

COLLARDS Teaching Tips



LEARNING OBJECTIVES

Youth will be able to:

- * Identify collards.
- * Name three relatives of collards.
- * Describe how and where collards are grown.
- * Explain how to harvest collards.
- * Prepare a collards recipe.
- * List the nutrients in collards.



HOW TO USE THE COLLARDS SCIENCE PAGE

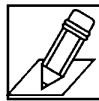
Point out collards growing in the garden or show some collard greens that have already been harvested. Ask if anyone knows what they are and how they are used. Those who have relatives living in the southern United States may be more familiar with collards, and should be encouraged to share their own knowledge and experiences.

Then have youth read the Collards Science Page. Discuss the information presented. For example, you might ask: "What was the most surprising fact about collards that you learned?" Students may already know that collards grow well in hot climates, but some people might not realize that collards can be harvested in the snow. Others might be surprised that collards are closely related to cabbage, broccoli, and cauliflower. Perhaps some students had not realized collards are high in many nutrients.

Most people are surprised to learn that collards, broccoli, cabbage, and mustard are all in the same family—Brassicaceae. This family is also known as Cruciferae, because the mustards have white or yellow flowers in the shape of a cross. Most mustards are easy to recognize because of their flowers, and because they contain mustard oils. These oils produce the pungent odor that is associated with 'cole' crops, such as cabbage and broccoli. It is also

present in the condiment mustard, which is made from mustard seeds.

Collards, as well as cabbage, turnips, field mustard, and broccoli, belong to the genus *Brassica*. Of these, collards, cabbage and broccoli belong to the same species — *oleraceae*. They are very closely related — they were all bred by humans from the wild cabbage plant. Only collards and kale belong to the variety *acephala*.



CROSSWORD PUZZLE

Answers

Across: 3. Brassica; 4. year round; 6. southern.

Down: 1. vitamins; 2. cabbages; 5. outer.



SPOTLIGHT ON RESEARCH

Why southern farmers were so healthy

The source for this information is "Our Vegetable Travelers" by Victor R. Boswell, which appeared in the August, 1949 issue, Volume 96(2) of National Geographic Magazine.

Explain to students that scientists often formulate their research questions from observations such as this one. Ask: What observations did nutritionists make? (Answer: Poor southern farmers and their families were healthy and well-nourished, even though their diet seemed very poor; almost every family had a patch of collards.) Ask: Based on these observations, what did nutritionists hypothesize? (Answer: People were getting a lot of the vitamins and minerals they needed by eating collards.) Ask: What kind of research could nutritionists do to test this hypothesis? (Answer: They could interview people to find out what they ate on a daily basis, and then analyze their diets to find out the amount and source of vitamins

and minerals they were taking in.) **Which collards resist whiteflies best**

The research results were drawn from: Jackson, D.M., M.W. Farnham, A.M. Simmons, W.A. van Giessen, and K.D. Elsey. 2000. Effects of planting pattern of collards on resistance to whiteflies (Homoptera: Aleyrodidae) and on parasitoid abundance. *Journal of Economic Entomology*. 93:12271236.

The scientists who conducted this study set up a field trial to evaluate what varieties of collards are most resistant to whiteflies. They planted several plots of each of the 14 varieties of collards in random order in the field. Ask: Why do you think the scientists had to plant more than one plot of each variety? (Answer: In this way, they could be more certain of their results — that is, glossy varieties of collards have less whitefly damage due to their genetic traits, and not because of other factors, such as where they happen to be planted in the field. If only one plot of each variety had been planted, then any difference in whitefly resistance could have been caused by some uncontrolled factor.) Ask: What might be some uncontrolled factors in a field trial? (Answer: There might be better soil under some plots. Collards at the edge of the field might be acting as trap crops for collards in the middle of the field.)



RECIPE

Youth may be more familiar with boiled collard greens. Explain that sauteed collards takes a lot less time to make, and is lower in fat and salt. Also, more nutrients are retained because the collards are cooked for a shorter time.

Discuss how to prepare boiled collards so that they are low in fat and salt, and high in nutrients, as described in the healthful hints.