

MFBF [Massachusetts Farm Bureau Federation] is working with the Attorney General's Wage and Hour Division and the Executive office of Labor and Workforce Development (EOLWD) to answer questions. If you have questions on whether or how the ruling applies to your farm, please email it to brad@mfbf.net by November 15. Farm Bureau will compile and forward emails to EOLWD and the AG who has agreed to put up written responses on their Web site (MFBF will promote the link when answers are posted).

When sending in questions, please be as detailed as possible. For instance, if asking about whether a worker painting a barn is exempt from overtime, describe the purpose for which the barn is used. Such details might be key to whether the activity is exempt or not.

The Massachusetts Urban Agriculture Program FY'20 RFR posted to COMMBUYS

The Massachusetts Department of Agricultural Resources ("MDAR") seeks proposals for funding projects that will commercial urban food production in the Commonwealth, as well as Community Gardens. MDAR's Urban Agriculture Program is seeking to award grants statewide to promote strategies addressing food insecurity, to expand and create new economic opportunities and to increase access to fresh, local produce in urban neighborhoods. Organizations who received funding in an earlier FY'20 round are not eligible. **Application deadline is 4:00 PM on November 15, 2019.** The bidder is responsible to refer to the COMMBUYS link for any changes or updates to the RFR. Direct link: www.commbuys.com/bso/external/bidAck.sdo?bidId=BD-20-1002-1003-001-44958&parentUrl=activeBids

Northeast SARE Farmer Grant cycle is open – Submission deadline December 3, 2019

The Northeast Sustainable Agriculture Research and Education (SARE) Program has released the call for applications for 2019 Farmer Grants. Proposals are due online by Tuesday, December 3, 2019 at 5 p.m. E.T.

Northeast SARE Farmer Grants are 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

Application materials, including detailed instructions and supporting documents, are posted on the Northeast SARE website at https://www.northeastsare.org/Grants/Get-a-Grant/Farmer-Grant.

Two energy-related programs, one state and one federal, both available to farmers, are open now.

MDAR's MA Farm Energy Program (MFEP) - Energy Audits: MDAR's Massachusetts Farm Energy Program (MFEP) has funds to help farms cover audits, energy efficient projects, and select renewable energy projects. Contact us now for more information through the Center for EcoTechnology (CET), our partner carrying out the MFEP. Contact 413-727-3090, info@massfarmenergy.com, or visit www.massfarmenergy.com, submit a Request Form, and then you will be contacted.

Rural Energy for America Program (REAP) Grants (due Mar. 31): A family of grant programs focused on supporting energy audits and providing renewable energy development assistance to agricultural producers and rural small businesses. For more information, click here. To ask questions and to apply, contact your local USDA Rural Development Energy Coordinator.

Events

Cornell University Tarping for Small-Scale Reduced Tillage Workshop Series

Are you a vegetable farmer already using tarps? Or are you wondering if and how tarps could work best on your farm? The Cornell Small Farms Program and University of Maine Cooperative Extension is excited to announce a series of workshops on tarping for reduced tillage in small-scale vegetable systems, to be held in Maine and New York this fall (dates, locations below). This work is accomplished with support from Northeast SARE.

Tarping has emerged as a new practice for small farms — a tool being used to suppress weeds, manage soils, and reduce tillage. Join a full-day intensive farmer-to-farmer workshop to talk about how we can use tarps to advance reduced and no-till vegetable production. During the workshops we'll discuss tillage, weeds, and how to combine tarps with other soil building practices — like compost, mulches, and cover crops. You will learn from farmers as they share their successes and failures with tarps being used on their farm. You will also hear research results from five years of tarping trials in Maine and New York, which test no-till practices side-by-side with conventional management.

Join us and share your own tarping experiences and walk away with a plan to use tarps with less tillage on your farm. This is a participatory workshop designed for farmers to learn from other farmers. Come prepared to dig-in, share your practices and struggles, and bring your questions as you consider adopting, changing, or expanding tarping practices on your farm.

There are two dates/locations remaining in this workshop series. Choose the site that works for you and register now, as space is limited.

Cost to participate is $35 per person with lunch and refreshments provided. Scholarships are available for active duty U.S. armed forces or military veterans in NY, covering up to $100 for travel costs and registration with support from the New York State Department of Agriculture and Markets. To apply, contact Dean Koyanagi at drk5@cornell.edu or (607) 255-9911.

For questions on registration and workshops, contact Ryan Maher at rmm325@cornell.edu.

When: Monday, November 18, 9am to 4pm
Where: Cornell Cooperative Extension of Ontario County, 480 N. Main St., Canandaigua, NY
Click here to register for the Canandaigua, NY workshop.

When: Tuesday, November 19, 9am to 4pm
Where: Cornell Cooperative Extension of Albany County, 24 Martin Rd., Voorheesville, NY
Click here to register for the Voorheesville, NY workshop.

Land for Good Farm Succession School

Are you unsure who will take over your farm? Feel like your family needs to start talking, but you don't know where to start? Have questions about retiring that you don't know how to answer? Can the farm support two generations?

Answer these questions and more at the 3-day Farm Succession School this winter! It is an opportunity for the senior generation to talk with peers, learn from advisors, and get support on this challenging process. We will help you get the conversation started, sort through possibilities, clarify your goals and next steps, and connect you with resources and support to keep the process going! Farmers from across New England, of all farm sizes and enterprises, are welcome.

Where: Massachusetts Department of Agricultural Resources, 64 Century Way, Suite 42, West Springfield, MA 01089

When: December 4, 2019, January 9, 2020, & February 6, 2020 (attend all three dates)

REGISTRATION: Deadline is November 27. For more information or to register, call (603) 357-1600 or click here to register online.

This program will also be delivered in Maine. For more information on the Maine training, click here.

New England Vegetable & Fruit Conference & Trade Show

Where: DoubleTree by Hilton, 700 Elm St., Manchester, NH

When: December 10-12, 2019

REGISTRATION: https://newenglandvfc.org/registration

Registration is now open for the 2019 New England Vegetable & Fruit Conference and Trade Show! This program was planned collaboratively by growers and Extension professionals from throughout the region. It features more than 30 educational sessions over 3 days, covering vegetable, berry, and tree fruit crops and various special topics. Farmer-to-farmer sessions bring speakers and farmers together for informal discussion, and our extensive trade show has over 120 exhibitors.

Get more details, including the full program, at the conference website, linked to in the title of this event.

Produce Safety Alliance Grower Training

This Produce Safety Alliance Grower Training is being held the day before the New England Vegetable & Fruit Conference, in the same location as the conference. For those of you who are planning on attending the conference and still need to meet the grower training requirement of the FSMA Produce Rule, take advantage of this opportunity!

Where: DoubleTree by Hilton, 700 Elm St., Manchester, NH 03101

When: Monday, December 9, 2019, 8:00 AM – 5:00 PM

REGISTRATION: $20 (includes meals, course materials, and AFDO certificate). To register for this PSA Grower Training, click here.

This training satisfies the FSMA Produce Safety Rule requirement for covered farms that "at least one supervisor or responsible party" completes "food safety training … recognized as adequate" by FDA (21 C.F.R. §112.22(c)).

Contact Virginia Jaquish for more information, to request a disability-related accommodation, or to note any dietary restrictions. Email virginia.jaquish@uvm.edu, phone (802) 751-8307 x351.

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Vegetable Notes. Genevieve Higgins, Lisa McKeag, Susan Scheufele, co-editors.

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