UMass Extension
Vegetable Notes
For Vegetable Farmers in Massachusetts since 1975

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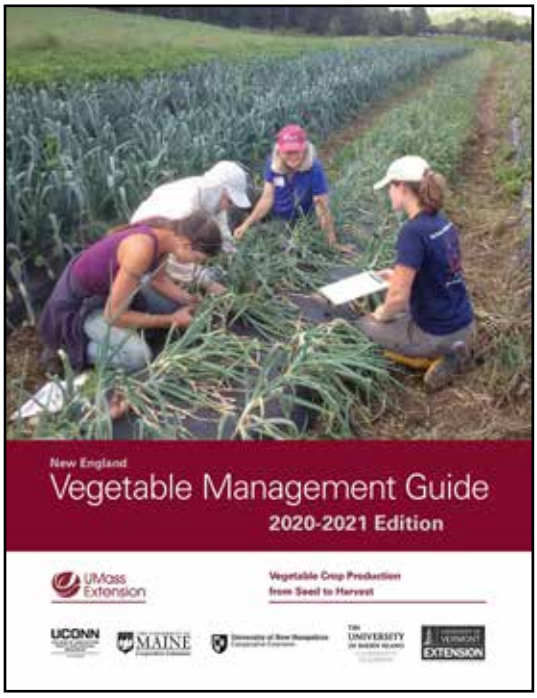

The 2020-2021 New England Vegetable Management Guide is now available! This resource is available for free online at www.nevegetable.org. For more information about ordering a hard copy, click on the image above or see the News item in this issue of Veg Notes.

Crop conditions

Happy New Year from the Vegetable Program! This time of year lends itself to reflection and making plans to innovate, adapt, and improve. Like most of you, who are poring over this years' soil tests and seed catalogs to make plans for next year, we too are working on our plans for next year. Some things we'd like to continue to improve this year are our direct contacts with growers and our coverage of areas east and west of the UMass campus.

In that spirit, we'd like to invite you to contact us directly, anytime! Contact us at (413) 577-3976 or umassveg@umass.edu with your farm-related questions. We always do our best to respond to all inquiries. Look for other new opportunities to get in touch with us in the coming months!

This year was a time of transition for our team: Genevieve Higgins, who had previously served as a program assistant, became an Extension Educator; Lisa McKeag began pursuing a Masters in Ag Law and reduced her hours with the Veg Team; and in September, our team leader, Katie Campbell-Nelson moved to New York to take a position with Northeast SARE. Despite these changes, we continued to deliver educational programs, publish our weekly newsletter, conduct a record-setting number of research trials, and make a record-setting number of on-farm consultations. Our success this year was due in part to our three summer field assistants, who made weekly scouting visits to help us increase our state-wide coverage of farms and helped conduct our research trials.

Below are a few highlights from 2019:

- **190 on-farm consultations** were made—70 more than in 2018
- **45 presentations and workshops** were given to nearly 1,400 growers, gardeners, and agricultural service providers
- **165 growers attended food safety trainings** delivered by Lisa McKeag and Mike Botehlo from MDAR and 154 of those received Produce Safety Alliance Grower Training Certificate.
- 64 growers and gardeners attended our **Vegetable Winter School** programs
- We compiled and edited a new version of the **New England Vegetable Management Guide,** which is now available for purchase in print or for free online.

- **8 research trials** were conducted at the UMass Crop and Animal Research and Education Center, in South Deerfield, MA on the following topics:
    - Attracting Beneficial Insects to Reduce Cabbage Aphid Population Size (1 trial)
    - Using Mulches to Reduce Flea Beetle Damage and Improve Crop Yield (3 trials)
    - Beneficial Nematodes to Reduce Flea Beetle Population Size (1 trial)
    - Evaluating Varieties for Cucurbit Downy Mildew Resistance and Yield (2 trials)
    - Evaluating Varieties of Spinach for Winter-Production and Resistance to Downy Mildew (1 trial)

There are lots of events coming up in the next few months—we hope to see many of you at a meeting or event soon and to hear from you this season!

TAKING CARE OF YOUR INVESTMENTS

--Written by Andy Radin, University of Rhode Island Extension

As time goes on, you find yourself purchasing more and more tools and machines. Hand tools at first, then tools with engines, and then walk-behind tractors and then even tractors with seats! These items should last you a good long time as long as you take good care of them. Now, at the start of the winter, is a good time to ask yourself if you really are taking care of them.

First and foremost is to get tools under cover for the winter. It's not unusual to see forgotten items out in the weeds. It happens, on occasion. But if it doesn't happen on your farm just on occasion, maybe you want to consider tightening things up a bit. In some cases, the measure to be taken is to talk to your field hands, the ones who didn't spend their own money on these important pieces of equipment. But it is up to you, the entrepreneur, to stay on top of this. Good quality, simple hand tools cost $60 a piece at a minimum, and more than $200 for special items. If they have wooden handles, mineral oil them in the winter. If the structural steel parts are beginning to rust, wire brush them, and then spray on a light coat of clear anti-rust primer paint.

Some day, all small farm equipment will feature electric engines, which require very little maintenance. Until then, your gas engines need attention.

Smaller, hand-held machines like weed-whackers and chainsaws use two stroke engines, which are more efficient with fuel use and don't require gravity to maintain an oil reservoir. But because the engine is oiled by using a fuel and oil mixture of about 50:1, they don't burn as cleanly. (They are "two stroke" because one complete rotation of the crankshaft takes place with one complete up-and-down of the piston; a "four stroke" engine accomplishes one complete rotation with two complete up-and-downs of the piston.) Most of what is listed here applies to both, except oil.

1. **Keep a clean engine.** Small engines are air cooled, which means that they rely on air directed over the surface of the engine block's cooling fins by fan blades on the flywheel. This flywheel is located under a shroud. Do you ever look in there? Dirt, weeds, and mouse bedding can accumulate in there, reducing the amount of air that can be drawn in. Figure out how to remove the shroud so you can make sure it's clean inside. On pull-start engines, this is the assembly that includes the cord. The same goes for the engine block itself. If there is soil caked in the cooling fins (the linear protrusions around the outside of the engine), cooling will be less efficient. Often debris settles into the socket where the spark plug screws in. Blow this out with compressed air or a hard stream of water, but make sure it's dry before removing the plug, else leftover water will drain right down into the cylinder, which is a place where water does NOT belong.
2. **Check the exhaust pipe and muffler**, making sure there are no holes and that the spark arrestor, which is a screen, is in place. It may actually be inside the muffler, so to inspect it, you need a cool engine so that you can open the muffler. But many mufflers are solid assemblies so inspection is not possible. If things are rattling around inside, it should be replaced.
3. **Engine oil** should be checked with some regularity, although eyeballing the engine for leaks is the first step. If

there is oil coming out by the filler plug, there's probably too much oil in it. This is not good: it can cause the engine to overheat and the oil seals will fail. Don't make this mistake. Also don't underfill– this results in too much friction, which then creates (you guessed it) too much heat. Four stroke engines typically require SAE30 oil, unless you operate the machine in cold weather, in which case you would use 10W-30. If you are using a a two stroke engine, make sure that you get an oil specifically designed for that purpose, mix it with gasoline in the right proportion, and store it in a container that is marked "MIX".

4. **Spark plugs** should be inspected after a season of good running. If the engine is not running well during the season, it should be checked. When removing the plug, make sure to blow compressed air around the outside of the plug first (a well-directed pop of your breath will work out in the field), especially if it is recessed into a cavity– you don't want to unscrew it and watch a big chunk of greasy dirt drop right into the cylinder. Examination of the electrodes can tell you how your engine is running. Use the picture at right as a model. This is what you would like to see: beige color, very little dark sooty deposits, and the electrodes show no loss of material. Also, the gap between the two should measure correctly, according to specifications of the engine manufacturer. You can check this with a gap tool, and also use that to bend the top electrode so that the gap is correct. If you see wetness or black, or gray ash, or eroded electrodes, your engine has not been running right. That may be from restricted air flow (keep a clean air filter) or a dirty carburetor, or carburetor out of adjustment or dirty gasoline. You should not have to replace plugs every year, but if it's grimy and eroded, do replace it, but also figure out why the engine isn't running right.

A spark plug in good condition.

5. **How about that air filter?** It's pretty common to find air cleaners caked with dirt. That's what it's supposed to do, to a point. Once it's caked with enough dirt, it will restrict air flow, which means your engine will be running with a "rich" mixture of gasoline vapor and air. This fouls the spark plugs and the piston rings. The idea is to run as "lean" a mixture as possible without compromising engine power. The air cleaner is a removable housing that covers the carburetor. It contains filter element/cartridge, which is totally replaceable or it can be blown out with compressed air. Some units may contain a foam sponge, which is supposed to be periodically cleaned using mineral sprits and then soaked in clean foam filter oil. Don't wring out the excess oil too strenuously or you will rip the foam. Be sure to clean out the housing itself with compressed air before putting the element back in.

A new air filter (left) and foam sponge (right).

6. **Since you have the air filter housing off, you can check the carburetor.** Cleaning a carburetor is typically not something that has to be done yearly, and is probably not necessary to consider unless your engine chronically runs roughly. If you do choose to do it and this is new to you, there are numerous YouTube videos that will take you through it. But also, if you have a digital camera, take good photos as you go so that you can easily reassemble what you've exploded into 25 pieces on the table. And you will need carburetor cleaner, which is not a pleasant chemical, so this should be done with very good ventilation, or else outside. Make sure the carburetor is properly adjusted. This takes some practice. These needle valve screws adjust the leanness of the mixture at idle speed and at full throttle. Again, check with YouTube.

Carburetor

7. **Control cables** are really convenient when they work well, so now is the time to figure out what doesn't work and fix it up. That may be as simple as lubricating linkages and making sure the cable wires slip easily, but might also mean adjusting or replacing. Sometimes these have to be ordered directly from the manufacturer, or you can have them custom made. In some cases, you will make do without if the cost can't be justified.

8. **The Machine Itself** is driven by a happy, healthy engine. If the machine has rotating parts, it probably has bearings, which often have grease fittings. If you have a few machines that have grease fittings, you need to own a grease gun. You also need to be straight on which end to open and reload tubes of grease.
9. **Some machines have transfer cases or gear boxes** that are partially filled with suitable gear oil, and all the gears live in a bath of oil as they spin, spin, spin. Make sure you use oil with the right viscosity (often 80W-90). Often, these gear boxes have a plug on the side for checking the level, though some will also have a dipstick. When checking engine or gear box oil, the machine should have been sitting for a while to allow all of the oil to drain back down to the bottom of the crank case or gear box.
10. **Blades and tines grind away over time.** Blades can be sharpened, and your machine (and engine) will not work as hard with sharp blades. Tine or spade replacement is a function of use and the texture of your soil. Those of you growing in mixed glacial deposits will replace more often. Again, your machine will work better with less worn tools, and you, yourself, won't work as hard if the tool is performing at its full potential.
11. **Tires** that leak are, quite literally, a drag, both on you and the engine. Don't be dragged down by semi-flat tires. Inflate to the right pressure, and replace chronically leaky tires.
12. **Build a collection of shop tools, and take care of them.** If you are lucky enough to have a shop space, put them away, and organize them. Looking for tools can be an incredible time-drain and frustration-builder. Make sure that your farm helpers put all tools away in a dry area. That includes both farm tools and shop tools. Your fluids should have a storage area as well.
13. **Tractor maintenance** is another level. Work on small engines first before going too deep into your tractor, but also, don't be afraid to perform fixes on less complicated assemblies. The more you understand how your machines work, the longer they will last because you will understand what is demanded of them and what are the forces that stress them.

DEGRADATION OF BIODEGRADABLE PLASTIC & PAPER MULCHES

--Written by Shuresh Ghimire, Assistant Extension Educator, Vegetable Specialist, University of Connecticut Extension

Plastic biodegradable mulch (plastic BDM) is tilled after use, but there is concern about incomplete degradation and potential impact on subsequent crops. Researchers at UConn and Washington State University conducted a field study to assess the amount of BDM in the soil after four consecutive years of mulch incorporation (Ghimire et al., 2019). The researchers applied and tilled four plastic BDMs, an experimental mulch, and one paper mulch in their respective plots for four consecutive years (Table 1).

Table 1. Mulch treatments, manufacturers, mulch thickness, key ingredients, and percent biobased content provided by manufacturers for mulches used in an experiment at Washington State University in 2015–2019.

Mulch	Manufacturer	Thickness (µm)	Key ingredient(s)[z]	Bio-based %[y]
BioAgri	BioBag Americas, Dunedin, FL	18.0	Mater-Bi® (grade EF04P) (PBAT)	20-25
Exp. PLA/PHA	Experimental film[x]	25.0	Ingeo® PLA / Mirel™ amorphous PHA	86
Naturecycle	Custom Bioplastics, Burlington, WA	25.4	Starch-polyester blend	≥20
Organix AG	Organix Solutions, Bloomington, MN	17.8	BASF ecovio® grade M2351 (PBAT + PLA)	10
WeedGuard-Plus	Sunshine Paper, Aurora, CO	240.0	Cellulose	100

[z] PBAT= poly(butylene adipate-*co*-terephthalate), PLA=polylactic acid, PHA= polyhydroxy alkanoate).

[y] Composition (%) of mulch that is from biological products or renewable materials, reported by each company for their product.

[x] Not available commercially, prepared for this study by Metabolix, Inc., Cambridge, MA

Starting in year 2, the researchers collected the soil samples each spring and fall to determine mulch recovery. For each sample, soil was collected from a 1 m × 1 m area to a depth of 15 cm using a shovel. The amount of soil in each sample was then reduced using the quartering method (ASTM International, 2018): the soil was placed on a piece of plywood, mixed thoroughly, divided into quarters by two lines intersecting at right angles at the center of the pile, and two diagonally opposite quarters were discarded. This procedure was carried out for a total of three times so that the final sample size (19 L) was 1/8 of the original sample size. Mulch fragments were then recovered by sieving each soil sample using a 2.36 mm sieve, the mulch fragments were air dried in the laboratory until they reached a constant weight, which was recorded, and the mulch area (cm2) was calculated using the weighing method described by Ghimire et al. (2017), i.e.:

$$\text{Total mulch area recovered} = \frac{|\text{Mass of recovered mulch per sample}|}{\text{Apparent density}}$$

where the apparent density is the mass of the mulch per surface area (g/cm2). Percent mulch recovery was then calculated based on the total area of mulch tilled into the soil and area of mulch recovered per sample.

With respect to the total amount of mulch applied, average mulch recovery in the fall for the three commercial plastic BDMs was 71%, 50%, and 35% after second, third and fourth applications, respectively (Figure 1). For the experimental mulch, the average recovery was 80%, 69%, and 54% in the fall after second, third, and fourth applications, respectively. Recovery was slightly lower in spring than preceding fall all years. For WeedGuardPlus, average recovery was 14%-20% in each fall, and no recovery in any spring (complete degradation). The results show that BDMs degrade over time in field even with repeated applications, but complete degradation takes more than 1 year.

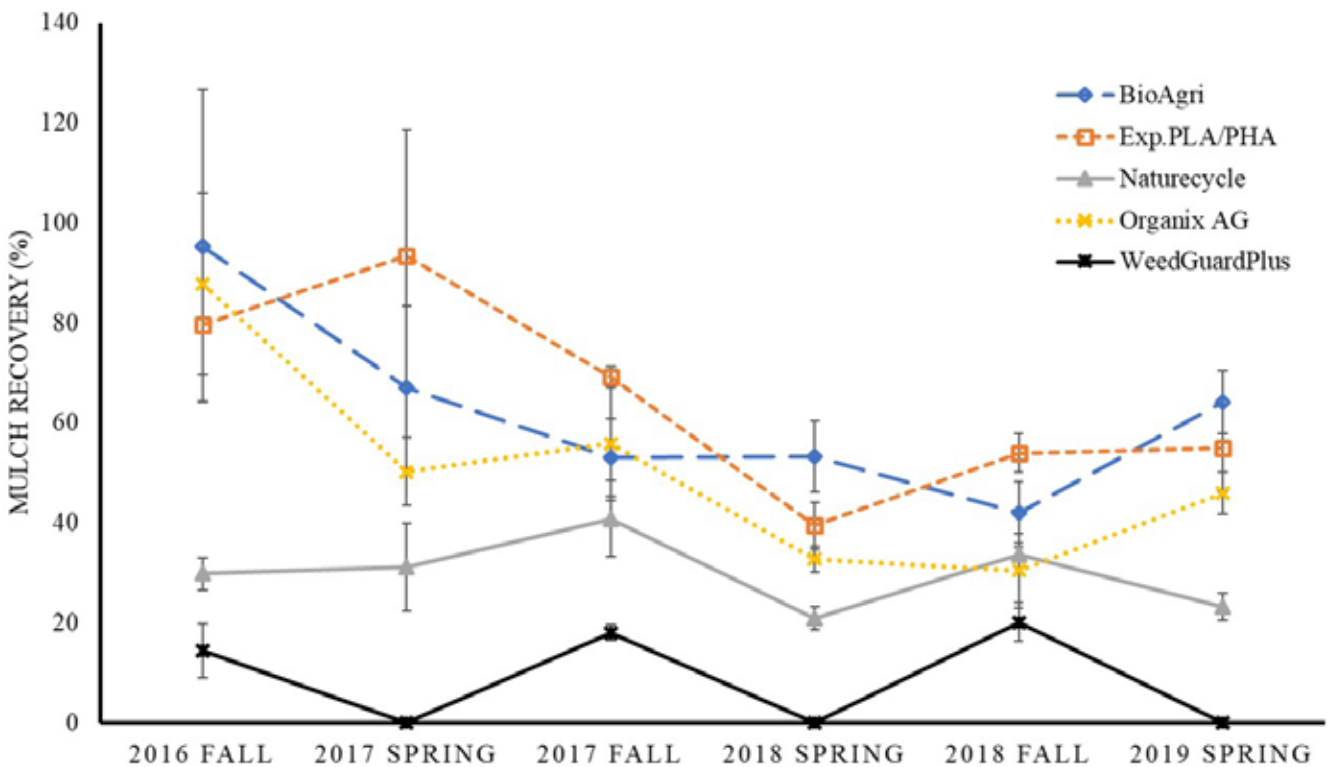

Figure 1. Percent recovery of mulch fragments every 6 months for 3 years in the mulch degradation study at Washington State University. Data are means of four replicates, and errors bars represent standard errors. The plots were rototilled twice a year, once in fall before collecting samples and second in spring after collecting samples.

References

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News

2020-2021 New England Vegetable Management Guide Available

A collaborative project of the Cooperative Extension vegetable programs in the six New England States, this guide provides both conventional and organic commercial vegetable growers, on small and large farms, with up-to-date production and pest management information.

Purchase copies of the Guide at the UMass Extension Bookstore. Purchases can be made online or by printing your confirmation and mailing it in with a check. You can also order by phone: (413) 545-2717. A free online verison of the Guide is available at www.nevegetable.org.

Buy the Guide by itself, or as a package with the NE Vegetable & Strawberry Pest ID Guide. The Pest ID Guide contains over 200 full-color images of the weeds, insects, diseases, and disorders that may be affecting your crops, and beneficial insects too. The Pest ID Guide is an indispensable companion to the Veg Guide, and you save big when you buy them together!

Guide pricing:

2020-2021 New England Vegetable Management Guide alone:	$25.00
Northeast Vegetable & Strawberry Pest Identification Guide alone:	$15.00
Veg Guide & Pest ID combo pack:	$30.00

High Tunnel Tomato On-Farm Resaerch Project Seeks Grower Collaborators

University of Vermont Extension is inviting growers in Vermont and nearby states to participate in a 2-year study to improve understanding of the fertility needs of high tunnel tomatoes grown in the ground. The project will pay for soil tests at the UMaine lab and provide customized fertilizer recommendations for your tunnel(s). Growers must agree to grow at least one bed of red, indeterminate slicing tomatoes, follow the soil test recommendations, and track yields. If interested, please review the participant agreement for details: https://drive.google.com/file/d/1BeBYeFeritaO4GWWBtoI-9u_FecKbfN4/view and then contact Becky Maden with questions or to sign up, ideally by the end of January 2020, at (802) 773.3349 x 277 or rebecca.maden@uvm.edu.

Cornell University Survey on Food Safety & Conservation Practices Used by Produce Growers

A group of researchers at Cornell University, the University of California, and the University of Rochester are working on a project to understand and model trade-offs between food safety and conservation practices used on fresh produce farms. **The aim of the project is to help farmers develop management plans that minimize costs and optimize food safety and conservation outcomes.**

To ensure our models accurately reflect grower practices, costs, and needs, we are conducting a survey among fruit and vegetable growers in the Northeast, Mid-Atlantic, and Southeast. If you are a grower in those areas, and are willing to spend **20 to 30 minutes** to take our survey, we would really appreciate your insights.

The survey is **100% anonymous** and the first 300 participants will **receive a $15 e-gift card**.

If you are interested in participating please go to https://bit.ly/2t6EQsO.

For further information, please contact the project directors: Dr. Daniel Weller (Daniel_Weller@urmc.rochester.edu), Aaron Adalja (aaron.adalja@cornell.edu), or Patrick Baur (pbaur@berkeley.edu).

Survey: Bird Damage in Sweet Corn & Fruit

Researchers at the University of Rhode Island are collecting information on bird damage in fruit and sweet corn crops to guide future resources. To share your experience, take the short survey here: https://riepr.org/s/birds.

For more information, contact Dr. Rebecca Brown, brownreb@uri.edu and Dr. Tom Sproul at sproul@uri.edu.

Federal and State Energy-Related Grant Programs Now Open

MDAR's MA Farm Energy Program (MFEP) - Energy Audits: Now is the time to have a technical assessment completed for any energy project you are considering in preparation for upcoming energy grants! You will need a technical assessment to file an energy grant application whether with MDAR or USDA. MDAR's Massachusetts Farm Energy Program (MFEP) has funds to help farms cover 75% of the cost of 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.

Agricultural Energy Grant (due Feb. 28): MDAR is now accepting applications from agricultural operations who wish to participate in the Department's grant program made possible by recent MA Legislation as part of the MA Supplementary Budget. Funding will be provided for agricultural energy projects that are geared toward (i) capital infrastructure improvements that promote energy efficiency; (ii) the purchase or expanded use of renewable energy technologies; (iii) tools to address barriers to economic growth, including business management technical assistance and the purchase of more efficient equipment and technology; or (iv) tools and technologies to facilitate sustainability and new product development; all in an effort to improve energy efficiency and to expand the use of renewable energy technologies**.** For more information, visit https://www.mass.gov/service-details/agricultural-energy-grant-program-ener, or contact Gerry Palano at Gerald.Palano@mass.gov.

Ag Composting Improvement Program (ACIP) (due Feb 14): The program provides funding for equipment or projects which improve overall management of agricultural composting, or facilitate on-farm compost use. For more information, visit https://www.mass.gov/how-to/agricultural-composting-improvement-grant-program-acip or contact Sean Bowen (617) 626-1724, Sean.Bowen@mass.gov.

Need help understanding grant programs that are available to your farm or how to apply for a grant? The Buy Local groups across the state often offer workshops and other grant-writing support to farmers. Here are a few upcoming workshops in the Berkshire region:

Fund Your Farm: State Grants from Massachusetts

- **North Adams, MA**

  When: Tuesday, February 11, 2020, 4:30-6:00pm

  Where: Porches Inn, 231 River St., North Adams, MA 01247

- **Stockbridge, MA**

  When: Thursday, February 13, 2020, 4:30-6:00pm

  Where: Stockbridge Community Room, Stockbridge, MA 01266

Do you have a project to help your farm adapt to climate change or improve energy efficiency? Would you like to implement new conservation practices or upgrade your food safety measures? Are you a beginning farmer seeking funds for capital improvements to help your business grow? MDAR's Melisssa Adams and Mike Parker will share details on the range of grant programs. Updates here, or contact margaret@berkshiregrown.org.

13th Annual Agriculture & Food Conference of Southeastern Massachusetts

When: Sunday, February 23, 2020. Snow date March 1, 2020

Where: Bristol County Agricultural High School, Gilbert Hall, 135 Center St., Dighton, MA 02715

Registration: $40 per person before January 31. $45 per person after January 31. Click here to register for this event.

Whether you're a professional farmer, a backyard gardener, or just curious about locally grown food, the Ag & Food Conference is for you! Each year, the lineup includes workshops for the general public as well as info-packed sessions for farmers and gardeners of all experience levels. Registration includes a locally-sourced lunch and at the Resource Fair, you'll learn about local organizations and businesses that provide services and products to help you grow, whether you've got a hundred-acre farm or a small backyard garden. Sue Scheufele of the UMass Extension Vegetable Program, will be presenting an overview of vegetable pests in 2019.

Events

Weed IPM Webinar Series - Winter 2020

UNH Extension's Fruit & Vegetable Team is hosting a series of lunchtime webinars in January and February. All sessions will include a presentation from an expert in weed management, followed by a Q&A session. Topics will range from intro to herbicides to detailed recommendations on non-chemical methods of weed management.

Where: Online or by phone

When: Fridays, January 24-February 21, 2020, 12-1pm

- January 24: Why Weed IPM Matters
- January 31: Introduction to Herbicides
- February 7: Non-Chemical Weed Management
- February 14: Tarping and Solarization
- February 21: Biological Control of Weeds

Registration: Click here to register for these webinars.

Cornell Cooperative Extension Horticulture Program - High Tunnel Tomato Workshop

- **Poughkeepsie, NY**

  When: Tuesday, Febrary 4, 2020, 9am-3pm

  Where: Poughkeepsie Farm Project, 51 Vassar Ln., Poughkeepsie, NY 12603

  Registration: Click here to register for this event.

- **Saratoga Springs, NY**

  When: Thursday, February 6, 2020, 9am-3pm

  Where: United Methodist Church, 175 Fifth Ave., Saratoga Springs, NY 12866

  Registration: Click here to register for this event.

This workshop features an interactive format with presentations from extension and growers in addition to farmer-to-farmer discussions. Topics include soil fertility, fertilizer injector demos, variety recommendations, pruning, grafting, and spacing for optimizing yields.

Registration is $20 if enrolled in ENYCHP, $25 non-enrolled, $30 at door. Includes lunch and information booklet.

Hosted by Cornell Cooperative Extension's Eastern NY Commercial Horticulture Program.

601st Meeting of the New England Vegetable & Berry Growers' Association

When: Saturday, February 8, 2020, 8:30am to 4:00pm

Where: Hudson-Concord Elks Lodge, Hudson, MA 01749

Registration: There is a $20 registration fee, which is waived for members of NEV&BGA. Lunch buffet is an additional $20. To register, please RSVP to 978-423-6694 or secretary@nevbga.org by February 5.

Agenda:

8:30 - Registration

9:00 - **New England Vegetable Management Guide Update** – *Katie Campbell-Nelson, UMass Extension*

9:45 - **Genetic Modification: The Science and The Issues** – *Jonathan D. Mahoney, PhD Candidate - Plant Breeding & Horticulture, Dept. of Plant Science and Landscape Architecture - University of Connecticut*. Genetic modification is an umbrella term for describing various methods used to modify the genetics of a biological organism. Learn how genetic engineering and genome editing are being used to improve plants and the concerns that surround these new technologies.

10:45 - **Life after Farming – What does retirement mean to you, and are you prepared?** *Panelists, Roy Henshaw, CPA, MBA and Attorney Richard Cavanaugh* provide an overview of some of the issues facing farmers looking to transition from their day-to-day work obligations and the financial and legal tools available to help chart a successful plan of action. Topics include succession planning, estate planning, business structure, and their tax implications. The presenters will be available during lunch to answer questions.

11:45 - **Crop Insurance Update** – *Tom Smiarowski & Paul Russell, University of Massachusetts Extension Risk Management/Crop Insurance Education*

Noon - **Lunch buffet**, $20. To reserve a lunch, please contact the Secretary, Chris Grant at (978) 423-6694 or secretary@nevbga.org. If you order lunch and cannot attend, please call to cancel. We will have to bill you for unpaid meals.

NEVBGA Business Meeting & Elections, Extension updates, Commercial Member Introductions

1:30 - **UMass Plant Diagnostics Lab Recap For 2019** – *Angela Madeiras, UMass Plant Diagnostics Lab*

2:15 - **Massachusetts Ag Mediator Program** – The Massachusetts Agricultural Mediation Program provides cost-free mediators and facilitators to assist farmers facing conflicts with neighbors, local officials, USDA or even within families. We'll explore a few cases that MOPC has undertaken and then we can talk about audience needs and answer questions.

3:00 - Strawberry Variety Winners & Losers at 4 Corners Farm – *Charlie Graym 4 Corners Farm, South Newbury, VT*

4:00 - **Adjourn**

** 1 Pesticide recertification credit has been approved for this meeting **
Commercial members are welcome to put up table-top displays.
Co-sponsored by the UMass Extension Risk Management/Crop Insurance Education Program

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