Atkinson Center for a Sustainable Future

Cornell University Cooperative Extension

The Nature Conservancy

2016 NY State Drought Farmer Survey

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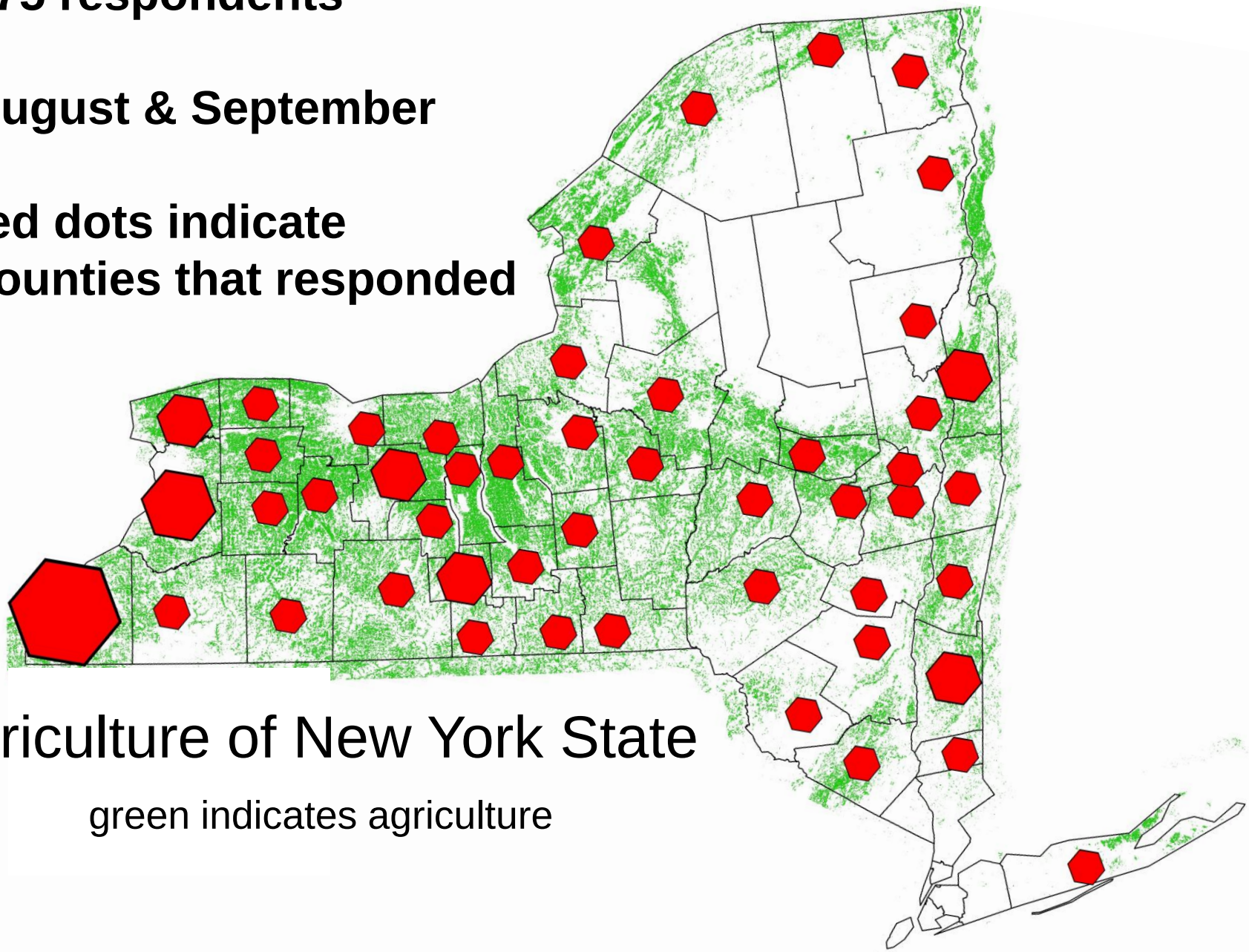
Alfalfa, oats, & clover, Erie County, July 2016.
(Photo credit: Mark Mulville/Buffalo News)

- **275 respondents**
- **August & September**
- **red dots indicate counties that responded**



Agriculture of New York State

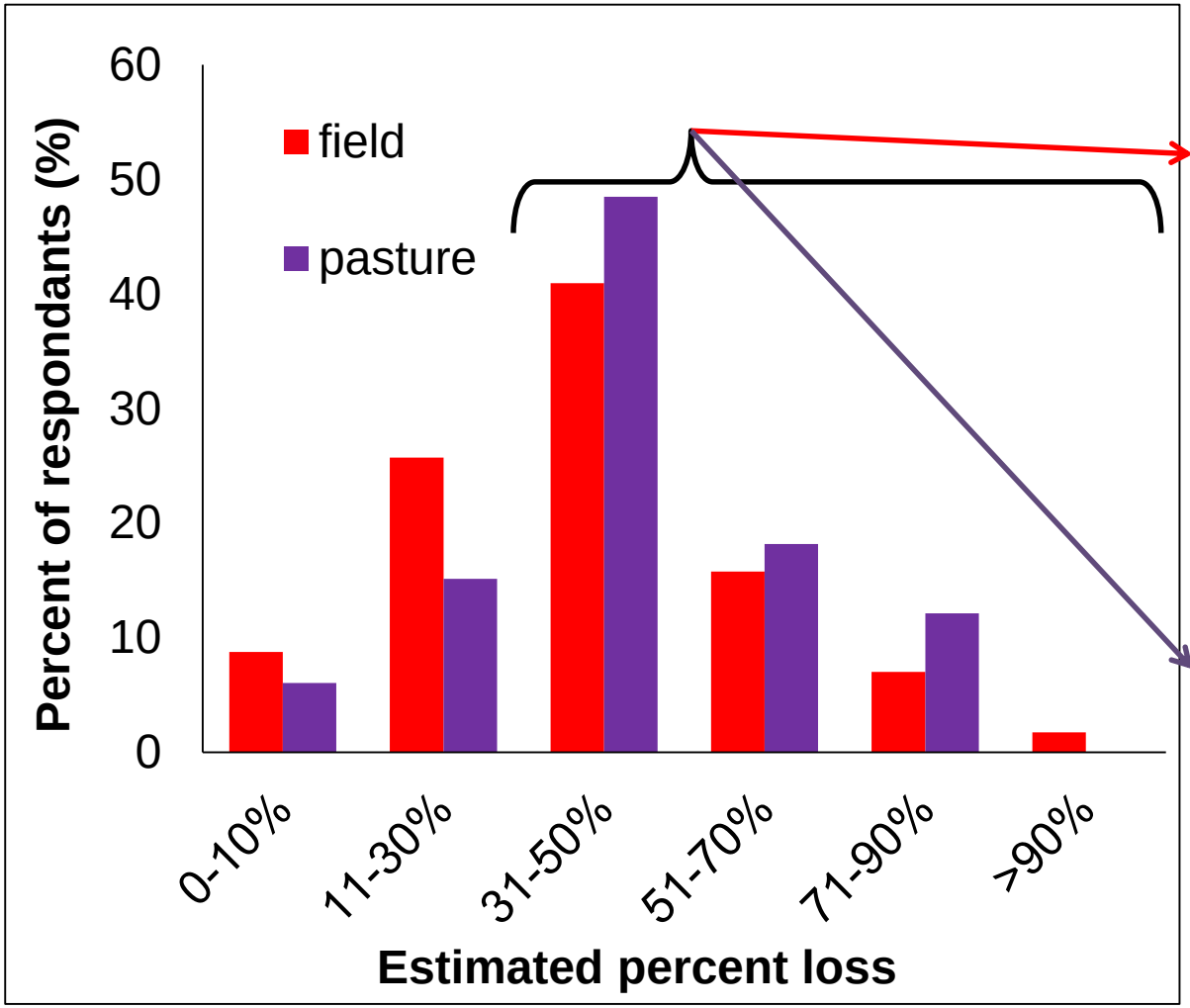
green indicates agriculture

Crop Types, Number of Farms, Acres, Estimated Yield Loss

Crop	No. of farms		Total acres		Mean % loss	
	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated
Field	214		32,098		31	
Pasture	38		7,766		44	
Fruit	81	68	5,302	2,447	50	9
Vegetable	115	111	3,173	2,528	43	24
Other	13	12	255	101	33	17

* “other” include hops, christmas trees, nurseries, and greenhouses/floriculturists, etc

What percent of farms estimated yield losses within a certain percentage range ?

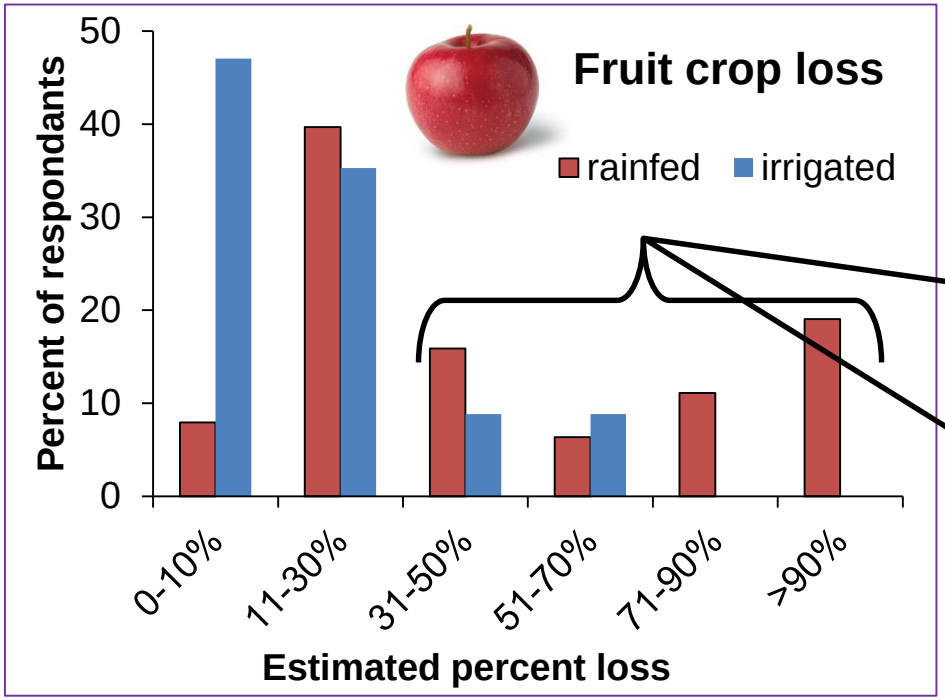


~ 70% of farms estimated loss > 30% for field crops

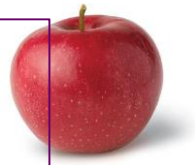
~ 80% of farms estimated loss > 30% for pastures

* “field crops” include grain/silage corn, hay/grass, soybeans, alfalfa, and small grains

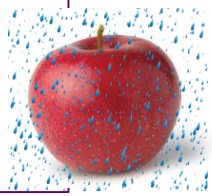
FRUIT AND VEGETABLE CROP LOSSES > 30%



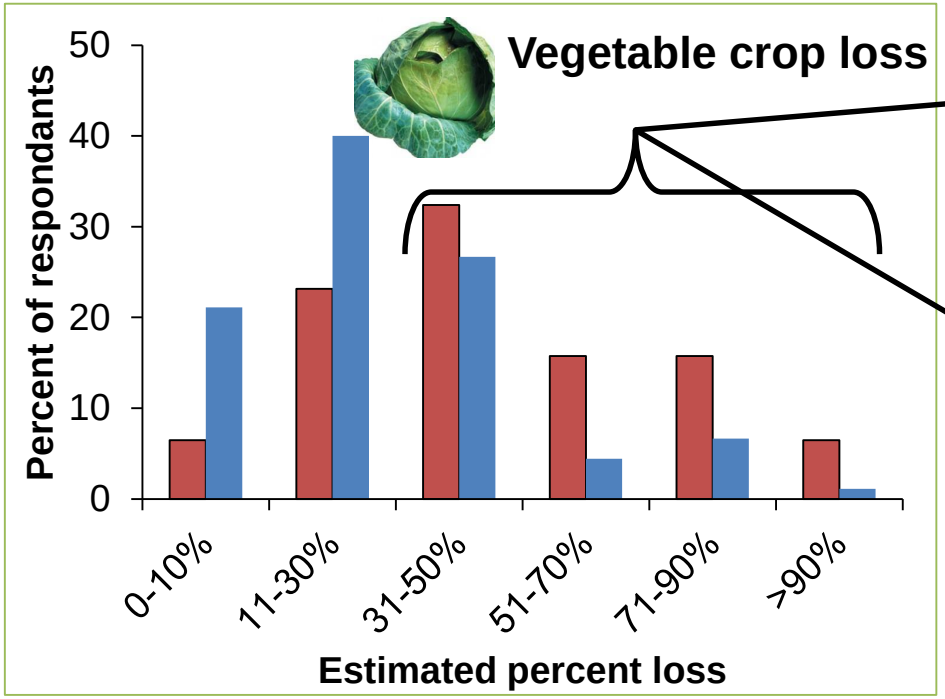
~ 50% of rainfed fruit farms > 30% loss



~ 20% of irrigated fruit farms > 30% loss



* "fruit crops" include fruit trees, berries, and grapes

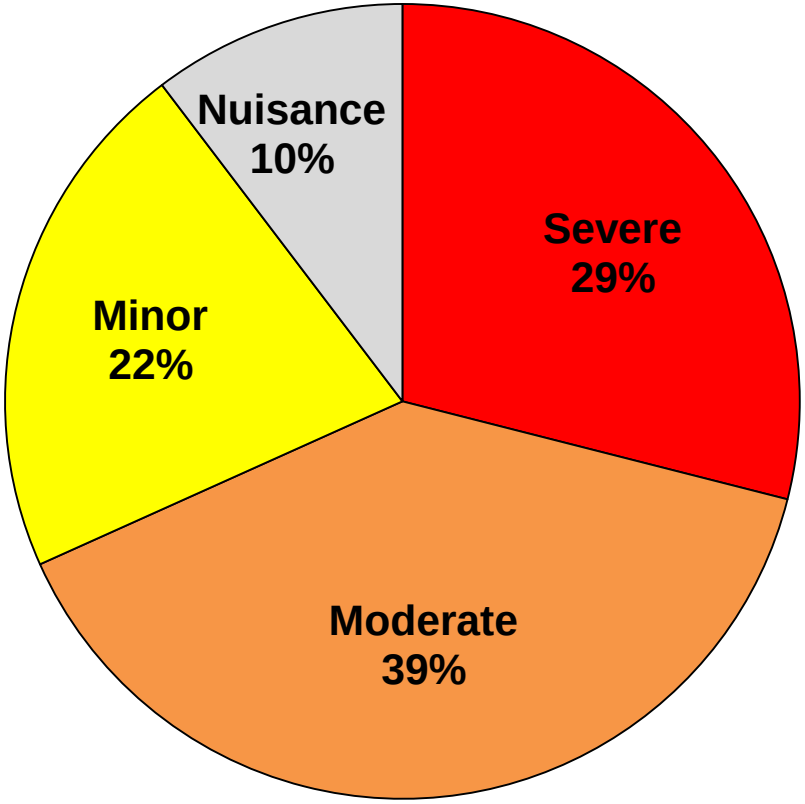


~ 70% of rainfed vegetable farms > 30% loss

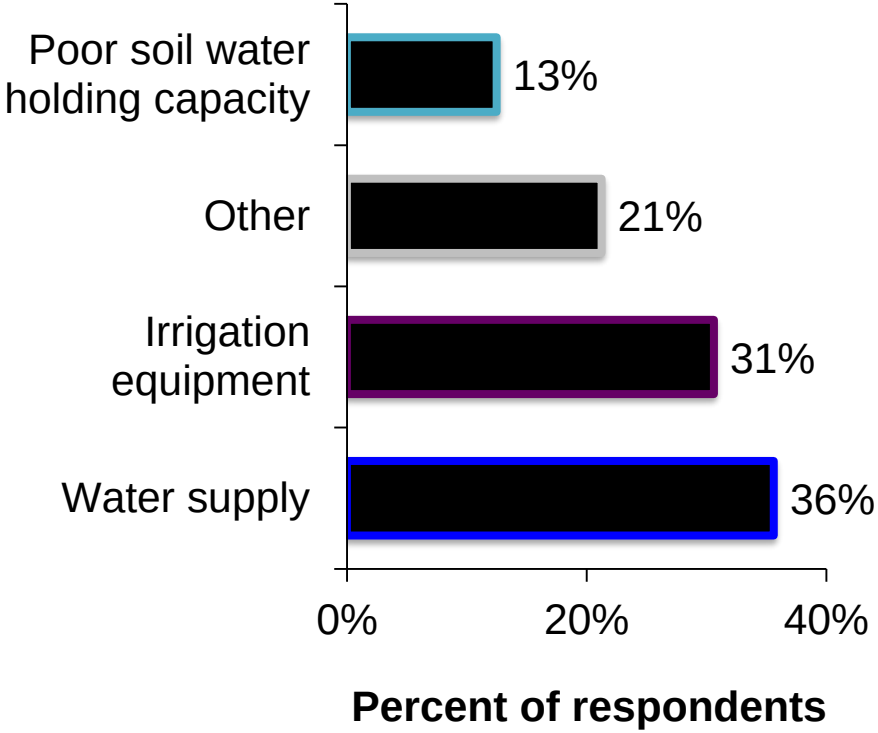
~ 40% of irrigated vegetable farms > 30% loss

* "vegetable crops" include beans (dry and snap), brassicas, sweet corn, potatoes, tomatoes, peppers, onions, root crops, etc.

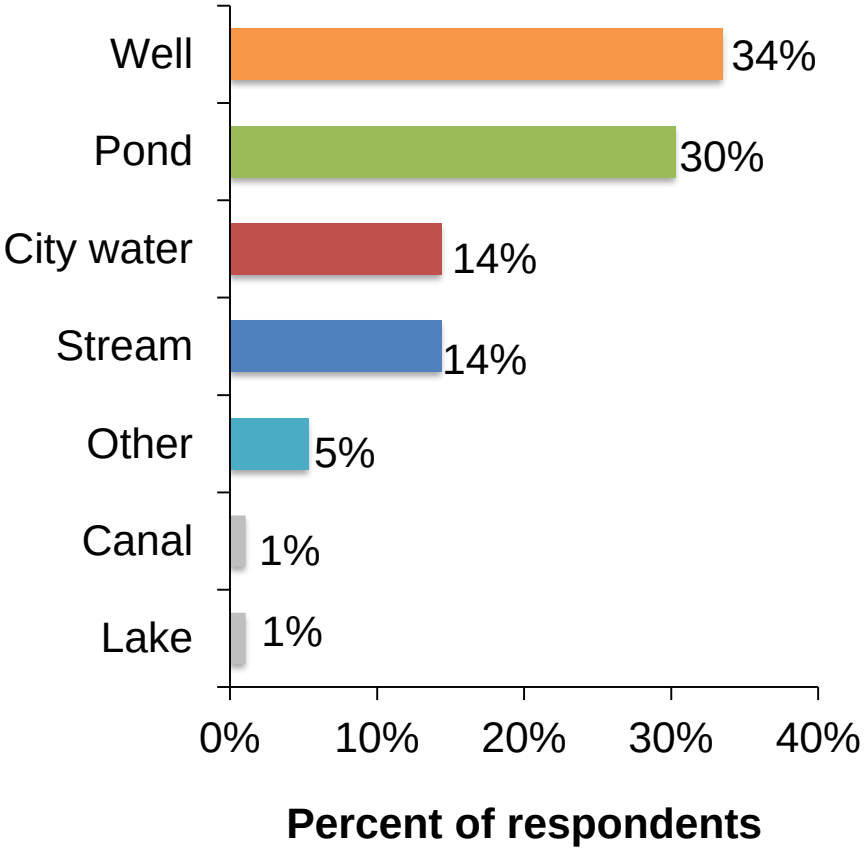
What was the economic impact of the drought on your farm?



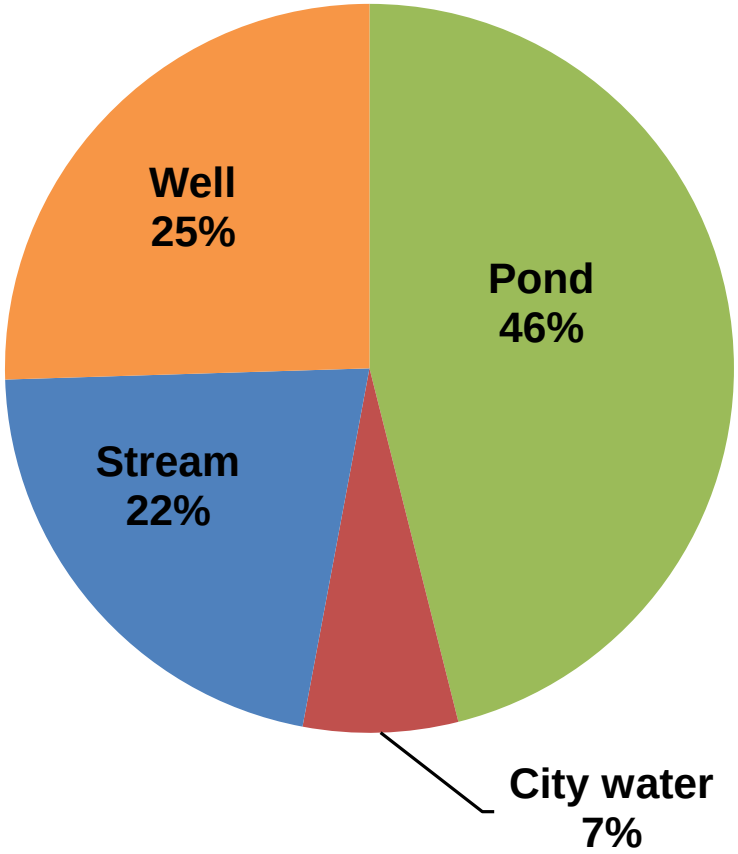
What most limited your ability to maintain yields on your farm?



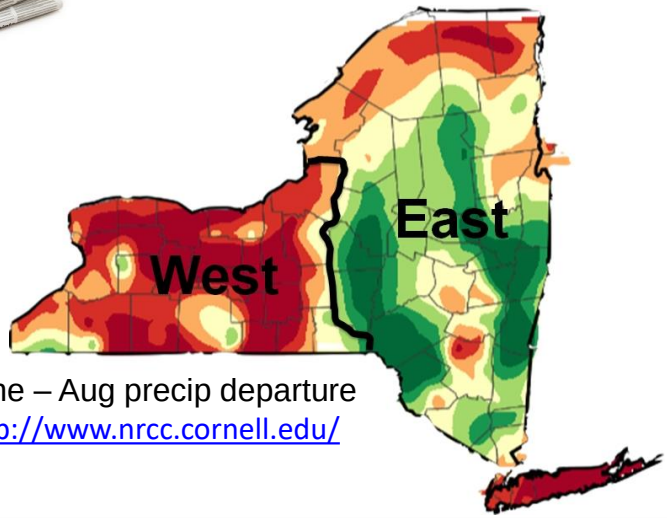
What is your water supply for irrigation?



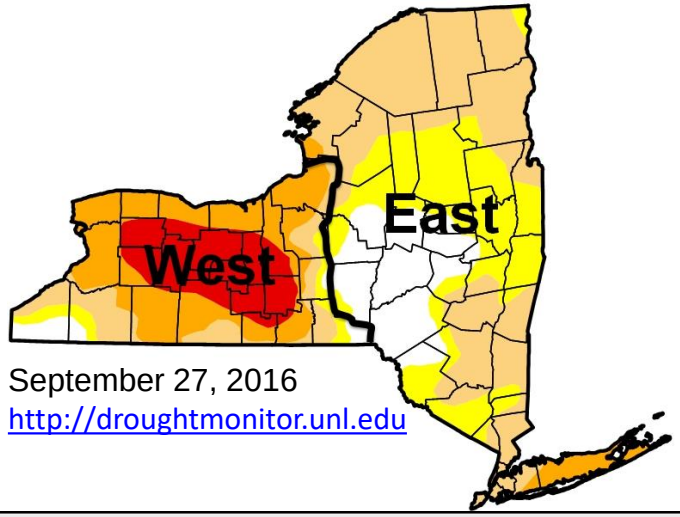
What water source proved inadequate to keep up with irrigation needs?



Federal Government Designates 24 Upstate New York Counties A Natural Disaster Area



June – Aug precip departure
http://www.nrcc.cornell.edu/



September 27, 2016
http://droughtmonitor.unl.edu

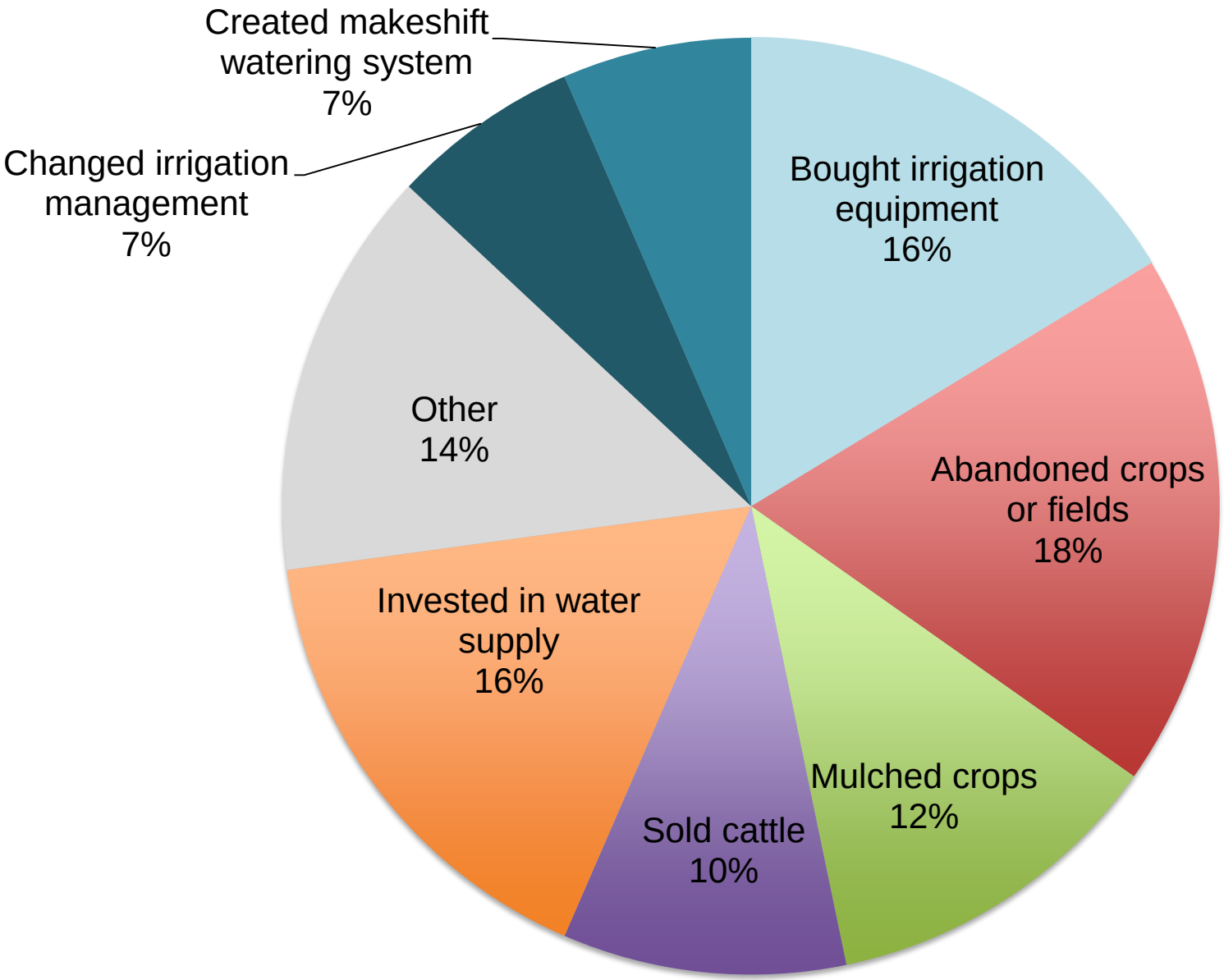
To see more results & differences between Eastern & Western NY, check out these Cornell Cooperative Extension publications:

- ✓ *VEGEdge* Vol.13, Iss.2, Feb 2017, pgs. 6-8
- ✓ *Scaffolds Fruit Journal* Vol.25, No.25, Iss.2, Feb 2017, pgs. 1-5
- ✓ *What's Cropping Up?* Vol.27, No. 1, Jan/Feb 2017, pgs. 1-4

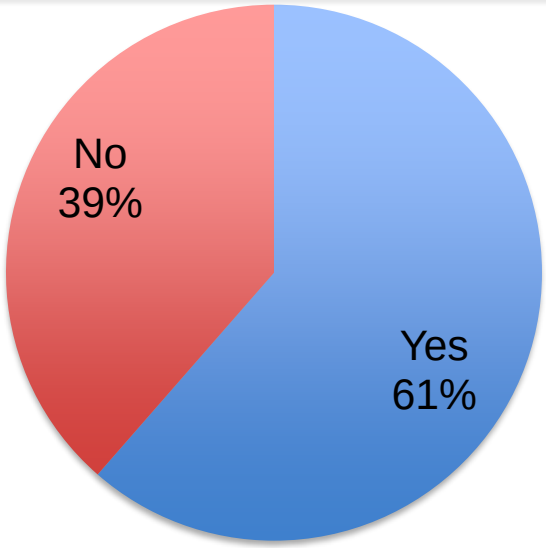
Or contact me – sks289@cornell.edu

75 Follow-up interviews with farmers surveyed

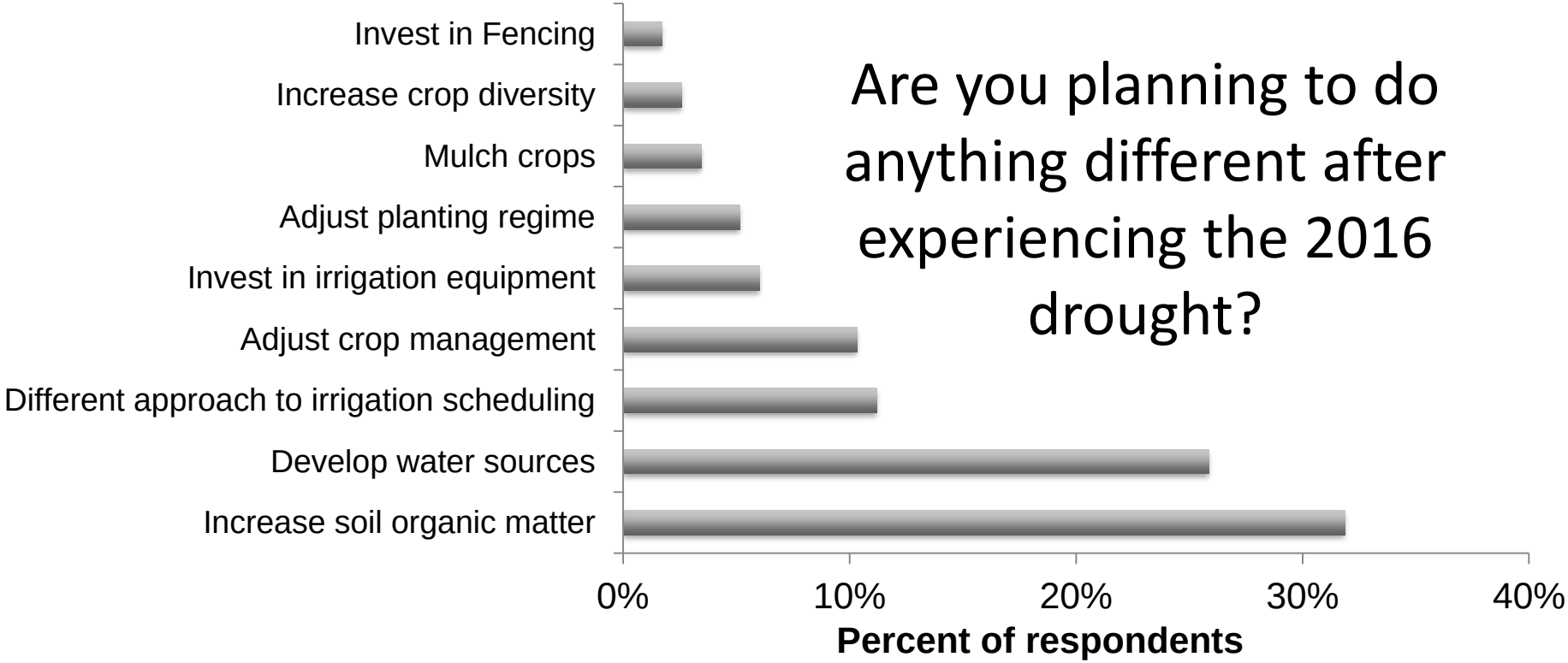
What did you do during the 2016 growing season to adjust to drought conditions?

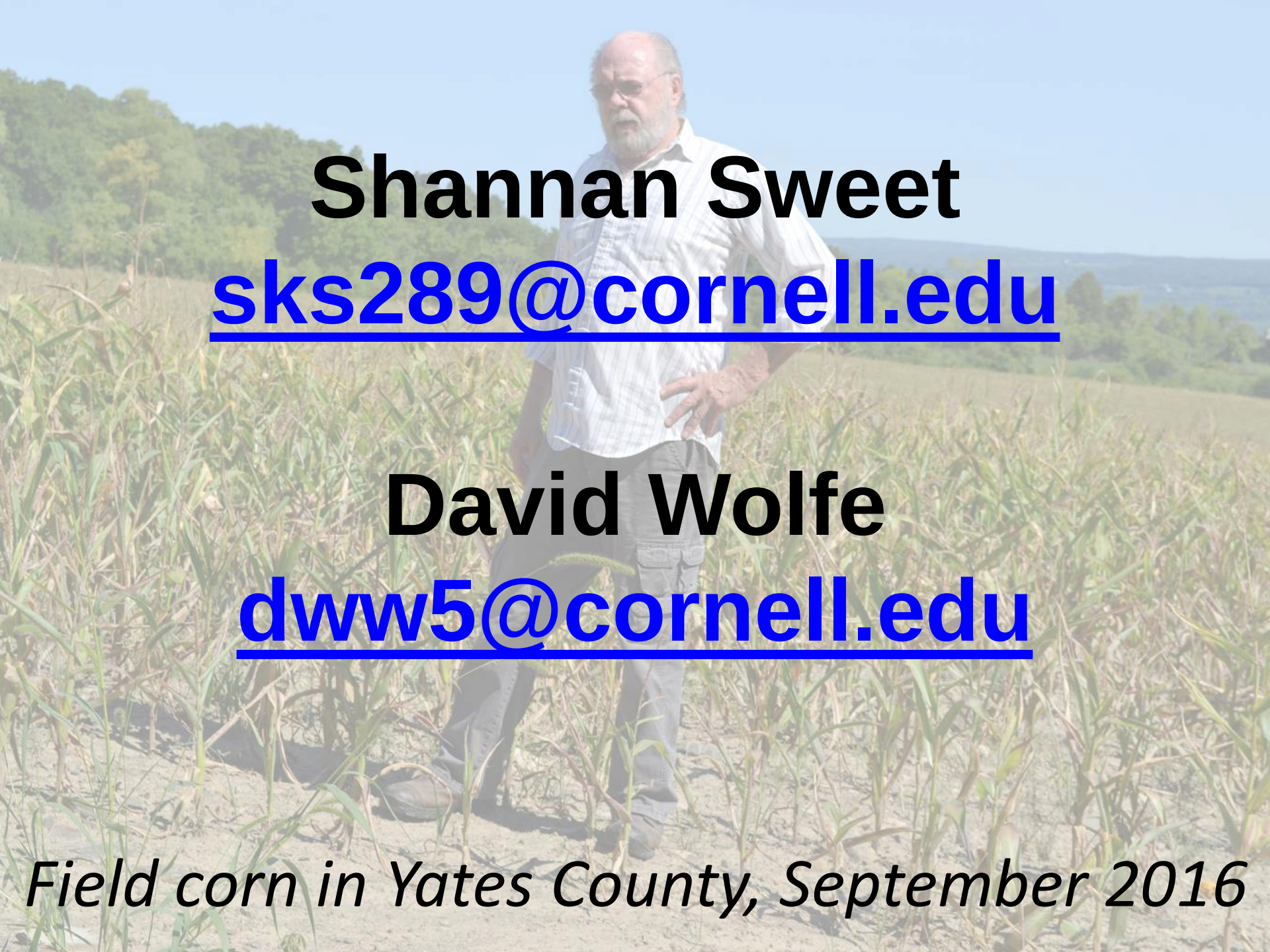


Has what you experienced in 2016 changed your perspective on future drought?



Are you planning to do anything different after experiencing the 2016 drought?





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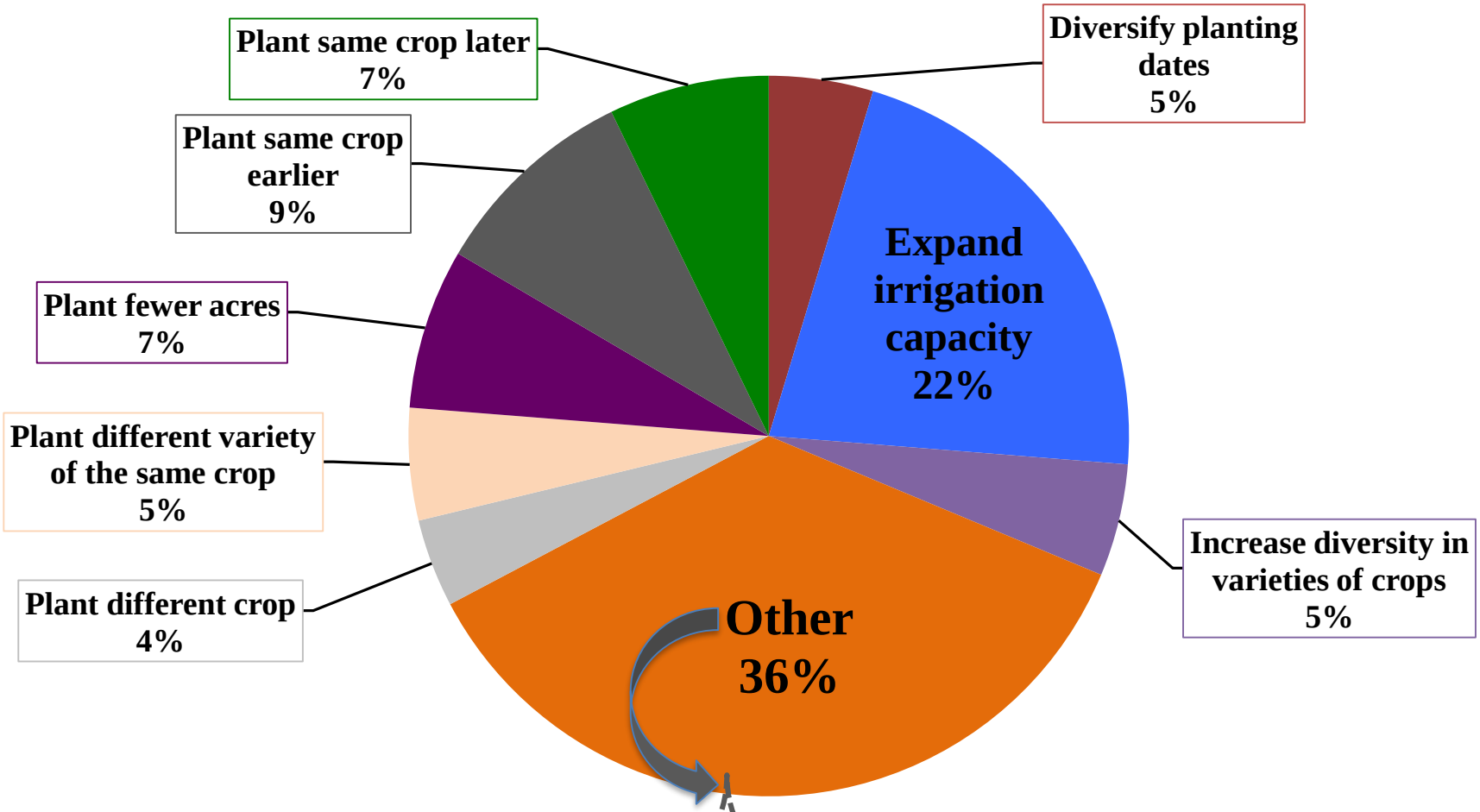
Field corn in Yates County, September 2016

EXTRAS

What would farmers do different?

What can we do to help?

What might you have done differently if you had known how dry this summer would be?



- More water-storage tanks
- Dig more ponds
- Drill more wells
- Other water bodies for irrigation

- More cover crops
- More no-till farming
- More mulch
- More organic matter in soil

- Increase size of pasture
- Recover fallow fields
- Sell more cattle earlier
- Buy hay earlier
- Begin irrigating earlier

How can we (ex. Cornell Extension & researchers, gov't or non-gov't agencies) help you cope with drought risk in the future?

FARMERS WANT …

- **Better long-range forecasting**
- Grants and low-cost loans to cover drought losses, irrigation equipment, and development of water sources
- Continue to develop NEWA system for other crops
- On-farm courses & training + educational material about agriculture & drought

FARMERS WANT TO KNOW MORE ABOUT …

- **Drought resistant crop varieties**
- Irrigation development and planning
- Improving soil quality & water retention
- What to expect in the future for climate
- When and how to irrigate specific crops
- Water saving & pond building ideas
- Shade-tolerant grasses & forages