

High Impact: Research & Extension

2018



Mass. Agricultural Experiment Station

Mass. Water Resources Research Center

UMass Cranberry Station

UMass Extension



Keystone Project Supports Communities' Forest Conservation Efforts

*Award-Winning Initiative Makes an
Impact in Worcester County (and
Across the State)*

- 61% of Massachusetts is forested; 70% of Mass. forests are family owned; over 45,000 landowners own 10 acres or more; there is a good possibility that you, or someone you know, might own a small or large forest.

- The Massachusetts Keystone Project has trained 700 volunteers to act as forest stewards since 1988, 500 of whom remain active.

- Many forested communities in the state benefit from a Keystone-trained Cooperator in their towns.

- Worcester County is a showcase for the positive impacts and outcomes of the program.

- The Keystone Project was the recipient of the Environmental Service Award by the Massachusetts Association of Conservation Commissions last year.

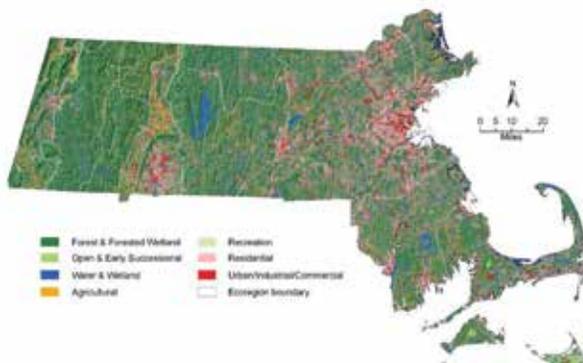
Story:

<http://bit.ly/KeystoneProject>

Program:

<http://masskeystone.net>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act and the Renewable Resources Extension Act.



UMassAmherst
The Commonwealth's Flagship Campus

4-H Trains 1,000 Babysitters Every Year in Massachusetts

Participating in the Babysitting Training Can Enhance Important Skills for That First Job

- For many teens, babysitting functions as a portal to the world of work.
- 4-H Babysitting Training helps provide essential skills and knowledge.
- UMass Extension 4-H Youth Development Program has trained over 50,000 girls and boys since 1980.

Story:

<http://bit.ly/1000Baby>

Program:

<http://bit.ly/4HBabyTraining>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act, the Massachusetts 4-H Foundation, and generous private donors.



Keeping Cranberry Bogs Healthy Massachusetts Signature Fruit Gets TLC

- Cranberries, native to Massachusetts, have been the iconic fruit of the Commonwealth for hundreds of years, but the conditions and pests that can endanger the crop can change annually.
- UMass Cranberry Station faculty and staff spend the growing season scouting for pests and pathogens, diagnosing specific issues, and making recommendations to growers.
- 2017 had cranberry growers in Massachusetts coping with false blossom disease, scale, and the cranberry weevil (pictured).

UMass Cranberry Station website:

<http://ag.umass.edu/cranberry>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act, the Hatch Act, and the Crop Protection and Pest Management Program.





Powering Up the Farmer-to-Farmer Connection

Equipping Farmers to Educate Each Other

• UMass Extension’s agriculture specialists conduct a program in which they concentrate on 9-10 Mentor farms each year, with each farm participating for 1-3 years. Farmers work directly with educators every two weeks during the growing season to assess specific conditions on their farms, scout for pests, and identify appropriate actions.

• The Mentor farms in turn help spread what they have learned to other farms in their region. Farms are selected to ensure geographic representation across the state.

Story:
<http://bit.ly/farmermentor>

Program:
<http://bit.ly/massvegetable>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act.



Rapid Bacteria Detection

What if You Could Use Your Smartphone to Detect Bacteria on Fresh Produce?

• Research in the UMass Amherst Department of Food Science can cut the time needed to detect bacteria from two days to two hours.

• Individuals will eventually be able to see results on their own smartphones.

Video:
<http://bit.ly/bacteriadetection>

Article:
<http://bit.ly/BacteriaDetectionArticle>

Laboratory:
<http://bit.ly/LiliHeLab>

This work is supported by funding provided by USDA-NIFA through the Hatch Act.

1 in 6

AMERICANS

Encounter a Foodborne Illness Annually

One in six Americans--



Healthier Communities Can Mean Healthier People

Working at the Policy Level to Support Healthier Eating and Exercise

- A new initiative in SNAP-Ed Program helps create changes in communities to make sure that “the healthy choice is the easy choice.”
- Example: Enhancing the cafeteria setting leads to improved food purchasing by children.
- Example: Improvements to recreation areas (like bike trails) boost the likelihood of overall physical activity.

Story:

<http://bit.ly/healthiercommunities>

This work is supported by the Supplemental Nutrition Assistance Program of the USDA Food and Nutrition Service through the Massachusetts Department of Transitional Assistance.



New Online Climate Change Tool Wins National Award

Massachusetts Partnership Creates Wildlife Climate Action Tool

- Tool facilitates exploration of climate change impacts and vulnerabilities at the local level.
- Planners and others can use it to plan adaptation actions focused on specific regions in the state.
- The project awarded the national Climate Adaptation Leadership Award for 2017.

Action Tool website:

<http://climateactiontool.org>

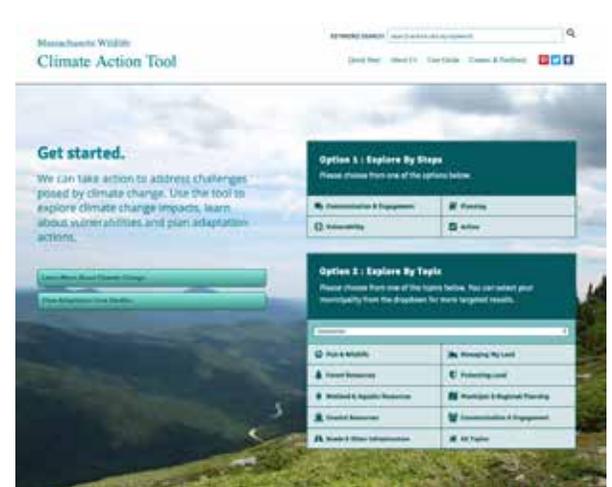
Story about award:

<http://bit.ly/ActionToolAward>

Story about Action Tool development:

<http://bit.ly/ToolLaunched>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act and the Renewable Resources Extension Act, by the Mass. Division of Fisheries and Wildlife, and the Northeast Climate Science Center.





Middle-Schoolers Explore UMass in Summer

What if A Group of Curious Teens Could Discover What the University Has to Offer?

- “Explore UMass” brought 50 middle-schoolers from around the state to the UMass Amherst campus late last June.
- This UMass Extension 4-H Youth Development program allowed young people to explore working in University laboratories as well as try activities like piloting drones, creating robotics and making movies.



Story:

<http://bit.ly/ExploreUMass>

Program website for 2018:

<http://bit.ly/ExploreUM2018>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act, and by the Massachusetts 4-H Foundation.



Remember Those Nasty Splotches on the Maple Leaves Last Summer?

Tar spot fungus? Anthracnose? UMass Plant Pathologist Weighs In

- The state’s Norway maples suffered in 2017 from a condition that caused dark blotches on the leaves.

• Some thought it was caused by a fungal disease called Tar Spot.

• Extension Plant Pathologist quoted in Boston Globe article positing alternative theory about anthracnose fungi as cause.

Boston Globe article:

<http://bit.ly/TarSpot>

UMass Extension Plant Diagnostic Laboratory:

<http://bit.ly/PlantDiagnosticLab>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act and by fees paid by Laboratory clientele.



For a list of all the stories in this document and links to the full stories,(or to download booklet as a PDF) go to <http://ag.umass.edu/impacts>.

Make-It Springfield!

Downtown Makerspace Offers Opportunities to Take Advantage of University Resources

- Founded as temporary pop-up makerspace, Make-It Springfield has quickly become ongoing.
- It is a place for all—especially middle and high school students—to create and connect through technology, arts, and media.
- It is led by Extension faculty Michael DiPasquale, director of UMass Springfield Design Center.
- Make-it Springfield was recently awarded \$50K in grants from MassDevelopment and the MassMutual Foundation.



Story:

<http://bit.ly/MakeltGrant>

Facebook page:

<http://www.facebook.com/MakeltSpringfield>

MassLive article:

<http://bit.ly/MakeltSpringfield>



This work is supported by funding provided by USDA-NIFA through the Smith-Lever and Hatch Acts, MassDevelopment, and the MassMutual Foundation.

Is There Reason to Think More Fruits and Vegetables Can Help Fight Cancer?

Current Research Project Looking for Answers with New Mothers

- Research has shown that compounds in fruits and vegetables have anti-cancer properties and people think that a diet rich in nutritious fruits and vegetables may help prevent breast cancer. However, the ways in which such a diet reduces risk remain unknown.
- The goal of this project was to determine the extent to which a diet containing at least 8 daily servings of darkly pigmented, nutrient dense fruits and vegetables will reduce levels of biomarkers associated with breast cancer risk.

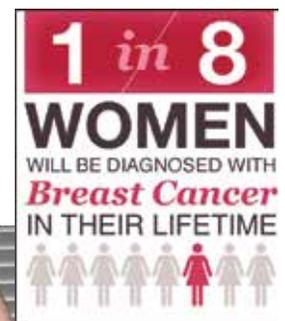
Video:

<http://bit.ly/BreastMilkResearchVideo>

Breastmilk Research Laboratory website:

<http://www.breastmilkresearch.org/>

This work is supported by funding provided by USDA-NIFA through the Hatch Act.





Checking Out the Components of Wood Smoke

New Research Effort Looking at Outputs from Modern Wood Heating

- This project is looking at potential emissions from use of wood pellets as an institutional heating source.



- A mobile laboratory can be used near actual sites of wood heating such as schools or municipal buildings.
- Results will help inform discussion among policy makers, scientists and families.

Video:

<http://bit.ly/WoodSmokeVideo>

Laboratory website:

<http://bit.ly/AerosolLab>

This work is supported by funding provided by the Massachusetts Department of Energy Resources through UMass Clean Energy Extension.



What is That Strange Looking Insect?

Chilli Thrips Make Massachusetts Debut on Cape Cod

- The non-native, exotic chilli thrips (*Scirtothrips dorsalis*) was confirmed from two samples of foliage from Barnstable County, submitted to the UMass Plant Diagnostics Laboratory.
- This species of thrips is a significant global pest of economically important ornamental, vegetable, and fruit crops in southern and eastern Asia, Oceania, and parts of Africa.

• This pest has not been detected in nurseries or greenhouses in Massachusetts or on any other host plants. The significance of chilli thrips in Massachusetts is not known at this time.

News story:

<http://bit.ly/FirstTimeInMass>

Fact Sheet:

<http://bit.ly/ChilliThrips>

This work is supported by funding provided by USDA-NIFA through the Smith-Lever Act and by fees paid by Laboratory clientele.





The Center for
Agriculture,
Food and the
Environment

Massachusetts Agricultural Experiment Station
Massachusetts Water Resources Research Center
UMass Cranberry Station
UMass Extension

*Agriculture–Commercial Horticulture–Energy–
Environmental Conservation–Food Science–
Nutrition–Water–Youth Development and 4-H*

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Research and Education Farms:

Cold Spring Orchard Research and
Education Center, Belchertown

Joseph Troll Turf Research Facility,
South Deerfield

Crops Research and Education Farm,
South Deerfield

Equine and Livestock Research and
Education Center, Hadley

Cranberry Station, East Wareham

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Environmental Analysis Laboratory

Plant Diagnostics Laboratory

Soils and Plant Nutrient Testing
Laboratory

Water Resources Research Center, Amherst

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