



UMass
Extension

Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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CROP CONDITIONS

Between winter greens harvests and digging storage crops out of coolers, folks are busily making their crop plans for the coming season. This includes hoping for less extreme weather, and pouring over seed catalogs and placing seed orders. This issue will focus on some recent research on disease and/or heat-tolerant varieties to consider as you make your seed lists this winter.

In Extension, winter is for workshops and reporting. So we thought we would share with you some highlights from our annual report as we start the new year!

In 2023 the UMass Extension Vegetable Team:

- Made **>97 farm visits**
- Answered **>340 calls/emails/texts** from growers
- Planned **32 workshops/meetings** attended by **2,576 growers**, including **6 on-farm Twilight Meetings**
- Gave **9 invited presentations** at grower meetings and conferences around the region
- **Certified 127 growers** through our **Produce Safety Alliance** trainings
- Co-edited, printed and distributed the **2023 Veg Management Guide**. The free online guide hosted by UMass was **viewed >78,000 times**
- Made or translated **7 Spanish-language factsheets** - available [here](#)
- Conducted **10 applied research trials** at the South Deerfield Experiment Station
- Raised **\$297,243 in grant funding** to support educator salaries
- **Hired 5 new educators** serving the fruit and vegetable teams
- **Published 25 issues of Veg Notes for 2,867 subscribers like you!**



Did you know?

- You can call or email us with questions at umassveg@umass.edu or 413-577-3976
- We are on Instagram! [@umassvegetableteam](#)
- Check out our videos and past webinars on YouTube! [@umassamherstextensionveget5995](#)

Let us know how you think we are doing and how we could better serve YOU, commercial vegetable growers in MA. And consider donating to support this free publication, which delivers timely pest alerts and articles to your inbox all year long. Click the button above to make a donation. We appreciate your support and your reading our Vegetable Notes Newsletter. Wishing you all the best in 2024!

CONTACT US:

Contact the UMass Extension Vegetable Program with your farm-related questions, any time of the year. We always do our best to respond to all inquiries. **Office phone:** (413) 577-3976 **Email:** umassveg@umass.edu

Home Gardeners: Please contact the UMass GreenInfo Help Line with home gardening and homesteading questions, at greeninfo@umext.umass.edu.

SELECT THE LATEST RESISTANT VARIETIES THIS YEAR

Growers are busy with crop planning for next summer, deciding on acreage, crop rotations, choosing new varieties, and ordering seed. The UMass Extension Vegetable Program conducts several applied research trials every year, and many are focused on identifying disease-resistant varieties of different crops. Take a look at our trial reports as you are doing your crop planning, to see our recommended varieties!

[Click here for
Vegetable Program research reports](#)

Here are some key take-aways:

- **Spinach:**

- There are now 19 identified races of spinach downy mildew. Many of folks' favorite varieties do not have resistance to race 19, so keep an eye out for varieties with "1-19" resistance when you're ordering seed for next year.
- Keep trialing new varieties, because spinach varieties turn over quickly. Some popular varieties, including 'Auroch', are being phased out soon. Some of our favorite varieties from our trials have been: Colusa, Nevada, Copah, Nembus, Kiowa, Crosstrek, Patton, and Responder. Not all are available in seed catalogs but seed reps may be able to special order unlisted varieties for producers.

- **Basil:** New downy mildew-resistant varieties are performing well. Enza Zaden has new varieties 'Evi' and 'Giuletta' that performed well in our trial this year. Genesis Seeds has released a new line called 'Prospera Active' that has a second, new source of DM resistance.

- **Cucumber:** Grow downy mildew-resistant varieties for late-summer/fall production, including 'Chaperon', 'Espirit', 'Citadel', 'Bristol', 'Brickyard', 'SV4142CL', and 'Raceway'.

- **Lettuce:** Choose heat tolerant varieties to grow mid-summer. In our study this past summer looking at plastic mulches, shade cloth, and heat tolerant varieties for heat stress mitigation, variety had the biggest effect on producing marketable heads. Trial report coming soon!

- **Lists of resistant varieties from Cornell Cooperative Extension:** Meg McGrath, retired plant pathologist with Cornell Cooperative Extension, has compiled [lists of resistant varieties for vegetable crops](#). This is a great resource for growers choosing new varieties.

NEW BROCCOLI VARIETIES OFFER BETTER ADAPTATION TO NEW YORK

--Written by Thomas Bjorkman, Professor, School of Integrative Plant Science Horticulture Section Cornell AgriTech.
Originally published in Cornell Veg Edge, Volume 19, Issue 25, December 6, 2023.

[Editors' note: While this article was written with New York growers in mind, it is equally applicable to MA growers.]

In the last 15 years there has been an uncommon amount of broccoli breeding focused on developing varieties for our climate. Previously the attention went to varieties for California's cool coastal summers or temperate desert winters. American broccoli breeding programs still overwhelmingly emphasize those markets, but the new attention to the East,

stimulated and supported by the [Eastern Broccoli Project](#), has produced valuable advances. Advanced crosses that excelled in regional testing are waiting to be commercialized.

For our region, broccoli varieties need to be adapted to warm nights during the growing season. That is an uncommon adaptation. Catalogs often describe varieties as “heat tolerant”, but that description usually refers to adaptation to desert heat—which is a bigger market for broccoli seed. Unfortunately, adaptation to the desert climate does not confer adaptation to our eastern growing season. Even in the East, something that a catalog describes as heat tolerant in Quebec or central New England summers may not hold up in New York and southward.

Other important adaptations for New York include a distinct dome to shed water and resistance to turning purple under stress. *Alternaria* head rot resistance is valuable, and current trials show that genetic tolerance exists.

The recent breeding improvements mean that old stalwart varieties can’t compete with newer materials. I encourage all broccoli growers to focus on new varieties that have the attributes their market wants.

Planting several of the best varieties is prudent because even the best will sometimes misbehave when a particular combination of environmental factors disrupts development.

New varieties to consider

Crown cut

The greatest volume of broccoli sales by far is crown cut, so this is where the breeding has been focused. All of these varieties mature within a few days of each other. Unless noted, they are available from several distributors.

The dominant variety in the East remains **Eastern Crown** (Sakata). It yields very well due to its dense head. In trials to date, and has sufficient heat tolerance that the yield advantage makes up for the few times the quality doesn’t measure up. This variety replaces its predecessors, Emerald Crown, Green Magic, and Gypsy, having all their benefits plus higher yield and better adaptation to the East.

- **Imperial** (Sakata) has long been a global leader for the warmest slot in the season. It is used here in the same way for harvest in August.
- **Burney** (Bejo). A strong summer variety released specifically because it performs in this region. It has a more open head than Eastern Crown, so the maximum yield is lower. Organic seed is now available, making it the newest and best-adapted organic variety. In trials to date, Burney has shown fewer *Alternaria* leaf and head spot symptoms than Eastern Crown. See picture to right.
- Bejo’s **Exp-3622** is a hybrid that I’m particularly excited about because it came out of an Eastern Broccoli Project public-private collaboration. See picture to right. While similar efforts continue with other seed companies, this hybrid has reached market testing for 2024. Exp-3622 combines climate resilience developed by Cornell’s Philip Griffiths with excellent commercial qualities from Bejo breeder Cees Sintenie. It has handled warm summer nights



Summer heat injury on broccoli grown in Geneva, NY on Aug. 18, 2020.

Left: Imperial, a commercially available heat tolerant variety 50 days after planting.

Right: Exp 3622, a breeding line with improved heat tolerance for NY production, 48 days after planting.



‘Burney’ has been one of the best adapted varieties since its release a decade ago.



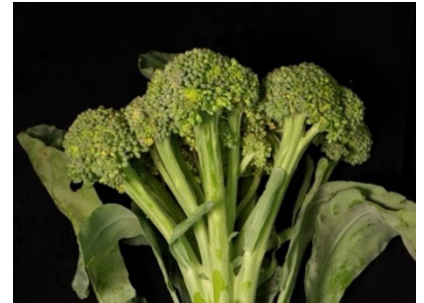
The new experimental EXP3622 (right) has a similar dense head structure to current market leader, Eastern Crown (left).

very well in regional trials. It is also a vigorous grower with a dense head in a similar style to Eastern Crown. For 2024, seed is only available through Bejo's representative, Jan Van der Heide j.vanderheide@bejoseeds.com or 805-689-1783.

- **Abrams** (Seminis). High yield potential. Good field holding. Heat tolerance comparable to Emerald Crown. Higher population keeps stem solid.
- **King's Crown** (Tainong) did well in New York and Florida though not in Maine. A limited amount of seed is still available from Stokes.
- **Roxanne** (Emerald) tested well in the hot harvest Southeast spring, for both adaptation and yield potential. Available from Gowan.

Sprouting broccoli

Broccolini, asparagus broccoli, and sprouting broccoli are popular with many consumers. Several brassicas make one-inch heads with long stems for that market. They are less popular with growers because the harvest cost is astronomical. An alternative is to grow a standard broccoli with extra-long branches, so that spears can be harvested with a single cut. Two new varieties with this growth habit are Montebello (Bejo) and Montflor (Syngenta). These are suited for harvest from mid-September.



Montflor is a single-cut variety for stem broccoli.

Dinner-plate broccoli

Giant single heads, 10 to 14 inches across, have a market, usually at Amish auctions and Long Island farm stands. Varieties designed for a standard 5- to 6-inch crown cut head tend to make loose heads and hollow stems when planted at the wide spacing needed to make heads that big. **Godzilla** is the most consistent producer of these giant heads.

Videos of many varieties can be found on the Eastern Broccoli YouTube page, www.youtube.com/@easternbroccoli7931, and more information about raising broccoli at the [Eastern Broccoli Project website](#).

IMPROVING PRODUCTION & YIELD OF WINTER SPINACH IN THE NORTHEAST

The UMass Extension Vegetable Program has just wrapped up a 3-year Northeast SARE grant that aimed to improve production and yield of winter spinach on Northeast farms. As part of this grant, we 1) conducted on-farm case studies on profitability of different winter spinach production systems, 2) provided disease diagnostic support for winter spinach growers, and 3) conducted variety and production practice trials evaluating downy mildew-resistant spinach varieties for Northeast winter production and production practices to mitigate damping off. Check out our resources from this project:



Grower Case-Studies

- [Winter Spinach Production Enterprise Budgets](#)
- [Webinar: Economics of Winter Spinach - Three Case Studies](#) - September 1, 2021
- [Recommendations for Improving Winter High Tunnel Spinach Production](#)

Recorded Webinars

- [Virtual Spinach Field Day](#) - February 11, 2021
- [UMass Research Farm Field Day](#) - July 27, 2021

Field Trials

- [UMass Winter Spinach Variety Trial, 2018-19](#)
- [UMass Winter Spinach Variety Trial, 2019-20](#)

- [UMass Winter Spinach Variety Trial, 2020-21](#)
- [Improving Germination and Stand in Winter High Tunnel Spinach, 2021-22](#)
- [UMass Winter Spinach Variety Trial, 2022-23](#)

Other

- [Fact Sheet: Cladosporium Leaf Spot of Spinach](#)

See our final report here: https://projects.sare.org/sare_project/lne20-402/

This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, through the Northeast Sustainable Agriculture Research and Education program under subaward number LNE20-402.

NEWS

STRAWBERRY & OTHER SMALL FRUIT GROWERS: 2 SURVEYS!

- **Small Fruit Growers: Send UMass Extension your input!**

The UMass Extension Fruit Program has prepared a brief survey to better understand the challenges facing small fruit growers and help us understand where to focus outreach efforts over the next few growing seasons. Responses will be anonymous unless you'd like to provide your contact information.

[Click here to take the survey!](#)

- **Survey for Strawberry Growers**

Four years ago, we asked for your help in providing info about strawberry production practices you use in a detailed survey. (If you are curious, we presented some of the summary statistics from that survey at the NEVFC last year – [you can review it here](#)).

We are now asking AGAIN for your help. As we wrap up a 4-year SARE-funded project on strawberry production systems, we'd like to know if you have made any changes in your strawberry production, and if and how you interacted with our project. As incentive for filling out the survey, you'll have the opportunity to be entered into a drawing to win a fabulous prize: a hard paper copy of the brand-new revised and updated [Strawberry Production Guide for the Northeast, Midwest, and Eastern Canada](#).

Please help us by accessing the survey here: https://unh.az1.qualtrics.com/jfe/form/SV_cFih3kdqJUHSawK

Thank you for your time!

- Becky Sideman, on behalf of our SARE team: Kaitlyn Orde, Elisabeth Hodgdon, Laura McDermott, David Handley, Marvin Pritts, and David Conner

EVENTS

NEW ENGLAND CROP INSURANCE INFORMATIONAL WEBINARS

- **Crop Insurance 101: An Introduction**

When: Tuesday, January 16, 2024, 10am-11am

Where: Online. [Register here!](#)

An overview of insurance programs relevant to vegetable and small fruit producers in New England. This workshop is intended for those with little to no prior experience with insurance and wondering what the options are and if they are right for your farm. Or for those looking for a refresher or updates. We will hear about Farm Service Agency's Non-Insured Crop Disaster Assistance Program (NAP) and Risk Management Agency's Whole-Farm Revenue Protection and Micro-Farm Revenue Protection Programs.

Speakers: Bailey Albert, MA-FSA Outreach Coordinator and Alex Sereno, Northeast Regional RMA Director

- **Crop Insurance 301: Demystifying The How and Why Behind Each Program**

When: Thursday, January 18, 2024, 10am-noon

Where: Online. [Register here!](#)

A deeper dive into each individual program, one at a time, to help you decide which program is right for your farm. Regional experts from FSA and RMA will provide tips and tricks on how to be successful applying for coverage and getting a claim, including what records you need to keep and why. We will do our best to answer questions during a facilitated Q&A.

Speakers: Julie Jacque, VT-FSA Agricultural Program Specialist and Alex Sereno, Northeast Regional RMA Director

These webinars will be recorded.

2024 GET READY FOR SPRING GREENHOUSE WEBINAR SERIES

Join the UMass Extension Greenhouse Crops & Floriculture Program online for Part 1 and Part 2 of our annual Get Ready for Spring Greenhouse Series. Each is a half-day virtual education program that will equip you with knowledge and skills to hit the ground running for the 2024 growing season. See the registration links below for more information and full course agendas.

• Part 1:

When: Wednesday, January 17, 2024, 8:30am – 12:00pm

Where: Online

Registration: \$25. [Click here to register.](#)

Topics:

- How to diagnose abiotic disorders in spring greenhouse crops
- Botrytis fungicide resistance management in greenhouse crops
- Pesticide resistance management for major pests of spring greenhouse crops

3 pesticide credits in categories 26, 29, 31, and for core applicator's licenses have been approved for this session.

• Part 2:

When: Tuesday, March 5, 2024, 8:30am – 12:00pm

Where: Online

Registration: \$25. [Click here to register.](#)

Topics:

- Root diseases of spring greenhouse crops
- Using the substrate chemistry to your advantage
- Thrips management in greenhouse crops (with a special mention on pepper thrips)

2 pesticide credits in categories 26, 29, 31, and for core applicator's licenses have been approved for this session.

Questions? Contact Geoffrey Njue at gnjue@umass.edu or 617-243-1932 or Jason Lanier at jdl@umass.edu or 413-545-2965.

UNH COLLABORATIVE AGGREGATION AND MARKETING WORKSHOPS

Are you a small or mid-sized farmer interested in working with others to distribute and market your products? Are you interested in how such models can contribute to farmer viability?

Join the UNH Food Systems Lab for a free virtual series of peer-to-peer learning workshops to discuss experiences with inventory and pricing, aggregation and distribution, marketing, and organizational structures.

Each workshop is stand-alone, so you can attend one or all, depending on which aggregation model you're interested in.

- **Monday, January 22, 7-8:30am: Multi-Farm CSA**, featuring David Trumble of Local Harvest

[Click here to register.](#)

- **Thursday, February 1, 12-1:30pm: Online Farmers' Market**, featuring Greg Georgaklis of Farmers to You
[Click here to register.](#)
- **Wednesday, February 7, 1:30-3pm: Online Farmer-Owned Food Hub**, featuring Kate Donald of Three River Farmers Alliance
[Click here to register.](#)

UPCOMING FARM LABOR EVENTS

UNH Extension is partnering with UVM Extension, Renewing the Countryside, and University of Wisconsin-Madison, to bring labor related education and resources to farmers. The Farm Labor Dashboard contains resources for farm labor management including a job description generator, personnel policy generator, employee cost estimator, and more!

The following workshops will run this winter as part of this work:

- **Staffing Up**

When: Tuesday, February 6, 12-1:30 pm

Registration: Free! [Click here to register.](#)

This interactive session will explore strategies to create the farm culture needed to effectively hire and retain the right employees for your farm. We'll also introduce tools and resources to help with job descriptions, interviewing, organizational charts that support those efforts.

- **Practical Techniques to Optimize Employee Performance**

When: Tuesday, February 13, 12-1:30 pm

UPCOMING TREE FRUIT MASS AGGIE SEMINARS FOR HOME ORCHARDISTS

When: Saturdays, February 10 - March 9, 2024, 10:30am - noon

Where: Online or in-person, depending on the workshop

Registration: \$35 per person, except for Feb 24 which is \$60 per person.

[Click here for full event descriptions, locations, and registration information.](#)

- February 10: Disease in the Orchard
- February 17: Orchard Establishment
- February 24: For the Love of Pollinators
- March 2: Integrated Pest Management & Insect ID
- March 9: Orchard Pruning

FUNDAMENTALS OF ORGANIC PRODUCTION WORKSHOP SERIES

When: 10:00am - 1:00pm on the dates listed below

Where: Brigham Hill Community Farm, 37 Wheeler Rd., North Grafton, MA. Zoom livestream also available, pre-registration required.

Are you looking to increase or improve your organic growing methods? Join UMass Extension and NOFA/Mass for a series on fundamentals of organic vegetable and small fruit production. This series is part of the USDA Transition to Organic Partnership Program (TOPP). To learn more about the UMass & NOFA/Mass programming, check out the [NOFA/Mass TOPP web page](#). To learn more about the national TOPP program, visit www.organictransition.org.

These workshops are intended for commercial vegetable and small fruit growers. See the links below for information and registration for each workshop.

- February 14: [Fundamentals of Fertility Management](#)

- February 28: [Cover Cropping](#)
- March 14: [Organic Small Fruit Production](#)
- March 27: [Organic Greenhouse Production](#)
- April 10: [Organic Management of Vegetable Pests](#)
- April 24: [Organics and Food Safety](#)

Stay tuned for several on-farm field walks coming in summer 2024, as well as one-on-one consultations with UMass Extension specialists in fall 2024! Visit the [NOFA/Mass TOPP web page](#) for more ways to get involved!

Registration: Free! [Click here to register.](#)

Explore ways farm owners and managers can bring out the best in their employees, and learn about tools that can help establish consistent expectations, support supervision, and help your farm to be in legal compliance.

608TH MEETING OF THE NEW ENGLAND VEGETABLE & BERRY GROWERS' ASSOCIATION

When: Saturday, February 17, 2024, 9am-3:15pm

Where: Bull Run Restaurant, 215 Great Rd., Shirley, MA 01464

Registration: \$20. Lunch buffet is an additional \$25. Please RSVP to 978-423-6694 or secretary@nevbga.org.

Agenda:

Talks will include:

- Potential soil-based weed management techniques in small fruit - Maria Gannett, UMass Extension
- Endangered species program & FIFRA - Andrea Szylvian and Kelly Tindall, EPA
- Hot water seed treatment - Genevieve Higgins, UMass Extension Vegetable Program
- Spotted lanternfly: Biology, identification, and impacts - Elizabeth Barnes, MDAR
- Strawberry grower panel
- Cucurbit update - Chris Hernandez, UNH

4 pesticide recertification credits are available for this meeting.

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