

10 *Silent Spring*

—Rachel Carson

Synopsis

Silent Spring is a nonfiction text that explores the impact of humans and their products, on the environment. Written over 30 years ago, this text was an early attempt to develop environmental awareness among the general public. Rachel Carson, the author, was a biologist who studied the effects of pesticides on the environment. She conducted her research during the 1950s, a time when the use of pesticides was a relatively new process. The scientific community knew little about the long-term effects such products would have on the Earth. The general public knew even less. Pesticides were used without caution and in great quantities because the benefit of pest eradication seemed to be the only consideration.

As a scientist, Carson became concerned by the attempt of humans to control nature. Her research indicated that most manmade chemicals adversely affected the balance of nature. Pesticides were reducing populations, including humans, that were never intended to be targets. Armed with the results of her research, she became an unofficial spokesperson for the natural world. She wrote *Silent Spring* to counteract the prevailing idea of the time that "nature exists for the convenience of man." Her text attempts to help people develop respect for the natural world and encourage the realization that the naive or reckless use of chemicals in this world will ultimately destroy the users.

Student Focus

In order to obtain the fullest understanding of this work, you must take note of the sequence of events that Rachel Carson describes within the text. You should recognize that the scientific community, as well as the general public, knew very little about the side effects of many pesticides that had been developed. You should also focus on the cause-and-effect relationships between pesticides and the natural world that are described by Carson. You should appreciate that many of the relationships were only inferred at the time the novel was written. However, in the decades since *Silent Spring* was published, many of Carson's premises have, unfortunately, proved to be tragically prophetic.

Correlation to Subject Matter

Plants, Bacteria, Pollution, Cancer, Mutations, and Food Chains

Analyzing the Book

Identifying Facts

1. Why does the author feel that insecticides should be called biocides?

2. How did World War II contribute to the growth of insecticides?

3. How do chemists produce the cleaning fluid carbon tetrachloride from methane?

4. For what purpose was DDT originally used?

5. What effect do organic phosphorus insecticides have on living organisms?

6. What results when pairs of organic phosphate insecticides are combined?

7. What are systemic insecticides?

8. Identify three ways that earthworms benefit soil.

9. How do insecticides disturb the balance of populations residing in the soil?

10. Can an insecticide that is sprayed on an organism affect the future generations of that organism? Explain how.

11. How can spraying a forest with an insecticide affect fish residing in a forest stream?

12. What type of food products generally contain the heaviest residues of chlorinated hydrocarbons? Explain why.

Silent Spring

**Interpreting
Meanings**

13. Identify two methods of preventing the contamination of public food supplies that are recommended by the author.

14. What are carcinogens? Give an example of one.

15. What does the title *Silent Spring* represent?

16. According to Carson, what relationship exists between the physical properties of carbon and the great diversity of life?

17. Does Carson feel that humans should ever interfere with the relationships that exist among Earth's vegetation? Explain your answer.

18. How can the use of DDT actually boost an insect population?

19. Describe Warburg's theory of the relationship between cancer cells and fermentation.

20. According to the author, what two important facts have been overlooked in the design of insect control programs?

**Applying
Meanings**

21. Does Carson feel that humans can “control nature”? Explain why.

22. Explain how the spraying for Dutch elm disease eventually yielded evidence that the chain of poisoning grows as it progresses through a food chain.

Writing About the Book

On a separate sheet of paper, write the answer to each of the following questions.

Extending the Story

1. Rachel Carson based her novel on evidence collected during the 1950s. Unfortunately, many other episodes of humans interfering with the balance of nature have unfolded since that time. Write an epilogue to the novel which details one such episode.

Thinking about Assumptions

2. The idea that humans can “control nature” is based upon certain assumptions. In the last chapter of the novel, the author details her very strong feelings about these assumptions. Do you agree with her position? Explain why or why not.

Responding to a Review

3. It has been said that *Silent Spring* is a “courageous revelation of the forces that modern man has brought into being in his ruthless war on life, a protest on behalf of the unity of all nature, a protest on behalf of life.” Write an essay in which you react to this statement. Do you think that humanity’s war on life continues today? Be sure to use specific references to support your answer.

Evaluating a Character

4. Rachel Carson wrote that this book was “an attempt to explain what has already silenced the voices of spring in countless towns in America.” Do you think Carson was successful in her attempt? Explain why.

Writing a Journal Entry

5. Imagine that you are gathering additional evidence of how humans interfere with the balance of nature. Write an entry in your field journal describing evidence of the disruption you observe in your own town.

Analyzing the Cause

6. If you had been Rachel Carson, what would you have done after writing this book to continue educating the general public about the dangers of pesticides? Write an essay in which you clearly describe three different actions you would take. Explain your reasons for each.

Testing on the Book

On a separate sheet of paper, write the answer to each of the following questions.

Critical Thinking and Writing

1. Albert Schweitzer is quoted in the text as stating, "Man has lost the capacity to foresee and forestall. He will end by destroying the earth." Does the theme of *Silent Spring* support this statement? Explain how.
2. The use of insecticides in Clear Lake was based upon erroneous assumptions. Identify these assumptions and describe their results.
3. Throughout the novel, Carson describes ironic situations in which the predicted outcome of an action was just the opposite of what actually occurred. Describe one such situation. Be sure to clearly describe what professionals believed would occur and what actually happened.
4. Pretend that you are the author. Are you a proponent of nuclear energy or are you against this alternative energy source? Write an essay in which you state your opinion. Be sure to give reasons for your stand on the issue.
5. Farmers use pesticides to increase the yield of their crops. Greater yield means lower prices for the consumer. Would you be willing to pay higher prices for fruits and vegetables that are grown in "pesticide-free" environments? Explain why.

