Survey details impact of 2016 drought on New York farming

April 7 2017, by Blaine Friedlander

A survey of more than 200 New York farmers late last summer – during the worst drought in two generations – found that more than 70 percent of unirrigated, rain-fed field crops and pasture acreage had losses between 30 and 90 percent, according to a new report published by the Cornell Institute for Climate Smart Solutions.

For farmers all over the state, arid conditions were so pervasive that fruit and vegetable growers who had capacity to irrigate lacked water to keep up with the drought. Irrigated farms estimated crop losses of up to 35 percent, said Shannan Sweet, NatureNet postdoctoral science fellow with Cornell's Atkinson Center for a Sustainable Future and The Nature Conservancy.

"New York's farmers have asked if they should expect more dry summers like the one we had in 2016. The answer is: We don't know," said Sweet, also a postdoctoral associate in the Horticulture Section of the School of Integrative Plant Science, working with David Wolfe, professor of horticulture. "Climate scientists forecast that the number of frost-free days will continue to increase and summers will be getting warmer, increasing water demand for crops."

The warmth and lack of snow in December 2015, the scarce snow in January and February 2016, and low rainfall and high temperatures during the growing season led to drought conditions throughout New York state. Streams in western and central New York broke records for low water flow by late July and August.

New York's Department of Environmental Conservation put the state on a drought watch, while the Finger Lakes region and western portions of the state, in particular, battled dry conditions. The drought was so acute that the U.S. Department of Agriculture's Farm Service Agency declared most counties in the region natural disaster areas. This resulted in eligibility for financial relief in the form of low-cost loans for farmers, according to Sweet.

Western New York farmers lost an average of 39 percent of their field crops, compared with 22 percent for eastern New York farmers. Western farms saw 48 percent forage crop losses, 45 percent for soybeans and 40 percent for corn, according to the report, "Anatomy of a Rare Drought: Insights From New York Farmers."

Fruit growers in western New York lost about 52 percent of their crop, due to the drought, as grape growers in that region lost 26 percent. Western berry producers lost 96 percent, while the state's eastern berry growers lost about 75 percent, according to the survey.

Producers who irrigated used moveable sprinkler pipes and large "gun" sprinklers, according to the report. Farmers who lacked irrigation equipment used hoses, garden sprinklers and hand-watering to save their crops.

Sweet said that of the farmers who irrigated, 65 percent reported using well and pond water, while 15 percent used municipal water supplies, a method that turned out to be cost-prohibitive.

To protect against drought, farmers said they would expand irrigation capacity, increase water-holding capacity, improve soil organic matter, obtain drought-resistant crops, consult online tools for long-range forecasting and seek training about drought.

Due to creeping climate change, farmers are seeing more heavy rainfall and drought events.

"The recent rainfall trend we've seen are heavy rainfall events – more than 2 inches in 48 hours – and severe short-term droughts in summer that could increase in frequency," said Sweet. "Flooding and drought will continue to challenge New York farmers."

More information: Anatomy of a Rare Drought: Insights from New York Field Crop Farmers: blogs.cornell.edu/whatscroppin … -field-crop-farmers/

Provided by Cornell University

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