



UMass
Extension

Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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CROP CONDITIONS

It's been a long and mild fall this year and the crops keep on coming in—peppers, eggplants, tomatoes and even some cucumbers that have been sprayed and covered are still adorning farmstand shelves and farmers' markets! Brussels sprouts are starting to come in, along with loads of pumpkins and squash. This comes as a great relief to many farmers, who lost their fall crops—and their shirts!—to the ceaseless rains of last summer and fall. Compared to last year, most growers we are hearing from have had a much easier and more profitable year and spirits are running high. Farms are also full of happy agri-tourists, picking apples and clicking selfies in the pumpkin or sunflower patch! If you are looking to get into this growing market or honing your current agri-tourism business plans, check out [these resources](#) from Cornell Cooperative Extension. We are down to monthly issues of *Veg Notes* from here on out, please keep in touch over the winter and come find us at some of the many educational programs listed in the events section!



32 spinach varieties, in the ground! Keep your eye out this spring for results from this winter spinach variety trial that we just seeded in our high tunnel at the South Deerfield Research Farm. Photo: G. Higgins

WHAT ARE BIOSTIMULANTS?

--Written by Angela Madeiras and Jason Lanier, UMass Extension Greenhouse Floriculture Program

Even if you have not heard the term “biostimulant” you have most likely seen advertisements for products that would fall into this category. They come with tag lines such as “Biological Plant Activator,” “Plant Health Stimulator,” and “Probiotic for Plants”. They may promise enhanced water uptake and nutrient utilization, increased tolerance to abiotic stress, and increased plant vigor, quality, and crop yield.

The term “biostimulant” is defined in the 2018 Farm Bill as “a substance or microorganism that, when applied to seeds, plants, or to the rhizosphere, stimulates natural processes to enhance or benefit nutrient uptake, nutrient use efficiency, tolerance to abiotic stress, or crop quality and yield.” The EPA currently does not regulate biostimulants, but this is likely to change in the near future. Biostimulants are not classified as fertilizers, nor do they have direct effects on pests. The purpose of these products is to stimulate plant growth and optimize plant health. For various reasons, plants that are thus primed are better equipped to handle both biotic and abiotic stresses. Some biostimulants have also been found to stimulate plants' natural defense systems, increasing their resistance to pests and diseases.

Perhaps you have wondered, “Should I be using this stuff?” The following discussion addresses the most common questions:

“What's in these things anyway?” Biostimulant products typically include ingredients from one or more of the following general categories:

- **Humic and fulvic acids.** These acids occur naturally in soils as a result of the breakdown of organic matter.

- **Protein hydrolysates.** These include small peptides and amino acids, the building blocks of all proteins.
- **Seaweed and plant extracts.** Seaweed extract may contain minor nutrients and plant hormones such as cytokinins. Plant extracts may contain substances that can stimulate plant metabolism or natural defense systems. The exact chemical makeup of these extracts is typically unknown.
- **Chitosan and other biopolymers.** “Biopolymers” are specific molecules derived from plant or animal sources; for instance, chitosan is derived from the shells of crustaceans.
- **Inorganic compounds.** These are mineral-based molecules such as phosphites, and minor elements such as silicon.
- **Beneficial microbes.** The action of these products is based on the activity of live fungi and/or bacteria.

“There are a lot of products out there. How do I go about choosing one?”

- **Read the list of ingredients.** If the product contains microbes, you want to see some Latin names. Avoid products that say no more than “proprietary blend,” “beneficial microbes,” “mycorrhizae,” or anything equally vague. Not knowing what you’re getting limits your ability to do your own research about the effectiveness and value of the material.
- **Choose a product that has been tested by a third party.** In other words, someone unaffiliated with the company that makes it. These tests are often done by universities. Many products have not been tested by a third party, and if they have, it can be tricky to find trial reports. However, a company with products that have yielded good results in third party testing will likely publicize this fact. Feel free to contact the UMass Vegetable Program if you have questions about a product labeled for use on vegetable crops.
- **Look for relevancy in testing.** Choose a product that has been tested on the crop (or at least the type of crop) you would like to use it on, in the type of setting you would like to use it in (field or greenhouse). These types of products may not have the same effects on crops in the field as in the greenhouse due to numerous environmental factors.
- **Focus on the desired outcome.** Look for evidence that a particular biostimulant has been shown to produce the results you are looking for. Keep in mind that increased vegetative growth may sound great, but it is often concurrent with a decrease in flower number, which is not necessarily desirable for fruiting vegetables.
- **Go to the source.** Don’t be afraid to call or e-mail the company and request this kind of information.

“OK, I’ve decided to take the plunge. How should I start?”

- **Be willing to experiment.** Choose a particular crop or a few crops to experiment with.
- **Make a plan.** Have a general idea of the result(s) you would like to see and how you will measure them. No fancy math is necessary: it can be as simple as measuring yield or plant size, or estimating how much of a leaf surface is covered with powdery mildew. Of course, rewards may not always be visible—your goal might be to use less fertilizer or make fewer pesticide applications.
- **Compare.** Always keep an equal number of plants that are not treated with the biostimulant so you can compare them to the ones that are treated. Making this comparison is the only way to be sure that the product made a difference. Other than application of the biostimulant, both sets of plants should be grown under the same conditions.
- **Start small.** Apply the product to a few plants and wait about one week to see if there are any adverse effects such as phytotoxicity.
- **Keep records.** Pay attention to and record environmental conditions, particularly temperature. Little is known about the ways in which the environment affects the performance of many products.

The field of biostimulants is still very new, but it holds great potential. These products present novel opportunities to produce crops more effectively and more efficiently. With a little care and attention you can make the most of these tools.

Resources

[Ohio State University Microbe-Containing Bioproducts Database](#)

[The Biological Products Industry Alliance](#)

[European Biostimulants Industry Council](#)

[University of California Department of Agriculture and Natural Resources Crop Biostimulants blog](#)

MASSACHUSETTS OVERTIME LAWS – DO THEY APPLY TO YOUR FARM?

Send Questions to Mass Farm Bureau by November 15th

A March 2019 ruling by the Massachusetts Supreme Judicial Court (SJC) set new precedent regarding the definition of farm work with respect to the state’s minimum wage and overtime requirements. Massachusetts law ([M.G.L. c. 151 §1A](#)) requires that employees receive at least time-and-a-half pay for hours worked beyond 40 hours in a week. There is an exemption for laborers “engaged in agriculture and farming on a farm”. However, in [the SJC decision](#), the court ruled that this exemption does not include postharvest or “preparation for market” activities that might include sorting, packing, or cleaning.



Photo: UMass Extension Vegetable Program

Last month, representatives from the Massachusetts Department of Labor Standards and the state Attorney General’s office met with farmers at a public forum to discuss the impacts of the court’s ruling. Some takeaways from the meeting:

- The Attorney General will look to the federal [Fair Labor Standards Act definition of “primary” agriculture](#) for the list of activities that are exempt from overtime and minimum wage under Massachusetts state law. These include cultivation, growing, and harvesting of agricultural commodities.
- Therefore, workers performing “secondary” activities such as sweeping, packing, or other postharvest tasks need to be paid the non-agricultural state minimum wage (currently \$12/hour) and, for workweeks over 40 hours, overtime rates for those activities.
- The court’s ruling applied to the particular facts in the case, but set a precedent as to how the law would be interpreted. There may be cases where it is not clear how the law would apply on different farms under a diverse set of circumstances—for instance, when crops are being prepared for market in the field.

The Massachusetts Department of Agricultural Resources (MDAR) recently released the following notice for growers who have questions about how the overtime ruling might apply on their farm:

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 15th**. 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. Look for more messages on this topic in the future.

NEWS

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 \(due Oct. 31 or Mar. 31\):](#) 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](#).

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/bs0/external/bidAck.sdo?bidId=BD-20-1002-1003-001-44958&parentUrl=activeBids

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.

We are offering this workshop at four different locations this November. 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: Saturday, November 2, 10am to 5pm.

Where: Point Lookout Resort & Conference Center, Northport, ME

This event is a pre-conference workshop hosted at the MOFGA Farmer to Farmer Conference. [Click here to register for the Northport, ME workshop at the F2F Conference website.](#)

When: Monday, November 4, 10am to 5pm

Where: Univ. of Maine Cooperative Extension in York County, 15 Oak St., Suite 302, Springvale, ME

[Click here to register for the Springvale, ME workshop.](#)

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.](#)

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.

VERMONT VEGETABLE & BERRY GROWERS ASSOCIATION ON-FARM 2019 WORKSHOP SERIES

The Vermont Vegetable & Berry Growers Association is holding a series of nine on-farm workshops from June through November this year. For more information on all workshops in this series, please click the linked event title above.

Attendance at these events is free for members of the Vermont Vegetable & Berry Growers Association. The cost is \$10 per-person for non-members, payable on-site. Refreshments will be served. Membership in the VVBGA costs \$55 per farm, per calendar year. The VVBGA works with University of Vermont Extension to deliver education and applied research for its growers.

Wednesday, November 6, 2-5 pm. Small Axe Farm, 731 Whitehill Rd., Barnet, VT 05042. Join Heide Choate and Evan Perkins for a tour of their off-the-grid, no-till, hillside vegetable farm, where they grow on small acreage for co-ops, a local grocery store chain, restaurants within 35 miles of the farm, plus a 30-person CSA. Chris Callahan will provide insights about their renewable energy systems and recent barn/packshed construction project. Vern Grubinger and Becky Maden will join in the discussion of soil health and nutrient management. Hans Estrin will discuss produce safety considerations.

Questions? Contact Vern Grubinger, 802-257-7967 x303. To request a disability-related accommodation, contact Dana Rupert, 802-257-7967, three weeks prior to an event so we may assist you.

THANK YOU TO OUR SPONSORS:



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

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