

# Sustainable Greenhouse Management FY22

Status: NIFA REVIEW

## Project Director

Jason Lanier

## Organization Project Number

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## Accession Number

7001988

## Start & End Date

10/01/2020

## Organization

University of Massachusetts

## To Project / Program

"Sustainable Greenhouse Management"

## Primary Critical Issue

Commercial Horticulture and Landscape Management

## Fiscal Year

2022

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

UMass Extension's Greenhouse Management & Production project supports the controlled environment horticulture and agriculture industries with research-based education and training. As Massachusetts undergoes cultural, economic and climatic changes, both new and established growers need to learn novel skills and apply practices that are economically, socially, and environmentally responsible for an evolving industry and market. Sustainable greenhouse management requires solutions to problems of energy, pest management, trained labor, water protection and conservation, production practices and plant nutrition for a diverse range of crops and complex agricultural and environmental issues.

### 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.

Education on pertinent topics including greenhouse crop production, integrated pest management, water and nutrient management, pest management, and sanitation was delivered to stakeholders through a variety of web resources, social media, publications, training programs and diagnostic services. Training programs are predominantly offered in an online, synchronous format at this time, coupled with one-to-one consultations and focused interaction with key industry groups. These approaches offer flexibility, convenience, and cost savings for both our program and our stakeholders and extend our reach to larger and more geographically diverse audiences. This is especially important for meeting growing and evolving demands for our time and expertise, considering significant and continuing capacity deficits in our program and transitional strategic objectives.

### Briefly describe how your target audience benefited from your project's activities.

The greenhouse industry consists of wholesale growers and grower retailers, including a rising number of diversified operations that are adding greenhouse crops to their business strategies. This means that both established and nascent ventures stand to benefit from cutting edge knowledge. Lack of trained personnel to perform horticultural work is one of the consistent refrains of the industry segments that we serve, based on needs assessment. Our activities provided critically necessary training for large numbers of workers and managers, which served to grow their skill sets, employability, and value, and helped them to meet requirements for expedient industry certifications and licensure. As a result, businesses were better poised to meet the demands of clients and customers and remain profitable. Greenhouse crop production also provides a basis for many associated horticultural interests such as plant and seed propagators, equipment and materials suppliers and service providers.

For example, for the January 18, 2022 Get Ready For Spring Greenhouse Education Program:

- 72% of survey respondents indicated that their knowledge increased as a result of attending the program.
- 95% of survey respondents indicated that they learned a sustainable management practice.
- 100% of respondents indicated that they were at least "somewhat likely" to incorporate what was learned at the event into their

management program.

- 97% of respondents indicated that they took away knowledge that would help to reduce financial risk associated with pests and diseases.

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

According to the most recent USDA Census of Agriculture (2017), horticultural production including greenhouse and floriculture (as well as nursery and sod) is ranked first among Massachusetts agricultural commodities with sales estimated at approximately \$140 million, which accounts for nearly 1/3 of total agricultural sales in the Commonwealth. In the same survey, 449 Massachusetts firms are credited with producing floriculture or bedding crops under 7.3 million square feet of glass or other protection, while 252 firms produced food crops under approximately 1.8 million square feet of cover. Best management practices for greenhouse production help to support healthy, high quality plant material, vibrant businesses and markets, recreation and leisure, beautified spaces and enhanced value of properties, while simultaneously promoting efficiency, input reduction, lower resource use, and sustainable and ecologically sound managed spaces.

### **Comments (optional)**

#### **Sustainable Greenhouse Management**

- Development or revision of educational fact sheets - (26) - 15902 Participants
- UMass Extension's Greenhouse Updates - (20) - 7997 Participants
- Educational Program Facilitation on behalf of outside organizations - 2021 Northeast Greenhouse Conference - 700 Participants
- Educational Program Facilitation on behalf of outside organizations - 2021 MFGA Summer Trial Garden Tour and Education Program - 82 Participants
- Liaison, leadership and networking with the greenhouse production industry and public at large (2) Northeast Greenhouse Conference Board (1) - 14 Participants (1) - Outreach Liaison for Massachusetts Flower Growers Association - 16 Participants
- In-depth Consultations and Site visits (11) - 12 participants
- Consultations based on water samples submitted to UMass Extension's Plant Diagnostic Lab - (40) - 40 Participants
- Consultations based on plant samples submitted to UMass Extension's Plant Diagnostic Lab - (53) - 53 Participants
- Direct inquiries (phone, email, in-person) - (73) - 73 Participants
- Single day education programs/workshops - Get Ready for Spring Greenhouse Education Program (2) - 112 Participants
- Web and Social Media Communications - (39) - 666889 Participants