Bioethi

Monarchs: What's All the Fuss About?

Corn is an important agricultural product and its pollination occurs mainly by wind. But, corncobs have long, pollen-filled silks that are a food source for many insects. Some of the insects are beneficial to the corn or other crops, but some are harmful pests. Many insect pests produce larvae that destroy corncobs and, thus, have a huge financial impact on crop production and profits. Corn has recently been genetically engineered with "Bt" genes to help protect it from insect pests. The new Bt corn produces a toxic compound that kills insect larvae.

Monarch butterflies are not a "pest" to corn plants. Instead, they eat milkweed leaves in the vicinity of cornfields. When corn pollen lands on milkweed leaves, monarch butterflies can eat the corn pollen along with the leaves. Many people feel that there is a significant threat to Monarch butterfly populations because they may occupy the same ecosystem as the Bt corn.

TO DO **Examine the controversy surrounding the use of "Bt" corn and its impact on the ecology of native insects, such as the Monarch butterfly.**

1. Find an article(s) or Web site(s) that describes Bt corn, including how it is produced, how it differs from other corn, and why scientists produced it. Copy and paste this article (including the bibliographical information) into a Microsoft® Word® document. Highlight the sections that explain the topics given above.
2. Find an article(s) or Web site(s) that describes Monarch butterflies. Copy and paste this article (including the bibliographical information) into a Microsoft® Word® document. Highlight the sections that give the scientific name of the butterfly and its lifestyle, including where it lives, what it eats, and its behavior.
3. Find articles that discuss opposing positions to the question, "Does Bt corn present a significant threat to Monarch butterfly populations?" Copy and paste these articles (including the bibliographical information) into a Microsoft® Word® document.
   a. Locate two articles that support the position that there is little or no risk to Monarch populations because of Bt corn. Show the evidence that support this argument. Do you think the evidence is compelling?
   b. Locate two articles that argue that there is a significant risk to Monarch populations because of Bt corn. Show the evidence that supports this argument. Do you think the evidence is convincing?
4. Create a poster or a 5-minute Microsoft® PowerPoint® presentation (a minimum of eight slides) summarizing your research. Include photos and diagrams on every slide that help explain both sides of the controversy. On the second to the last slide, present your personal opinion of the level of risk that "Bt" corn production has on Monarch populations and what action you would or would not take. On the last slide, list a "bibliography" that leads the audience to at least eight Web sites for further information on the Monarch butterfly/Bt corn controversy.

   If you choose to create a poster, you must include all of the elements required for the PowerPoint presentation.