

The Genetic Engineering of Bt corn, Worksheet 1

Answer the questions as a group. Finish as homework for tomorrow.

Background information: The corn borer is destroying the corn crop by burrowing through the corn stalks, costing farmers \$1 billion dollars annually. To address this problem, scientists have genetically engineered an insecticide toxin into the corn pollen, resulting in the death of the corn borer after it eats the toxin-containing pollen. This protects the corn crop and the farmers' incomes. The toxin does not hurt humans.

You have been given a scientific paper that was published which addresses a possible side effect of the genetically engineered corn pollen. Read the article and answer the following questions as a group.

Definitions of tricky words:

Transformed: placing genetic material into another organism

Bt corn: corn that produces the pollen containing the insecticide

Hybrid: a plant with altered genetics, in this case, the Bt corn

Mortality: death

N4640-Bt corn: corn that produces the pollen containing the insecticide

Untransformed hybrid: corn that does NOT produce the insecticide

Mean cumulative proportion: average amount

Gustatory: having to do with taste buds

- 1) What basic question are the scientists asking?
Are the monarchs harmed after eating the pollen
- 2) How did the scientists conduct the experiment:
 - a. How many days is the experiment conducted?
4
 - b. How is the pollen applied to the plant?
Plants are misted with water and pollen is sprinkled on with a spatula
 - c. Where do they place the larvae?
On top of the pollen-coated leaf
 - d. What three things are measured during this time?
Leaf consumption, survival, and mortality