

UMass IPM Extension Implementation Program



Stakeholder Advisory Group
March 30, 2022



Today's Agenda

01

Introductions

02

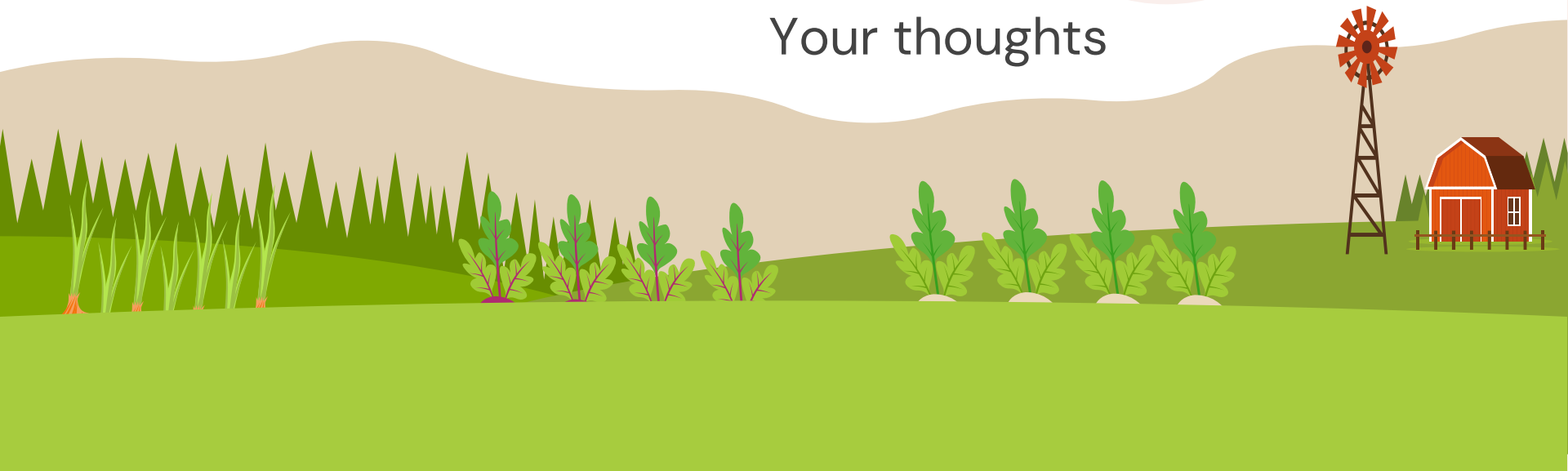
Project Overview

03

Team Updates

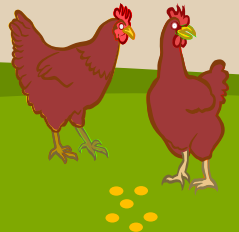
04

Jamboard
Your thoughts



Impt Acronyms

- USDA
- National Institute of Food and Agriculture (NIFA)
- Crop Protection and Pest Management (CPPM)
- Request for Proposals (RFP)



The logo consists of the letters 'CPPM' in a bold, dark brown, serif font, enclosed within a light brown rectangular box with a thin dark border. The background of the slide features a stylized farm scene with rolling green hills, a wooden fence with corn cobs, trees, pumpkins, and chickens under a light sky with clouds.

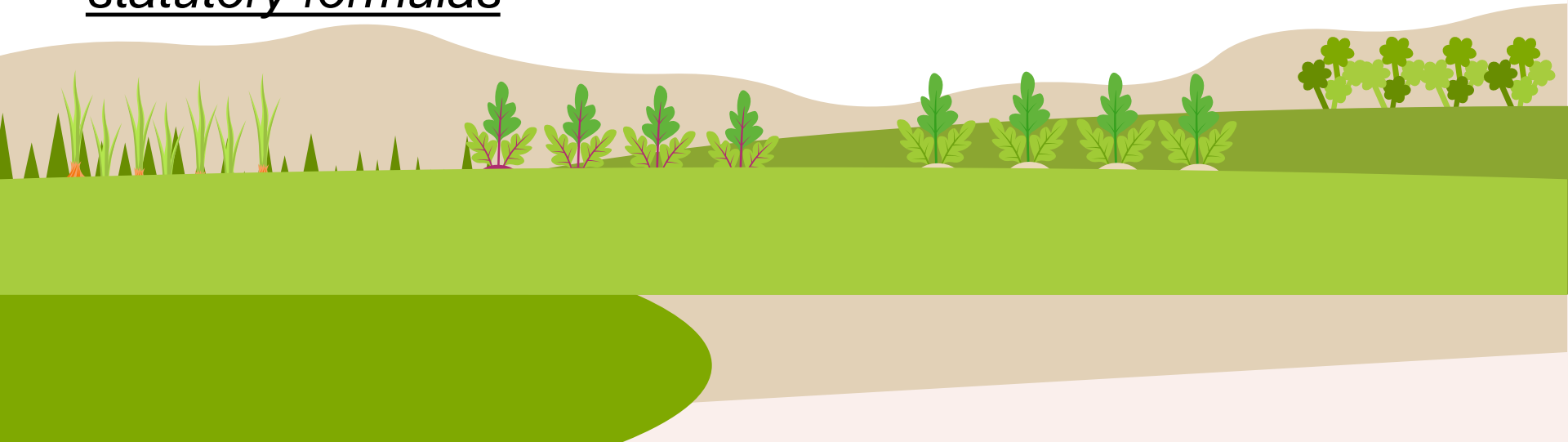
CPPM

- Applied Research and Development Program (ARDP)
- Regional Coordinators Program (RCP)
 - Supports IPM Centers
- Extension Implementation Program (EIP)

CAPACITY vs. COMPETITIVE Funding

A bit of
history...

- Promote multi-state and multi-institutional collaborations for national research and extension “systems” to address complex, multidimensional, and regional challenges
- Support for research and extension activities at land-grant institutions through grants to states on basis of statutory formulas



CAPACITY vs. COMPETITIVE Funding

- Must follow (strict) RFP guidelines
- 50+ Land Grant Institutions compete against each other
- Reviewed by panel to rank proposals
- \$10M allocated in FY22 based on ranking
- 3-year grant, maximum of \$900K



OBJECTIVES OF EIP GRANTS



Increase implementation of IPM

- Develop new strategies
- Improve current strategies
- Extend knowledge to stakeholders

Represent reasonable portion of institute's IPM programming



ADDRESS IPM PRIORITIES (as per RFP)



Primary Priorities

- Agronomic
- Animal Agriculture
- Communities
- Specialty Crops
- Pollinator Health

Secondary Priorities

- Pesticide Education
- Conservation Partnerships
- Diagnostics
- Housing, Public Health
- Recreational lands

UMass EIP team addresses....

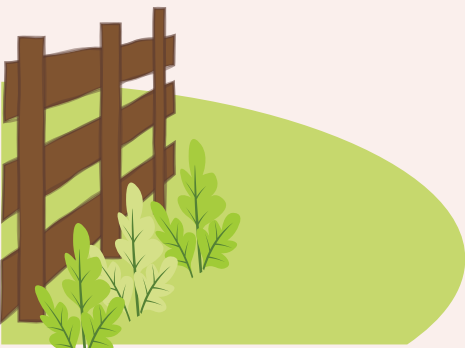


Primary Priorities

- Agronomic
- Animal Agriculture
- Communities
- **Specialty Crops**
- Pollinator Health

UMass EIP grant

- Submitted March 2021
- Awarded \$817K
- Sep 1, 2021 -
Aug 31, 2024





Vegetable

Sue Scheufele
Genevieve Higgins
Lisa McKeag
Hannah Whitehead



Fruit

Jaime Pinero
Liz Garofalo
Jon Clements
Elsa Petit



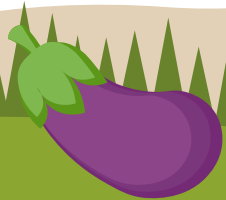
Cranberry

Hilary Sandler
Katie Ghantous
Marty Sylvia



Cross-Commodity

Clem Clay
Bill Miller
Bernie Morzuch
Ryan Wicks



UMass EIP Teams



GOALS FOR IPM IN MA SPECIALTY CROPS!

GOAL 1

Increase awareness and implementation of known sustainable IPM strategies among Specialty Crop growers and IPM practitioners

GOAL 2

Increase development and implementation of IPM practices via data sharing and participatory applied research and demonstrations

GOAL 3

Develop capacity to address on-farm challenges and promote awareness & implementation of new & under-utilized IPM strategies & technologies

EIP21 Grant

As a Member of the Stakeholder Advisory Group....



**Help
establish
IPM
priorities for
EIP team**



**Provide
feedback for
improvement
of IPM
research and
outreach**



**Guide
project
activities,
short- and
long-term**



**Discuss
successes &
challenges of
IPM
implementation
in your work**



**Provide
direction for
FY24 EIP
proposal
development**

Your Commitment....

- Attend annual SAG meeting
- Engage in discussions, share your experience as a grower, researcher, IPM practitioner, Extension personnel
- Participate in evaluation surveys





Now let's hear from the Team and JamBoard...



Team members:

- Elizabeth Garofalo
- Elsa Petit
- Jon Clements
- Dan Cooley
- Duane Greene
- Jaime Piñero



UMass Extension Fruit Program

Fruit Home

About

Publications

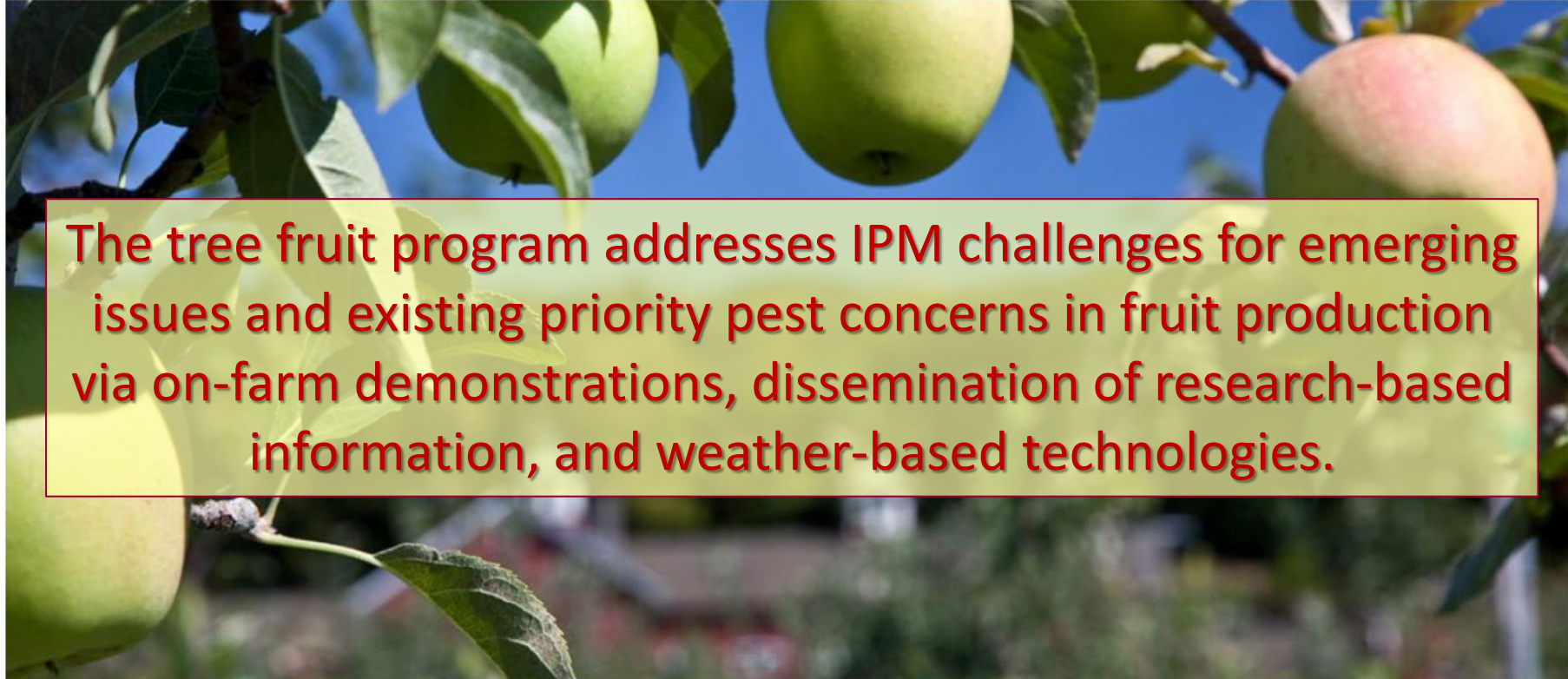
Resources

Services

Research & Projects

News & Events

Make a Gift



The tree fruit program addresses IPM challenges for emerging issues and existing priority pest concerns in fruit production via on-farm demonstrations, dissemination of research-based information, and weather-based technologies.

News Events

NEWA 3.0 - what you need to know



If you have not looked at **NEWA (Network for Environment & Weather Applications, <https://newa.cornell.edu/>)** since last year (or perhaps never?) you will notice a major change in the user interface now that NEWA 3.0 (as opposed to the 'old' NEWA or NEWA 2.0) is fully deployed. Here are some major enhancements and features you should know about to make NEWA more useful and user friendly. I call them my Top 10 NEWA Tips. Before I get to that though, a reminder NEWA is one decision support tool you can use and is not the final word. If in doubt, consult your crop consultant, agrichemical sales person, or UMass Extension for further advice.

Quick Links

UMass IPM Fruit Loop - A Podcast

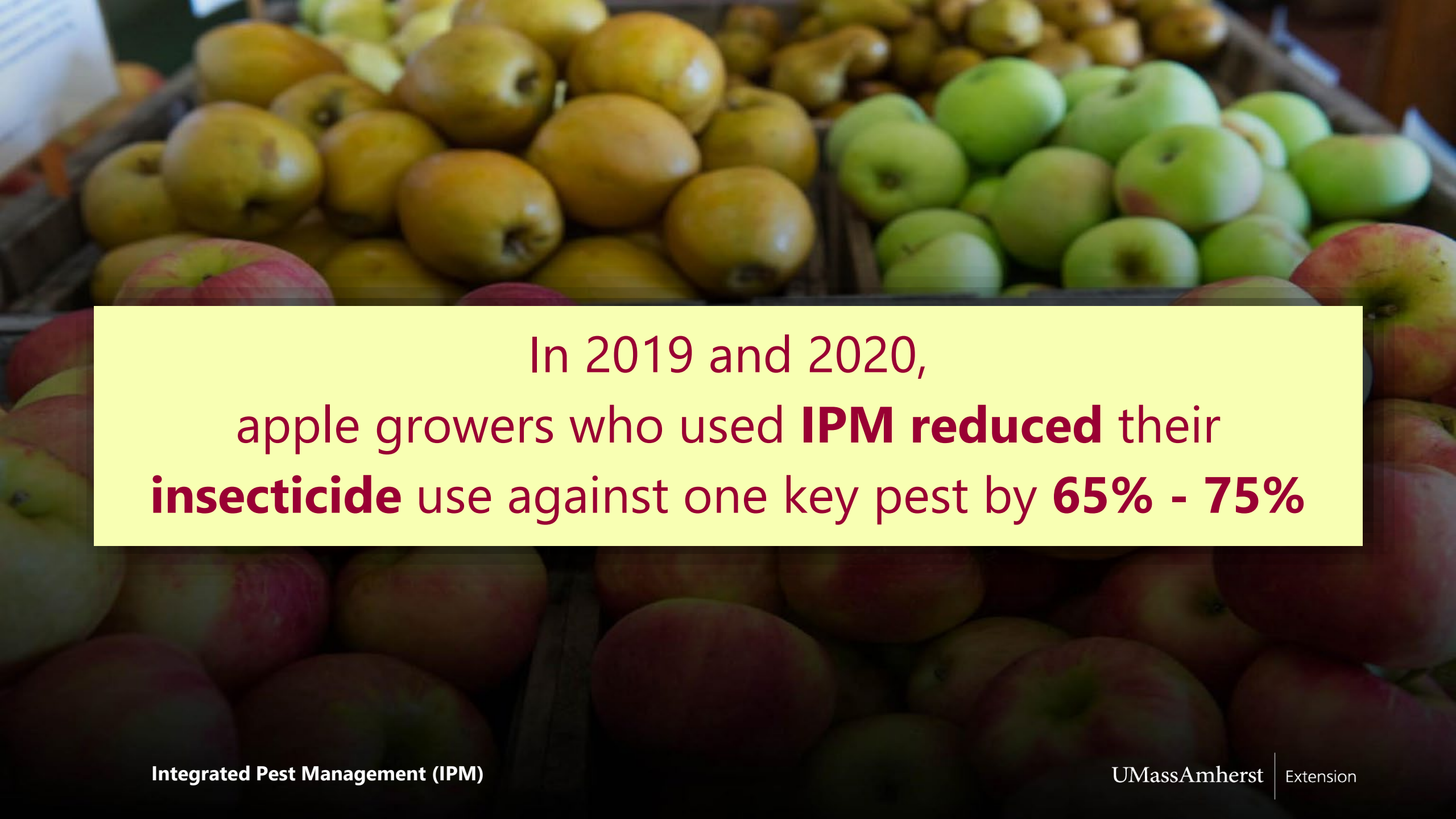
Fact Sheets

Spotted Wing Drosophila

Brown Marmorated Stink Bug

UMass Cold Spring Orchard





In 2019 and 2020,
apple growers who used **IPM reduced** their
insecticide use against one key pest by **65% - 75%**

1-2-3 Integrated Pest Management approach



MONITORING

CULTURAL
PRACTICES

INSECTICIDES

Biological control



MONITORING

CULTURAL
PRACTICES

INSECTICIDES

Biological control

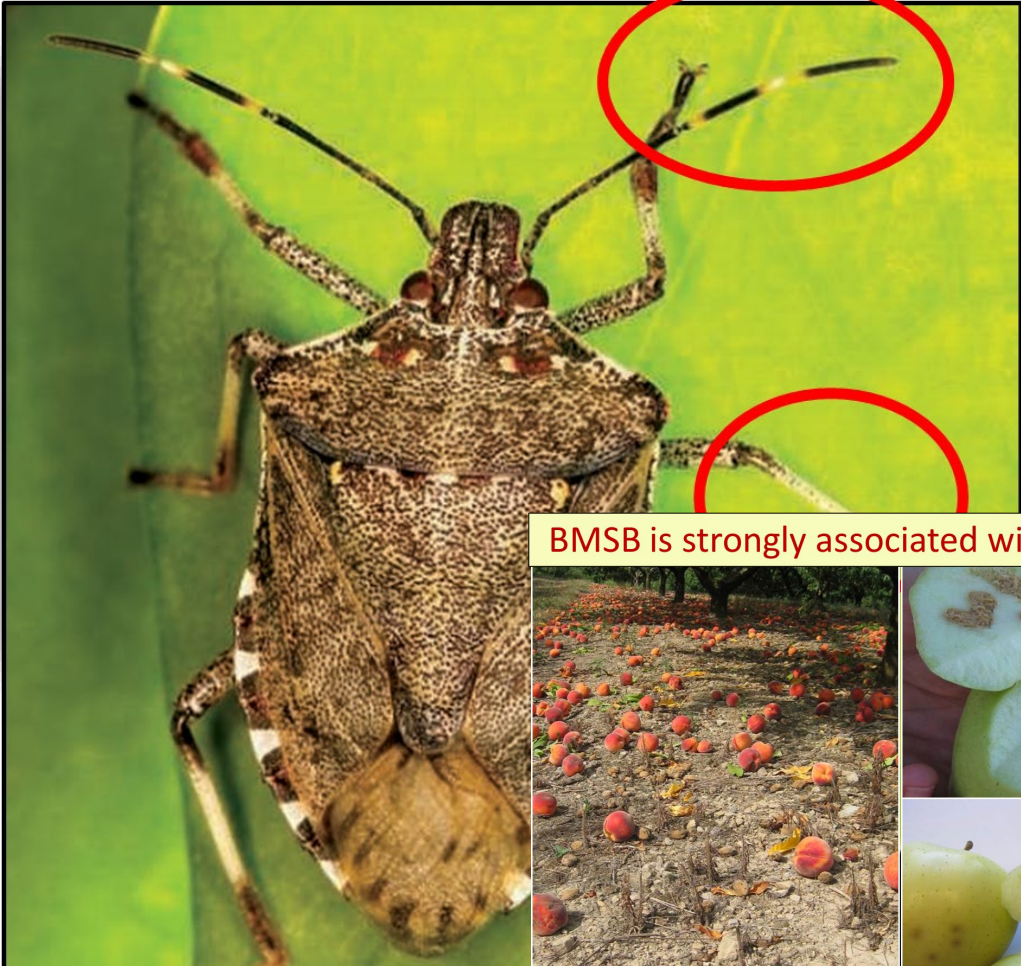
Invasive Insect Pests Threatening Specialty Crops in Massachusetts

Spotted Lanternfly (SLF)



PEST ALERT: The MA Department of Agricultural Resources (MDAR) announced on September 28th, 2021, that an established population of SLF was detected in Worcester County, MA. This finding was confirmed by state officials.

- Native to China
- SLF feeds on a wide range of plants and trees (> 65 species): Tree of heaven, **grape**, willow, maple, poplar, *Prunus* spp. (plums, cherries, peaches, nectarines), apple

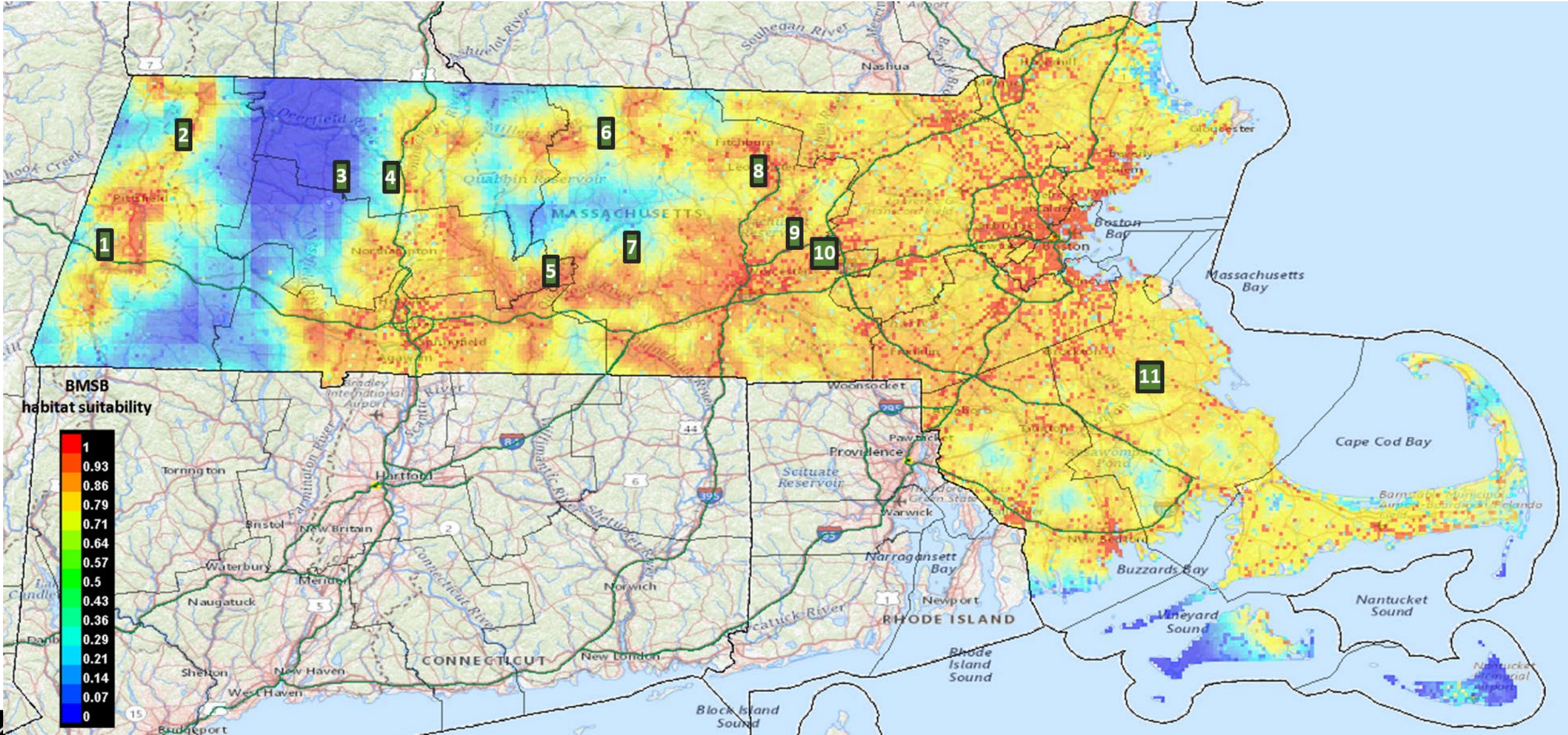


BMSB is strongly associated with tree fruit



- Native to China
- BMSB feeds on a many plants, preference for fruit
- Highest BMSB populations in MA: 2020
- **Very low** populations recorded in 2021

Invasive pest monitoring (2022 – 2024)



Meet the Samurai Wasp (*Trissolcus japonicus*)



Photo credit: Chris Hedstrom, Oregon Department of Agriculture.



It made its way into the United States naturally around 2015.
Currently detected in at least 14 U.S. states. **Is it present in MA?**



NEWA 3.0 Update

Jon Clements
Massachusetts State
NEWA Coordinator



2020 NEWA AGRICULTURAL OUTREACH REPORT FOR MASSACHUSETTS

PROJECT LEADERS

Jon Clements, MA NEWA State Coordinator¹ and Dan Olmstead, NEWA Program Coordinator²

¹ UMass Extension, Amherst, MA. clements@umext.umass.edu

² NYS IPM Program, Cornell University, Geneva, NY

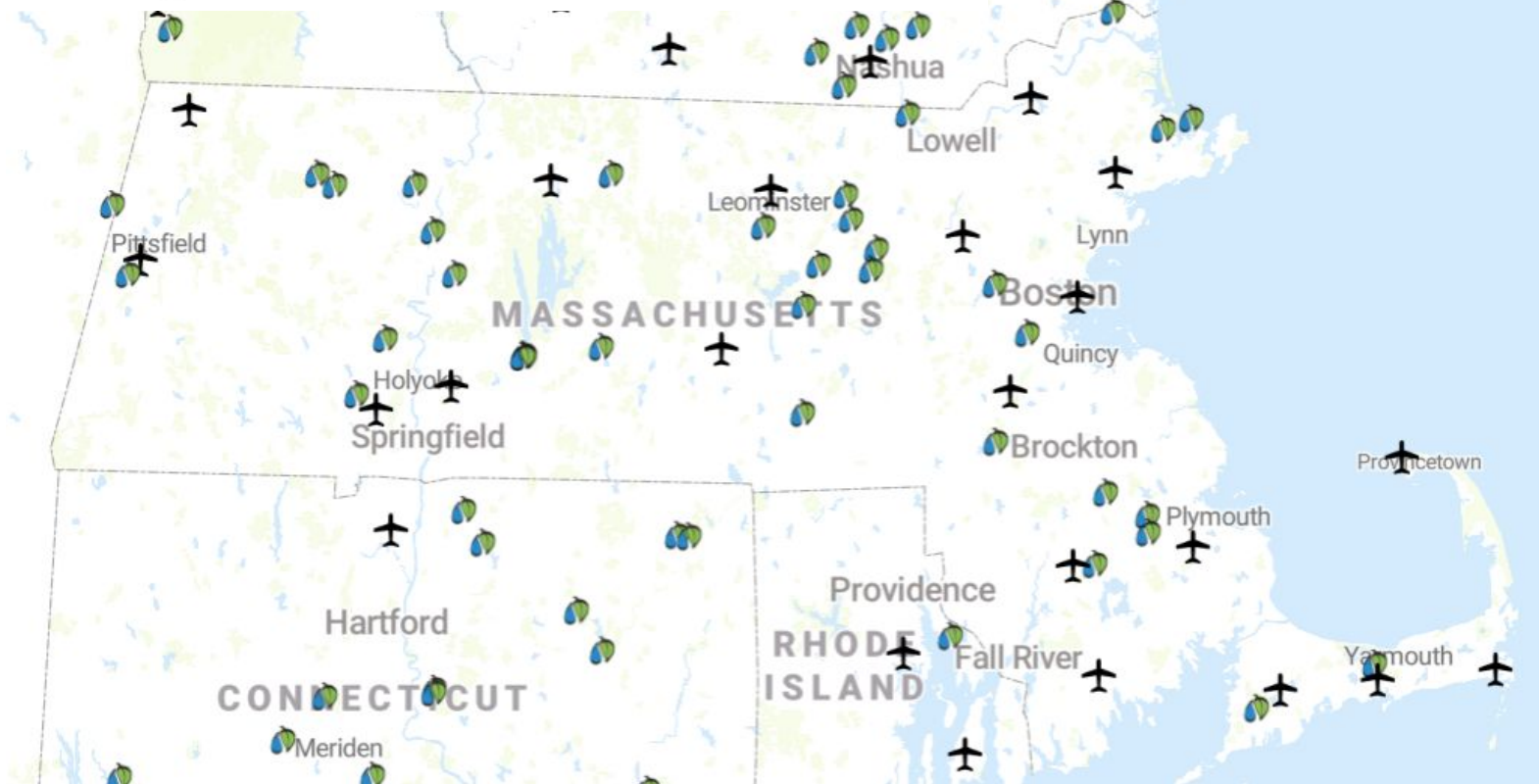
INTRODUCTION

The Network for Environment and Weather Applications (NEWA) is a collection of online insect pest and plant disease management tools build to provide MA growers with short-term crop risk assessments. Each tool or resource uses real-time weather data streamed from 52 weather stations across the state and can be accessed at <http://newa.cornell.edu>. NEWA is made possible in MA through a partnership with UMass Extension and the New York State IPM Program at Cornell University.

Summary of stations (ending 31 Dec 2021)

Stations active 57

Stations added past 12 months 4



ANNUAL SITEWIDE USAGE SUMMARY FOR MASSACHUSETTS

Year	Users	Returning users	Contact hours
2020	1181	203	256:30:44
2019	1220	217	226:59:05
2018	1186	221	226:25:03
2017	960	179	186:26:37

APPLE RESOURCES

Resource	Year	Users	Returning users	Contact hours
Apple Diseases	2020	215	65	45:48:34
	2019	172	63	34:55:45
	2018	130	48	36:29:08
	2017	117	53	33:09:31
Apple Insects	2020	101	46	16:53:26
	2019	76	39	12:03:05
	2018	62	29	15:13:34
	2017	56	30	15:12:44
Apple Carbohydrate Thinning	2020	69	37	19:58:58
	2019	56	33	13:15:47
	2018	34	24	06:20:11
	2017	35	23	06:26:16
Apple Irrigation	2020	17	10	03:08:47
	2019	17	10	03:15:09
	2018	15	10	03:15:09
	2017	13	8	01:32:23

VEGETABLE RESOURCES

Resource	Year	Users	Returning users	Contact hours
Cabbage Maggot	2020	28	10	03:21:04
	2019	30	12	04:47:17
	2018	23	10	05:50:59
	2017	30	8	04:39:58
Onion Diseases	2020	8	3	01:32:59
	2019	10	8	01:57:18
	2018	11	4	01:44:24
	2017	12	3	02:12:40
Onion Maggot	2020	19	7	02:45:37
	2019	19	12	02:54:45
	2018	24	6	05:03:41
	2017	22	7	03:36:45
Potato Diseases	2020	5	2	01:00:35
	2019	4	3	00:45:53
	2018	12	5	00:57:56
	2017	6	1	00:56:03
Tomato Diseases	2020	21	10	03:23:41
	2019	22	11	02:44:00
	2018	44	16	06:33:43
	2017	38	11	05:21:44


Home | NEWA

newa.cornell.edu

NEWA

https://newa.cornell.edu/

Blog Help Profile Logout

a partnership of IPM & 

Dashboard Weather Tools Crop & IPM Tools

Your source for weather and science-driven IPM tools

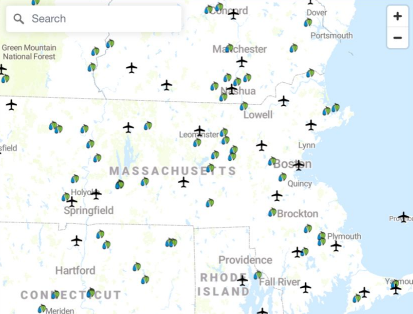
Find a Weather Station

for up-to-date IPM forecasts and weather data.

Select or search by weather station

Belchertown-2, MA


Click or tap on a station marker to load its overview



Belchertown-2 Overview

Edit Weather Overview

At 2:00 PM today

 **26 °F**

Base 50°F Degree Days since January 1	12
Relative Humidity	27 %
Leaf Wetness	0 minutes
Solar Radiation	32 langleyes
Wind Speed	15 mph
Wind Direction	NW

Yesterday

Precipitation: 0.01 in	High Temp: 41 °F	Low Temp: 26 °F
------------------------	------------------	-----------------


Today as of 2:00 PM

Precipitation: 0 in	High Temp: 25 °F	Low Temp: 20 °F
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Fruit: UMass Extension Fruit Pr x +
ag.umass.edu/fruit

News Events **umassfruit.com**


NEWA 3.0 - what you need to know



If you have not looked at **NEWA (Network for Environment & Weather Applications)**, <https://newa.cornell.edu/> since last year (or perhaps never?) you will notice a major change in the user interface now that NEWA 3.0 (as opposed to the 'old' NEWA or NEWA 2.0) is fully deployed. Here are some major enhancements and features you should know about to make NEWA more useful and user friendly. I call them my Top 10 NEWA Tips. Before I get to that though, a reminder NEWA is one decision support tool you can use and is not the final word. If in doubt, consult your crop consultant, agrichemical sales person, or UMass Extension for further advice.

[Read more »](#)

NEWA 3.0 Tutorial - Online Workshop




NEWA 3.0 Tutorial - Online Workshop
February 7, 2022, 9am—12:30pm

The new NEWA 3.0 system is online (<https://newa.cornell.edu/>), and 2022 will be the first year when you will not be able to use the old version. If you have not yet looked at the new website, or if you have looked at it but weren't sure how to best use it, the "NEWA 3.0 Tutorial Online Workshop" is perfect for you.

Register now: https://cornell.zoom.us/meeting/register/tjlldempqjoqH9DBksZXqKQ_B3epoAHmT64p

[NEWA 3.0 Tutorial Flyer](#)

2022 Mass Aggie Seminars Announced!







[Mass Aggie Fruit Seminars](#) available to the public!
[Read more »](#)

Quick Links

- UMass IPM Fruit Loop - A Podcast [↗](#)
- Fact Sheets
- Spotted Wing Drosophila
- Brown Marmorated Stink Bug
- UMass Cold Spring Orchard [↗](#)
- Northeast Extension Fruit Consortium
- New England Wine Grape Growers Resource Center [↗](#)

Fruit Program Sponsors



Challenges...

Weather station maintenance and repairs (including replacing aging stations)

NEWA 3.0 education - how to use, increase adoption (grape, vegetable crop IPM tools?), survey usage and outcomes

Who's going to take over when I retire in a few years?

Thanks to eIP for funding, including annual fee of \$1,750 and weather station repair and maintenance, but not my time! :-)

This work was supported in part by funding provided by USDA NIFA Extension Implementation Program, Award No. 2021-70006-35388

Grapes

Elsa Petit

epetit@umass.edu



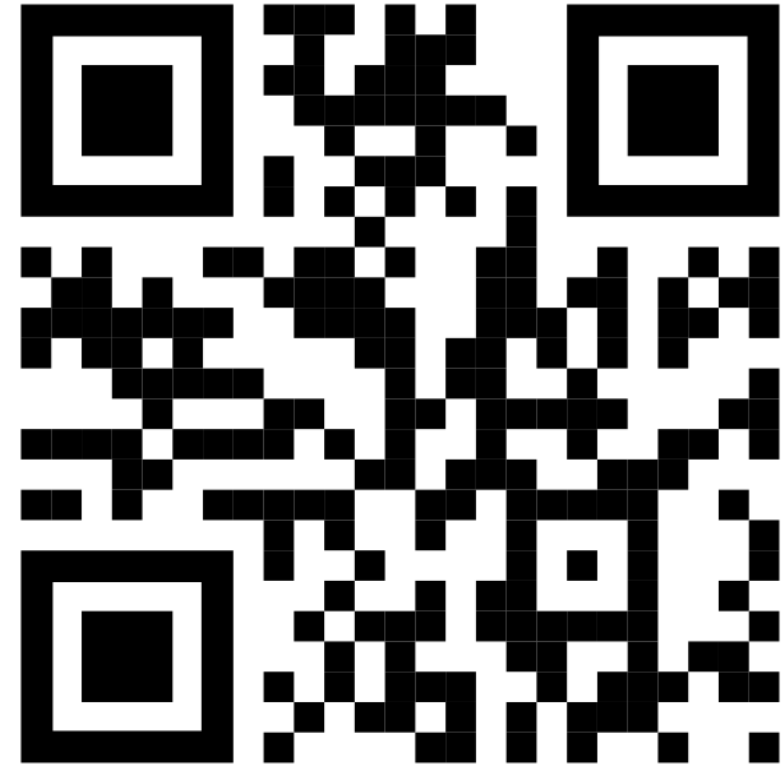
To email me, point your phone to the code while on camera but do not take the picture.

1. Increase awareness and implementation of known sustainable IPM strategies among specialty crop growers and IPM practitioners.

- Newsletter Grape Notes sent 1 to 4 times a month to grape growers about seasonal practices, new research, seminars includes IPM
- 3 zoom meetings with grape growers during the growing season to cover each one disease and its IPM practice (May-June-July 2023)
- 2 Fruit Notes articles on research results on disease resistance and organic trials

1. Increase awareness and implementation of known sustainable IPM strategies among specialty crop growers and IPM practitioners.

- **Talk on sustainable viticulture**
- **Vitinord 2022**
- International Viticulture & Enology conference that happens every three years. Since 2006, VitiNord has taken place every three years, alternating between sites in Europe and North America.
- Dec 5-7 2022



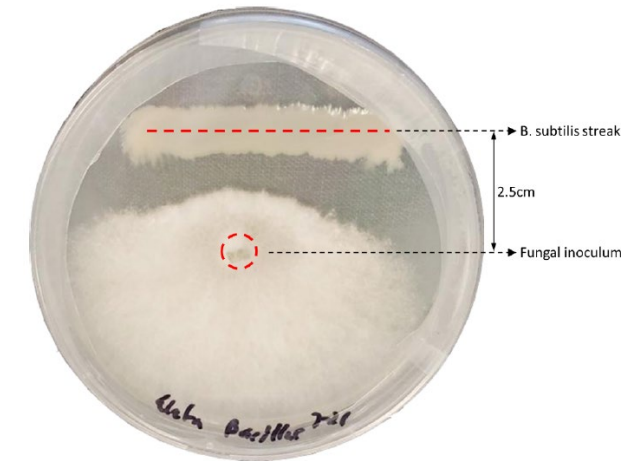
2. Increase development and implementation of IPM practices via data sharing and participatory applied research and demonstrations

A. Trials on biofungicide efficacy

❖ Against downy mildew:

- Products to evaluate: Stargus (*Bacillus amyloliquefaciens*) versus Stargus/Regalia (*Reynoutria sachalinensis*) tank mixes to complement a program at the end and start of the growing season
- Timeline: June –August 2022
- Partners: Marrone, Varietal plot at Cold Spring

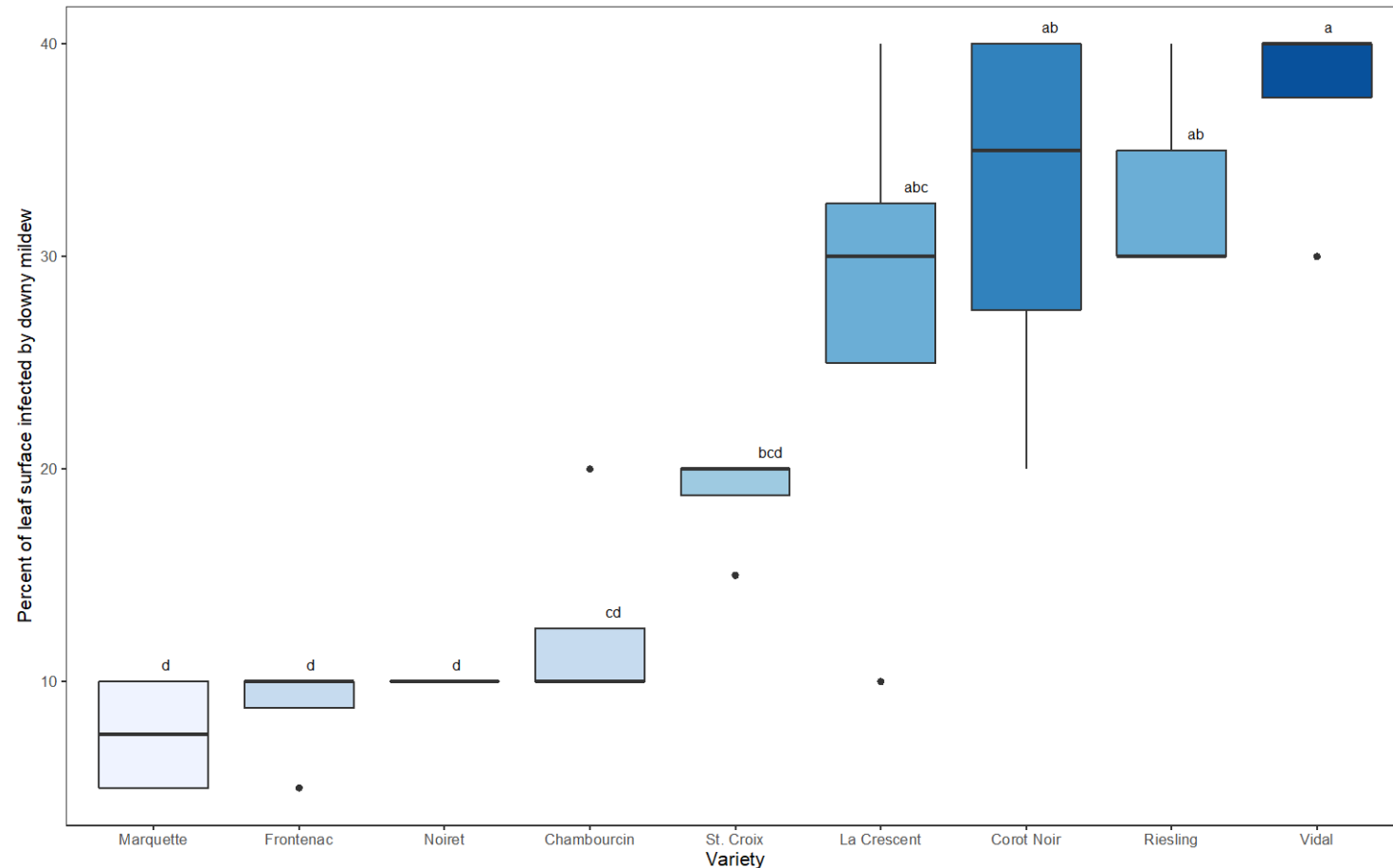
❖ Against trunk diseases: collaborators are evaluating potential fungicides in vitro



2. Increase development and implementation of IPM practices via data sharing and participatory applied research and demonstrations

B. Evaluation of downy mildew resistance in new grape varieties of emerging interest

- Experiment: Add 2-3 new grape varieties to our varietal plot in Cold Spring
- Timeline: Survey to growers in Spring, Planting in Fall
- Partners: NE1720 Multistate project, Cornell, University of Minnesota



Evaluation of downy mildew susceptibility in September 2021

UMass Extension Vegetable Program

Education

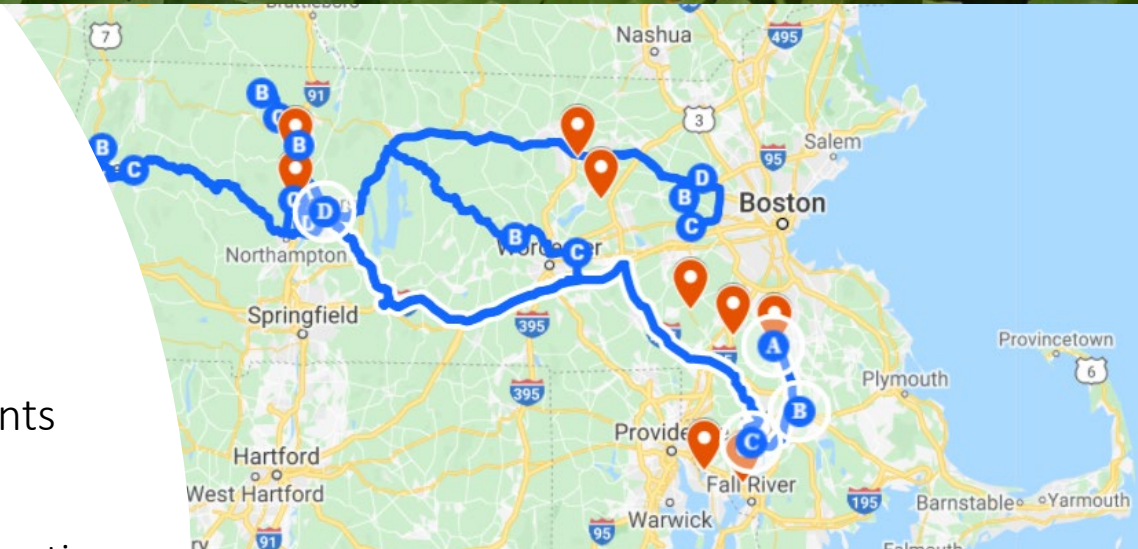
- Veg Notes
 - Weekly for 2,800 growers, gardeners and ag service providers
 - *PestCast?*
- Twilight Meetings
- Field Days on Research
- Presentations and Workshops
- New England Veg & Fruit Conf



UMass Extension Vegetable Program

Implementation

- Grower inquiries
 - Email, text, and phone calls
- Pest Scouting Network
 - 11 farms scouted by 2 students
- Mentor Farms
 - Receive IPM planning and scouting training bi-weekly
 - Bardwell Farm, Hatfield (25 acres)
 - Blossoming Acres, Southwick (85 acres)
 - Nuestras Raices, Holyoke
 - Riquezas del Campo, Northampton
 - Flats Mentor Farm, Lancaster
- Pest Monitoring Network
 - Traps at 17 locations
 - Sweet corn, cucurbit pests



UMass Extension Vegetable Program

Climate change

- In our day-to-day work with growers
- Lisa serving as UVM Climate Fellow
- Focus of workshops: irrigation efficiency, soil health, reduced-tillage



UMass Extension Vegetable Program

Pollinator Health

- Survey
- Demonstration project on pollinator habitat for Northeast farms
- Articles about pollinator health in Veg Notes
- 2 pollinator workshops planned for summer 2022



UMass Extension Vegetable Program

Goal 2: Applied Research

- Downy mildew-resistant cucumbers
- Bacterial wilt control in cucumber
- Organic pesticide efficacy
 - Cercospora leaf spot in Swiss Chard
 - Alternaria in brassicas
- Water Testing for Food Safety
- *Sprayer technology to reduce drift??*
- *Wireworm control in sweet potato?*
- *Cover cropping in high tunnels to reduce damping off in spinach??*



UMass Extension Vegetable Program

Goal 3

- Include cost-benefit of different treatments in research projects
- Learn from drone team about possible applications for veg growers
- Evaluation tools
- Assist with hiring new positions e.g. urban ag, weed science, soil science
- Assist with experimental design for dual-use solar



Grower JamBoard Feedback:

Pest Management Challenges	Research and Education Priorities	Services and Assistance	Other
bacterial diseases	small fruit extension	small fruit extension	succession planning and aging grower population
balacing cultural pest control techniques with no-/reduced-till practices	plantings to support pollinators	climate resiliency	labor
biocontrol in spinach tunnels	biocontrols - education and use in apples	tools - signage to help educate the consumer about IPM	pestcast yes!
biopesticides in apple	on-farm compost production	sprayer calibration	new venue for NEVFC-bigger and more central
brassica head rot	organic fertilizers - comparing nutrient availability and incorporating organic fertilizers into soil lab recommendations	helping farmers with pesticide certification and safety	disconnect between extension and industry-chem reps
cover crops	effects of no-/reduced-tillage on soil health and soil biodiveristy	help with ID and management of new pests as related to climate change	we need a new venue for the December meetings. Something larger and centrally located
cranberry weevil	organic pesticide efficacy vs cost	video recordings of field days and farm tours for people located far away	Gary Gemme: would use drones for veg scouting and checking far-away fields
deers	climate change adaptation, esp increased rainfall	on-farm scouting and disease sampling (with processing at lab)	
efficacy of organic pesticides	new technology for reduced labor and inputs		
electric fencing	no-/reduced-tillage equipment and strategies		
FIRE BLIGHT - to prune out or not to prune out. Best solution to prevent in the first place.	disease-resistant variety trials for disease-prone veg (field and HT tomatoes, heading brassicas)		
fruit rots	Tile drainage - research, feasibility, grant opportunities		
managing cover crop residues and weeds in reduced tillage systems	beneficial insect control for unheated high tunnels in spring spinach - gap between parasitoid wasps being effective and begin warm enough for ladybeetles		
occasionally, conflict information about pest ID/management on umass website			
organic CPB control			
organic striped cuke beetle control			
pesticide resistance			
rabbits (fruit trees)			
red winged blackbirds			
soil microbiology and disease			
SWD in raspberries - new trends in management?			
voles			
weed management			
weed management strategies in no-/reduced-till			
what to do when deer have eaten all the buds - prune branch completely off or leave.			