

Vegetable Extension Program

Status: APPROVED

Project Director

Susan Scheufele

Organization Project Number**Accession Number**

7002068

Start & End Date

2020-10-01

Organization

University of Massachusetts

To Project / Program

"Vegetable Extension Program"

Primary Critical Issue

Sustainable Agriculture and Food Systems

Fiscal Year

2021

In 2-3 sentences, briefly describe the issue or problem that your project addresses.

The UMass Extension Vegetable Program delivers research-based educational programming and conducts applied research to meet the needs of vegetable farmers statewide and to enhance the economic, human, and environmental health and sustainability of the vegetable industry in Massachusetts. This year, as the COVID-19 pandemic waxed and waned, our team continued to conduct virtual programming while also doing several in-person on-farm Twilight Meetings, and maintained a broad range of projects and activities and even increased our output in several key areas. Our success this year was due to our team's dedication to our mission of serving our commercial growers and the people of the Commonwealth.

Briefly describe in non-technical terms how your major activities helped you achieve, or make significant progress toward, the goals and objectives described in your non-technical summary.

In July, Hannah Whitehead was hired as a new Extension Educator III with expertise in vegetable production and pollinator health. This new hire brought the team back up to four full-time year-round staff members.

This summer we were allowed to hire students, which was not allowed under University COVID policies during 2020. We hired two part-time students who assisted with field research and farm scouting from June through August. One student was supported by funding from CAFÉ via the Summer Scholars program. This student, Jordan Smith, went on to pursue a fifth-year Master's degree in Plant and Soil Sciences, and cited her experience over the summer working for the Vegetable Extension Program as a main motivator for pursuing this advanced degree.

We conducted a record number of research trials (10) at the UMass Crop and Animal Research and Education Farm with funding from grants, industry, the IR4-project, and grower support.

We made a concerted effort to increase our reach this year, through email and phone consultations (up 100 over last year) as well as farm visits (up 49 visits on 12 more farms compared to last year).

We had a record number of phone, email, text, and video chat consultations this year (N=222) after adding a new "Contact Us" section on our website and promoting it in our newsletter every week. These new modes of consultation allowed us to identify many new beginning farmers and others who were in need of assistance, or growers who we had not had contact with previously.

Results from an experiment on disease-resistant cucumber varieties was published in **Plant Disease Management Reports**, a peer-reviewed journal read by Extension professionals.

Research: 10 research trials were conducted at the UMass Crop and Animal Research and Education Center, South Deerfield, MA or on a collaborating commercial farm on the topics below. Results are shared with grower and Extension audiences through newsletter articles, Extension journals, and presentations.

- Evaluating Cucumber Varieties for Cucurbit Downy Mildew Resistance and Yield
- Evaluating Cucumber Varieties for Bacterial Wilt Resistance in a High Tunnel
- Evaluating Varieties of Spinach for Winter-Production and Resistance to Downy Mildew
- Reducing Damping-Off in Winter Spinach Production Using Cover Crops and Seed Priming
- Seed treatments for control of Cabbage Root Maggot in Radishes
- OMRI-Approved Fungicides to control Alternaria Leaf Spot in Broccoli
- New Fungicide Efficacy on Head Rot in Broccoli
- OMRI-Approved fungicides to Control Cercospora Leaf Spot in Swiss Chard
- Sentinel Plot to Monitor for Cucurbit Downy Mildew
- OMRI-Approved Insecticides to Reduce Wireworm Damage in Sweet Potatoes

Regional Collaboration: 43 Extension educators from across the Northeast region participated in weekly pest alert calls, sharing updates about activity of common pests and getting support identifying new and uncommon pests or production issues. This information is used to inform our weekly Pest Alerts column in our newsletter, Vegetable Notes. The group also shares information by email, and helps to facilitate priority setting and collaborative, regional grant writing.

This year our interim Vegetable Program Leader, Sue Scheufele, served as the General Chair of the New England Vegetable and Fruit Conference Executive Committee, overseeing planning and implementation of our regional biennial grower conference with >2,000 attendees.

Program Sustainability

Professional Development: Our team is dedicated to professional development and supporting staff to continue to pursue expertise. Staff participated in the following workshops and trainings:

- McKeag (21)
 - McKeag, L. PSA Train the Trainer Refresher Office Hour - Module 1. Produce Safety Alliance. 10/1/20.
 - McKeag, L. Southern Region Integrated Produce Safety Conference. Southern Center for Food Safety Training, Outreach, and Technical Assistance. 10/6/20.
 - McKeag, L. PSA Train the Trainer Refresher Office Hour - Module 2. Produce Safety Alliance. 10/8/20.
 - McKeag, L. PSA Train the Trainer Refresher Office Hour - Module 3. Produce Safety Alliance. 10/15/20.
 - McKeag, L. PSA Train the Trainer Refresher Office Hour - Module 4. Produce Safety Alliance. 10/22/2020.
 - McKeag, L. PSA Train the Trainer Refresher Office Hour - Module 5-1. Produce Safety Alliance. 10/29/20.
 - McKeag, L. UMaine Remote PSA Grower Training. UMaine Extension. 11/5/20.
 - McKeag, L. PSA Train the Trainer Refresher Office Hour - Module 6. Produce Safety Alliance. 11/12/20.
 - McKeag, L. Biodegradable Mulch Meeting. UConn Extension. 11/18/20.
 - McKeag, L. PSA Train the Trainer Refresher Office Hour - Module 7. Produce Safety Alliance. 11/19/20.
 - McKeag, L. Long island Ag Forum. Cornell Cooperative Extension. 1/5/21.

- McKeag, L. Climate Adaptation Fellows weeklong workshop. Climate Adaptation Fellowship. 1/11/21.
- McKeag, L. NECAFS Annual Meeting. NECAFS. 2/17/21.
- McKeag, L. Dry Farming Collaborative Winter Meeting. Oregon State University. 2/25/21.
- McKeag, L. Ox Farm Packhouse Consultation. UVM Extension. 3/3/21.
- McKeag, L. Soil moisture sensor session for CAF. Climate Adaptation Fellowship. 3/23/21.
- McKeag, L. Guiding Resilience: 4-part Legal Workshop for Farm Service Providers. Farm Commons. 4/1/21.
- McKeag, L. Bridging the GAPS: Approaches for Treating Irrigation Water On-Farm. University of Florida. 4/18/21.
- McKeag, L. Extension Climate Adaptation Meeting. UMass Extension. 5/6/21.
- McKeag, L. Climate Change Communication. National Extension Climate Initiative. 9/2/21.
- McKeag, L. Tilmor Cultivation Equipment Meeting. Brookfield Farm. 9/15/21.

- Whitehead (3)

- Field Day at South Deerfield Farm, UMass Extension. July 27, 2021.
- SETAC Short Course: Pesticide Risk Assessment for Pollinators, Society of Environmental Toxicology and Chemistry. October 28, 2021.

- Soil Health Webinar, UMass Extension. Oct 8, 2021

- Higgins (11)

- Higgins, G. AgBiome Pesticide Updates. October 28, 2020.
- Higgins, G. MarroneBio Pesticide Updates. Steve Bogash. November 12, 2020.
- Higgins, G. Summit Agro Pesticide Updates. Jim Frank & Eric Tedford. November 13, 2020.
- Higgins, G. High Tunnels After Dark. UNH Extension. December 1 & 8, 2020.
- Higgins, G. Certis Pesticide Updates. Greg Rogers. December 7, 2020.
- Higgins, G. Great Lakes EXPO, December 8-10, 2020
- Higgins, G. Long Island Agricultural Forum. February 2021.
- Higgins, G. Farm Labor Housing & COVID Policy Update. MA Department of Agricultural Resources & MA Department of Labor. February 19, 2021.
- Higgins, G. Greenhouse Management Webinars – Red Wagon Plants & Edgewater Farm. Vermont Vegetable & Berry Growers' Association. March 24, 2021.
- Higgins, G. Soil Health Research & Extension Update from Your Neighbors in New York. Joseph Amsili, Cornell Cooperative Extension. October 6, 2021.

- Scheufele (7)

- AgBiome Pesticide Updates. October 28, 2020.
- MarroneBio Pesticide Updates. Steve Bogash. November 12, 2020.
- Summit Agro Pesticide Updates. Jim Frank & Eric Tedford. November 13, 2020.
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Briefly describe how your target audience benefited from your project's activities.

Services: We Treated seed from 5 growers in five different states generating \$490 in revenue

through our [Hot Water Seed Treatment](#) service.

Fundraising: We raised \$7,500 in sponsorships and \$4,000 in donations this year, for a total of \$11,500 in program funds.

Grants Submitted: 5 new grant proposals were submitted and 4 were awarded (totaling \$571,933). Several of these represent new projects or collaborations with faculty at institutions we have never worked with before, and with industry partners.

Below are outlined several key outcomes and accomplishments from the past year.

Education

96 on-farm consultations were provided to 18 farms, with at least 166 crop observations made, over the 2021 growing season.

We **organized 15 workshops** for 1371 growers and agricultural service providers. The bulk of these workshops were presented virtually due to the COVID-19 pandemic but we were also able to host 3 on-farm Twilight Meetings across the state.

We co-organized the **Southern New England series of 4 virtual twilight meetings** in winter of 2020-21 with our Extension neighbors to the south, URI and UConn, on topics including vegetable pests of the year, winter spinach, greenhouse seedling production, and high tunnel fertility. Attendance was very good at these online, collaborative programs, with **869 total live attendees** and **652 subsequent views** online

during the reporting period.

36 growers and agricultural service providers attended **food safety trainings** delivered and organized by Lisa McKeag. This Produce Safety Alliance certification needed to be re-imagined for delivery online, and participants were very pleased with the quality of the program, here is some of the participant feedback: Lisa and Michael did an excellent job in doing this seminar, I got a lot out of it; Extremely helpful; Very clear and great clarifications; It was very helpful and we will make a lot of changes to improve our systems.

The **New England Vegetable & Fruit Conference** went virtual this year, and planning the online conference represented a major undertaking for our team, since Sue Scheufele is currently the General Chair of the Planning Committee. Transitioning the 3-day conference to an online format took considerable effort, but we look forward to good turnout during the 5-day online event in mid-December 2021.

Publications: Production of the **New England Vegetable Management Guide** was postponed this year due to the on-going COVID-19 pandemic and the canceling of the New England Vegetable and Fruit Conference where Guides are distributed. The NEVMG also exists as a website, which received 211,212 total and 178,795 unique page views between October 1, 2020-September 30, 2021.

The **Vegetable Program website**, ag.umass.edu/vegetable, is another critical place for stakeholders to access a wide range of educational materials including factsheets, project outcomes, resources, and access services. According to Google Analytics, there were 414,550 total page views and **356,373 unique page views** originating from different machines/devices to this site between October 1, 2020-September 30, 2021. The **Food Safety sub-section** of this site was updated to reflect changes to the "Do I Need to Comply?" section and the site was **visited 656 times** by 540 unique users. This fall we established a new page on our website to host research reports, after several requests from fellow ag service providers and grower

Briefly describe how the broader public benefited from your project's activities.

Our newsletter, **Vegetable Notes**, is arguably our most important output every year. It delivers timely information about weather, crop production practices, pest activity, and so much more to **over 2,874 readers** including commercial growers, Extension personnel, ag service providers, and home gardeners/consumers. This year, we published **26 issues** featuring **6 new articles** were published.

We **published 1 new factsheet** or other new resources for the website this year.

Comments (optional)

- Articles published in refereed publications (Published Article (News, Professional, Trade) (1)
- Grants Awarded and Submitted (Grant Submission or Other Funding Proposal) (5)
- New England Vegetable Management Guide - Online (Websites or Other Electronic Delivery) (1) - 178795 Participants
- On farm consultation (Individual Consultations and Site Visits) (96) - 25 Participants
- Phone and Email Consultations (Individual Consultations and Site Visits) (222) - 150 Participants
- Presentations at Professional Conferences & Meetings (Presentation/Poster (Academic) (12) - 675 Participants
- Regional Pest Scouting Network (Direct - Other) (1) - 17 Adults
- Research Trials (Research Project (Applied Research) (10)
- The New England Vegetable and Fruit Conference (Facilitated Group Meetings and Conferences) (1) - 606 Participants
- UMASS Food Safety Program Website (Websites or Other Electronic Delivery) (1) - 540 Participants
- Vegetable Educational Programming (Facilitated Group Meetings and Conferences) (15) - 1371 Participants
- Vegetable Notes - Newsletter (Printed Material (newsletter, factsheet, field manual) (32) - 5743 Participants
- Vegetable Program Website (Websites or Other Electronic Delivery) (3) - 356373 Participants