

NORTHEAST CLIMATE HUB NEWSLETTER

HIGHLIGHTS FROM OCTOBER 2016: PART 2

Working as a collaboration to promote climate informed decisions on farms and forests in the Northeast

NEW IRRIGATION INVESTMENT TOOL FOR FIELD CROPS IN THE MIDWEST HELPS FARMERS MAKE DECISIONS ABOUT EQUIPMENT INVESTMENT

By Rachel E. Schattman, USDA Northeast Climate Hub

Many farmers in the lower 48 contiguous United States have experienced drought in 2016. Several regions have experienced both lower-than-normal rainfall and record heat.

According to NASA, 2016 is on track to be the globe's hottest year on record. Combined drought and heat pose a significant challenge for many farmers. Though some farmers use irrigation on crops like corn, rain-fed farming agriculture (farming without irrigation) is still prevalent. When should a farmer take the leap and invest in the expensive infrastructure needed to run and maintain a center-pivot irrigation system? The Irrigation Investment tool, a new web-based tool released by the USDA funded Useful to Usable project, helps farmers make that decision.

According to Ben Gramig, Associate Professor of Agricultural Economics at Purdue University, the tool brings together information such as county-specific soybean and corn yields, costs of irrigation systems, tax and loan information, and historical climate data. The web-based program allows users to simulate wet, dry, and normal years, and to compare income from yield in irrigated and rain-fed systems. Irrigation systems can be expensive, and the Irrigation Investment tool allows farmers to evaluate how long it will take before they break even on that investment. It also allows farmers to estimate the net present value of their systems.

"NO MATTER WHERE I WENT, HELPING PEOPLE FARM WAS ALWAYS A PRODUCTIVE AND IMPORTANT WAY TO LIVE, DESPITE WHATEVER ELSE WAS GOING ON."

Katie Campbell-Nelson, Vegetable Specialist, UMass Extension

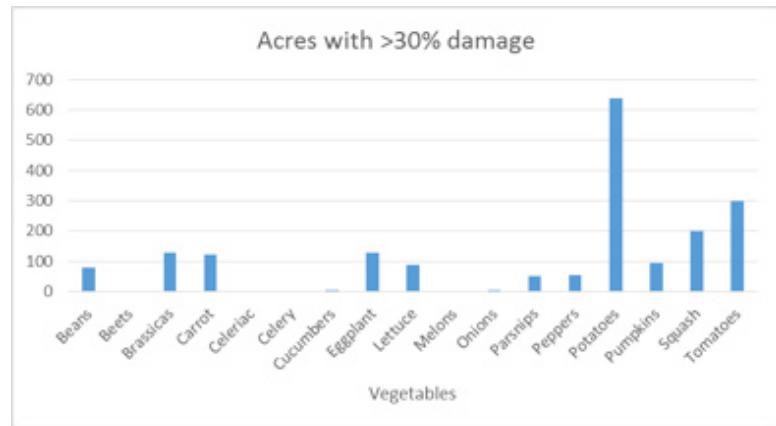
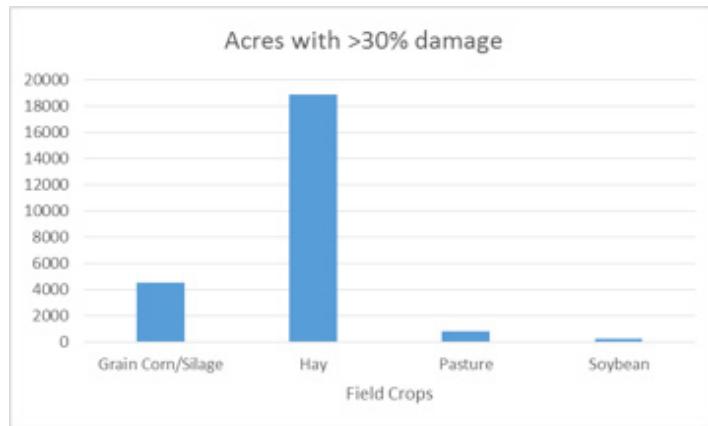


Ultimately, this and other tools developed by the Useful to Usable team are intended to help farmers make successful long-term decisions while taking into account the pressures that climate change is likely to put upon them. Regionally focused, farm-type specific decision support tools are an important approach to making sure U.S. farms stay viable in both the short and long-term.

Though the Irrigation investment tool is specific to corn and soybean farmers in the Midwest, there is potential for similar tools to be developed for farmers in the Northeast and around the country. The Climate Smart Water Deficit Calculator, an irrigation scheduler developed and hosted by Cornell University's Climate Smart Farming Program, is an example of a tool already developed for farms in the Northeast. While the Irrigation Investment tool and the Water Deficit Calculator serve different functions (one supports long-term planning, the other supports shorter-term decisions), they are both examples of how climate science can help farmers make more informed decisions.



SCAN QR CODE TO DISCOVER THE OTHER SECTIONS OF OUR LATEST E-NEWSLETTER, SUCH AS REGIONAL RESEARCH, MEDIA AND UPCOMING EVENTS RELATED TO NORTHEAST CLIMATE, AGRICULTURE AND FORESTRY.



29,000 ACRES OF FARMLAND AFFECTED BY DROUGHT IN MASSACHUSETTS

By Katie Campbell-Nelson, Thomas Smiarowski, and Erin Lane

In July, the Farm Service Agency of Hampshire County, MA held an emergency board meeting in response to the severe drought already spreading across the state since May. The request for a disaster declaration to make emergency loans available to farmers was due by August 19th. Katie Campbell-Nelson, Vegetable Specialist for UMass Extension took action to gather this information from farmers quickly. With the help of Evaluation Specialist, Bill Miller, she conducted a drought survey for Massachusetts.

The survey consisted of the information FSA needed for their emergency loan application: How many acres were affected with greater than 30% loss, what crops, and in what county. Many groups pitched in to distribute the survey across the state including the Farm Bureau, local agricultural non-profits, and various Extension mailing lists. Almost 600 growers responded to the survey and over 80% of them reported losses greater than 30% on 29,077 acres. Field crops (Hay, pasture, corn) were affected by the drought on the most acreage (>24,000). Yields on the second and subsequent cuttings of hay were reduced significantly this year making it very difficult for livestock farmers to stock up enough feed to keep their animals fed this winter and some sent their animals to slaughter early rather than try to keep them fed.

This survey demonstrated the large variety of crops that Massachusetts farmers grow, and indicates that federal loan assistance should not be commodity based (i.e. just potato, just corn, just cotton). Massachusetts needs crop insurance that covers acreage, not crops. For example, one farmer reported 30 acres of crop loss in Jilo eggplant (that's a Brazilian eggplant grown for a very specific market).

Even though the drought did not reach “severe” until mid-summer in Massachusetts, many crops were damaged early on. Due to more diversified farms, distant fields, varied lease agreements and multiple water sources (ponds, rivers, streams, wells, and municipal) in the area, there is a lack of appropriately sized infrastructure and experience for dealing with such severe water shortages. While we could learn a lot about conserving agricultural water from places like California, our scale and infrastructure must be built very differently. Katie was made aware by the farmers she works with that some wells and ponds dried up this season, and at least one farm is closing its’ doors due to the drought. The good news is that many organizations around the state rallied and have made drought relief assistance available.

HERE IS A LIST OF PROGRAMS AVAILABLE IN MASSACHUSETTS Community Involved in Sustaining Agriculture (CISA)

CISA Emergency Farm Fund

Massachusetts Department of Agricultural Resources
Massachusetts Growth Capital Corporation

USDA Farm Service Agency (FSA)

Emergency Conservation Program

Emergency Farm Loans

Emergency Assistance for Livestock, Honey Bees, and Farm-raised Fish (ELAP)

Livestock Forage Program (LFP)

Livestock Indemnity Program (LIP)

Noninsured Crop Disaster Assistance Program (NAP)

Tree Assistance Program (TAP)

USDA Natural Resources Conservation Service (NRCS)
Agricultural Management Assistance (AMA)

USDA Risk Management Agency (RMA)
Federal Crop Insurance



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