

SURVEY: Impacts and Farmer Responses to 2017 Heavy Rainfalls



Cornell University

Background: March through July of 2017 was a period of above average rainfall in much of New York. Rainfall often came as heavy downpour events, leading to agricultural damage and disease. The purpose of this survey is to gather information on regional impacts and how farmers coped with this situation, so that farmers and those institutions and industries that support farmers will be better prepared in the future.

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Please respond to the following questions if your farm experienced heavy rainfalls or flooding in spring-summer of 2017. For those who prefer to complete the survey online, here is a link: https://cornell.qualtrics.com/jfe/form/SV_0uo09Hc67IsVFfn

1. Where is your farm located (nearest county)?

2. In the table below, list the crop (or top 5 crops) that you grow, approximate acreage, and your best estimate of 2017 percent yield loss due to heavy rainfalls and/or flooding.

<u>Crop</u>	<u>Approximate Acreage</u>	<u>Estimated Yield Loss (0-100%)</u>

3. Which of the options below describes issues or problems experienced on your farm related to heavy rainfalls in 2017 (circle all that apply)? Next to each issue that you circled please rate the importance of that issue in relation to economic impact on your farm (check one box for each issue circled).

	not important	somewhat important	fairly important	very important	extremely important	N/A
a. Field flooding and/or saturated soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Soil erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Crop disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Unable to use equipment due to flooding and/or saturated soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Unable to plant and/or delays in planting or seeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Acres no planted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Acres not rotated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Acres in "prevented" planting (i.e. for crop insurance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Lack of field access for important farm operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Unable to fertilize, use herbicides and/or pesticides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Unable to harvest and/or delays in harvest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Animal access to fields was limited	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Animal health was affected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Manure management issues arose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Other (describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Was the quality of your crop negatively impacted by any of the issues listed in #3 above (circle one)? Yes | No

5. Which of the options below best describes the likely economic impact the 2017 heavy rainfalls on your farm (circle one)?

- a. A nuisance, but almost no economic impact
- b. Minor
- c. Moderate
- d. Severe
- e. Other (describe)

6. Did you have enough infrastructure and/or equipment to help deal with heavy rainfalls in 2017 (circle one)? Yes | No

7. What type of infrastructure do you have on your farm to help deal with heavy rainfalls (circle all that apply)?

- a. Drainage ditches
- b. Drainage tile
- c. Water holding ponds
- d. Other (describe)

8. Did heavy rainfalls in 2017 lead to the recognition of any weaknesses or limitations in infrastructure on your farm (circle one)? Yes | No

9. What is the dominant soil type on your farm (circle one)?

- a. Clay or clay loam
- b. Sandy or sandy loam
- c. Silty or silty loam
- d. Gravelly or gravelly loam
- e. Other (describe)

10. Which (if any) soil health practices have you adopted on your farm (circle all that apply)? Next to each practice used please indicate if this lessened the impact of heavy rainfalls in 2017 on your farm.

Lessened impact of heavy rainfalls in 2017 (circle yes or no)?:

- a. Use of winter cover crops Yes | No
- b. Reduced tillage Yes | No
- c. Use of composts or manure Yes | No
- d. Changed crop rotations Yes | No
- e. Use of mulches Yes | No
- f. Leaving crop residues Yes | No
- g. Other (describe) Yes | No

11. How frequently do you experience excessive rainfall or flooding issues on your farm (circle one)?

- a. Every 1 or 2 years
- b. Every 3 to 4 years
- c. Every 5 to 6 years
- d. Rarely
- e. Never
- f. Other (describe)

12. For the four questions (a-d) below rate your concern level (circle one for each question):

- a. How concerned are you that heavy rainfalls and/or flooding will occur more frequently in the future?
not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned
- b. How concerned are you that heavy rainfalls and/or flooding will negatively impact your farm in the future?
not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned
- c. How concerned are you that drought will occur more frequently in the future?
not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned
- d. How concerned are you that drought will negatively impact your farm in the future?
not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned

13. Indicate below what you might have done differently if you had known how wet 2017 would be (circle all that apply)

- a. Plant fewer acres
- b. Plant same crops earlier or later
- c. Diversify (i.e. stagger) planting dates
- d. Plant different crop or different variety of same crop
- e. More diversity in varieties and crops
- f. Expand drainage capacity (e.g. tiles, ditches, etc.)
- g. Changed fertilizing, herbicide or pesticide application timing
- h. Adopt soil health practices (i.e. cover crops, reduced tillage, composts, mulches)
- i. Other (please explain)

14. Indicate any ideas you have on how you might manage your farm and be better prepared in the future for flooding or excessive rainfall risk.

15. Indicate any ideas you have on how Cornell Cooperative Extension, university researchers, government or non-government agencies might help you make the best decisions in coping with flooding or excessive rainfall risk in the future.