

Plant Plague

Name: _____

Date: _____

What will you do?

Block: _____



Instructions:

1. Assign a number (from 1 to 5) to each field and write it on the line under the field.

This is in any direction you want to number your fields.

One example is: start with the top left and number in a clockwise-spiraling direction.

2. Record which seeds you plant *in* each of your fields.

3. Research your crops' Genetic Modifications

*In the field circle list the top three infectious agents the GMO protects against

Examples you can include in your write up:

3 additional benefits for each GMO Crop

How the genetic modifications might have been made

The most common bacterial or viral infection for the crop type



5. You receive a phone call from a neighbor to inform you of a microbe infection of their crops!

Follow along with the class to learn if/which of your fields are infected by which pathogens.

6. As a class: what pathogens infect which of your fields.

7. Research the pathogens that attacked your crops:

*Examples you can include in your write up:

A list of crop types this pathogen infects, and if it is dangerous to animals

Where the pathogen originated from, and where it is spreading to

Ways farmers are currently fighting the pathogen

8. Finish the Lab Data Report.

Plant Plague: What will you do?

Crop: _____

Infected by:

- 1.
- 2.

Plant Plague: What will you do?

Crop: _____

Crop: _____

Crop: _____

Crop: _____

Crop: _____

Plant Plague: What will you do?	4-Column Research Chart		Research graphic organizer: include your resources
SOYBEANS	CORN	ALFALFA	SUGAR BEETS

Plant Plague: What will you do?	4-Column Research Chart		Research graphic organizer: include your resources
Pseudomonas syringae	Escherichia coli	American wheat striate (wheat striate mosaic)	Salmonella

Plant Plague: What will you do?	4-Column Research Chart		Research graphic organizer: include your resources

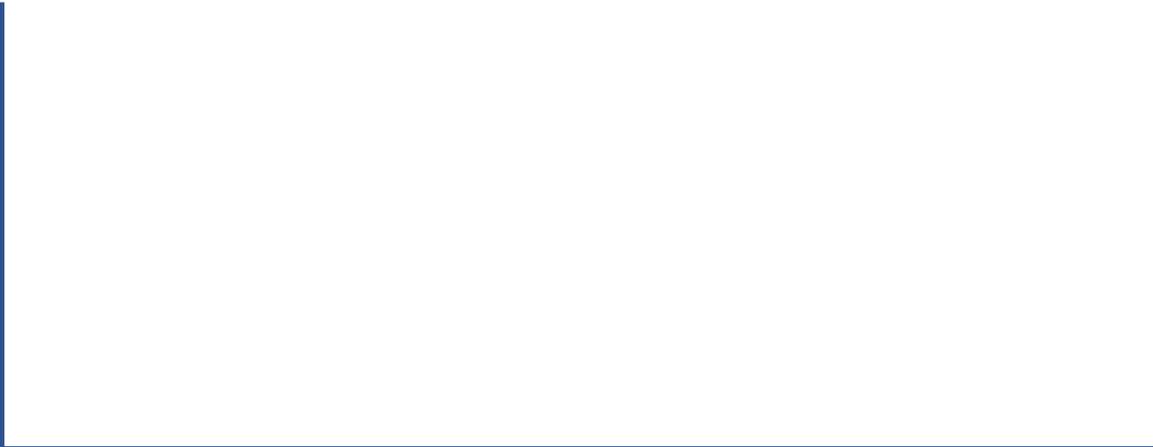
Plant Plague: What will you do?	4-Column Research Chart		Research graphic organizer: include your resources

Plant Plague: What will you do?

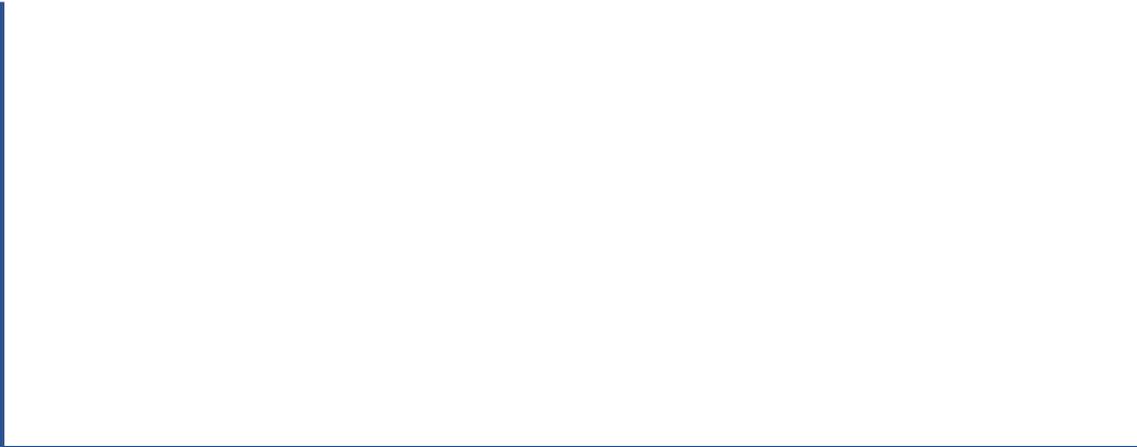
1. What Microbes attacked which crops? <Because each crop can be infected by 2 types of pathogens, please list each crop twice with the microbe. You will need to talk with fellow farmers to learn what they dealt with>

Microbe	Crop	How many total fields were infected?

2. Graph Your Findings for: Microbes vs. number of fields infected
(As always include your title, and all labels)



3. Graph Your Findings for: Crop type vs. number of fields infected
(As always include your title, and all labels)



Plant Plague: What will you do?

4. Why is it important to understand the potential spread of pathogens?

5. How did the spread of the pathogens affect your livelihood, and the potential food supplies for the country?

Plant Plague: What will you do?

6. How did the use of GMO crops alter the potential infection rate of your fields, and how did that change the loss of crops?

7. Based on your research: How have we used technology to identify and influence desired traits in the crops?

Plant Plague: What will you do?

8. What type of modifications would you recommend incorporating into future crop genomes?

9. Based on your research, what engineering practices could be used to accomplish these changes? How could they be used?
