

Name _____ Period _____ Date _____

Crop Protection

STEM Sims

Lesson 2: Biological Controls

Are biological controls for pests effective? What is the most effective biological control to apply when a crop is planted?

Doing the Science

1. Start the Crop Protection Simulation by clicking on the “Sim” tab.
2. Click on the “Warning” Box, and record the identified pest in Table 1 below, then click on the clipboard to close the clipboard.
3. Click on the “Choose Defense” button.
4. Choose Wasp Parasitoid.
5. Click on the red “Done” button to close the clipboard.
6. Click on the “Submit” button. You have now applied the Wasp Parasitoid at planting.
7. Click on the “Choose Defense” button, and unclick the Wasp Parasitoid so no biological or pesticide controls are chosen. Click the red “Done” button to close the clipboard.
8. Click the “Submit” button. No biological controls or pesticides have been applied in the 1st Growth Cycle.
9. Repeat steps 7 and 8 for the remaining cycles.
10. Click on the “History” file cabinet. Record your data in Table 1 below. Each color represents a Cycle: Planting, Stage 1 Growth, Stage 2 Growth, and Preharvest.
11. Click the “Reset” button until the same pest listed in Table 1 appears.
12. Repeat steps 3 to 11, changing the biological controls as listed in Table 1 below. Be sure that you run your trials using the same pest listed in Table 1 below, and that the biological control is only used at planting.

Table 1.

	Crop Field Size	Insect Population	Pesticide Detection	Crop Quality
Pest:				
Wasp Parasitoid				
Beauveria bassiana (fungus)				
Ground Beetles				
Spined Soldier Bug				

Do You Understand?

1. What was the most effective biological control to use at planting?