Section: Crops and Soil

Read the passage below and answer the questions that follow.

In North America, insects eat about 13 percent of all crops. Crops in tropical climates suffer even greater insect damage because the insects grow and reproduce faster in these climates. In Kenya, for example, insects destroy more than 25 percent of the nation's crops. Worldwide, pests destroy about 33 percent of the world's potential food harvest.

Insects are one of several types of organisms considered pests. A pest is any organism that exists where you do not want it or that exists in large enough numbers to cause economic damage. Humans try to control populations of many types of pests, including plants, fungi, and microorganisms.

Wild plants often have more protection from pests than do crop plants. Wild plants grow throughout a landscape, so pests have a harder time finding and feeding on a specific plant. Crop plants, however, are usually grown together in large fields, which provide pests with a one-stop source of food. Wild plants are also protected from pests by a variety of pest predators that live on or near the plants. Some wild plants have also evolved defenses to many pests, such as poisonous chemicals that repel pests.

IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about main ideas.

Read each question and write the answer in the space provided.

1. What is a pest?

2. List three types of pest populations that humans try to control.

Write the letter of the phrase in the space provided, that best answers the question.

3. How much of the potential food harvest do pests destroy worldwide?
   a. 100 percent
   b. 50 percent
   c. 33 percent
   d. 10 percent
RECOGNIZING SIMILARITIES AND DIFFERENCES

One reading skill is the ability to recognize similarities and differences between two phrases, ideas, or things. This is sometimes known as comparing and contrasting.

**Read each question and write the answer in the space provided.**

4. How does insect damage to crops in Kenya compare to insect damage to crops in North America?

5. Why do crop plants have less protection from pests than do wild plants?

The following statements apply to either wild plants or to crop plants. In the space provided, write “WP” if the statement applies to wild plants or “CP” if the statement applies to crop plants.

6. grow throughout a landscape

7. provide pests with a one-stop source of food

8. have evolved defenses against many pests

9. are protected from pests by pest predators that live on or near the plants

10. grow together in large fields

RECOGNIZING CAUSE AND EFFECT

One reading skill is the ability to recognize cause and effect.

**Read each question and write the answer in the space provided.**

11. Why do crops in tropical climates suffer greater damage than crops in North America?

12. Why do humans try to control pest populations?
biological control methods will therefore not affect non-targeted species. 

18. Even if a few individuals are not harmed by the chemicals, these individuals will grow and reproduce into a new population that may be resistant. Then we must develop new chemicals to kill the newly resistant population.

19. Mixing organic matter (stems and roots of previous crops, crops planted to be turned back into the ground, compost, or manure) into the soil helps loosen topsoil so water can soak in and not run off. It also feeds earthworms, which open the soil, allowing water to drain into it. Plowing along the contour and planting contour strips with grass helps trap any water running downhill.

20. The most common examples are cattle, sheep, goats, pigs, chickens, horses, donkeys, and mules. Livestock are raised for meat, leather, wool, milk, and eggs; these are the primary uses provided in developed countries. People in developing countries are much less likely to use livestock for meat. Livestock in developing countries (and sometimes in developed ones) are often raised to serve as draft animals, and to provide manure for fertilizer or to be used as a source of fuel. In Africa, Masai herders drink blood from cattle.

Active Reading

SECTION: FEEDING THE WORLD

1. a
2. b
3. d
4. Crop yield refers to how much product a crop gives.
5. Mexico increased its wheat production eight-fold. India doubled its rice production.
6. After the green revolution, large amounts of chemicals were used to foster the growth of new crop varieties. Modern methods and machinery also gained popularity.
7. large amounts of water, fertilizer, and pesticides
8. The amount of water for irrigation is decreasing.
9. Pesticides and fertilizers are overused.
10. They can degrade the soil if they are used improperly.

SECTION: CROPS AND SOIL

1. A pest is an organism that exists where it is not wanted or in large enough numbers to cause economic damage.
2. insects, plants, fungi, and microorganisms
3. c
5. Crop plants grow together in large fields, providing pests with a one-stop food source.
6. WP
7. CP
8. WP
9. WP
10. CP
11. Insects in tropical climates grow and reproduce faster than they do in other climates.
12. Pest populations cause economic damage and damage to the food supply.

SECTION: ANIMALS AND AGRICULTURE

1. a
2. c
3. b
4. a
5. Aquaculture involves raising organisms (primarily fish) that live in water.
6. d
7. c
8. a
9. b
10. 2
11. 5
12. 1
13. 6
14. 3
15. 4
16. The water brings in oxygen and sweeps away carbon dioxide and fecal wastes.
17. They return to reproduce.