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|  | **Pesticides, what are they?** http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gifWe've all heard the term pesticides before, but do we really know what they are? http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gif*Pesticides are chemicals that we use to kill undesireable organisms.* http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gifWhen we say *undesireable organisms*, we are referring to organisms (plants, animals, insects, etc.) that are harmful to us. Some of these organisms, or "pests," eat our crops, while others spread diseases. And it doesn't always have to be this serious. Weeds can be considered a pest for just growing in the wrong places (our yards). The point is, if we are using some type of chemical to control these pests, that chemical would be considered a **pesticide**. http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gif**The Need for Pesticides** http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gifThe fact that pesticides are in our food is probably what makes people the most uncomfortable. Do we really need that? Why can't all the farmers just grow food organically?The answer, unfortunately, is that with current agricultural methods and technologies it is not possible to provide the quantities currently needed for the number of people living in the earth. Pesticides allow us to increase our harvests and feed more people.http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gifIn addition to applications in agriculture, pesticides have many other important uses. Many pests transmit diseases, which are very dangerous to us. http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gifFor example, In the past, **malaria** was once a serious disease that killed millions of people globally. (The photo to the right shows the red blood cells of someone with malaria.) To fight this problem, we used the pesticide DDT, to kill the mosquitoes, which transmitted the disease. It was successful, and the number of people who died from malaria shrank drastically. (More on this later.)http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gifHere's another example that many of us can relate to: Millions of people in the US. have allergic reactions to the cockroaches in our homes. The pesticides in insect sprays and baits help reduce this problem.1. Why are pesticides necessary?

**Dangers of Pesticides** http://people.chem.duke.edu/%7Ejds/cruise_chem/pest/dot_clear.gifPresently, we are using more pesticides than ever. Here in the US, we use almost 4 pounds of it annually per person! Although most modern pesticides are much safer than their predecessors, a few of our commonly used pesticides are considered toxic. In lab tests where high doses of pesticides were given, researchers have observed some significant health effects. **Genetic damage**, **reproductive problems**, and possible links to **cancer** are just some of the risks associated with pesticides. |

1. How can pesticides be dangerous?

**Discussion Question:**

3) Do you think we should label the pesticides used on produce? Why or why not?

Case Studies

Directions: Using what you know about pesticides and consulting with group members, answer the following questions.

1. Natalie wants to start a small farm in her local town. She wants to produce enough crops to be sold at the local farmers market and to feed her family. Natalie wants to have a successful harvest but she is concerned about some of the health risks associated with pesticides. Do you think she should use pesticides? Why or why not?

4) Aisha is the secretary of agriculture in India and is concerned about her country’s ability to produce food for their growing population. Due to climate change and warmer weather, many pests have been ravaging staple crops such as wheat and rice. Do you think Aisha should promote the use of pesticides in her country? Why or why not?

**Homework:** Research whether or not Lisa Leo won the case against Pepperidge farms. If she did win, how much money did she receive in settlement?