



..... THIS MONTH
WE'RE HARVESTING

Broccoli!

In This Issue



AND MORE!

Farmer Spotlight

**RYAN KELLY - BOUTONNET FARMS
SALINAS, CA**



Whether steamed, roasted, or served fresh with dip, broccoli is a favorite vegetable on dinner tables across the country. Helping supply that fresh broccoli is Ryan Kelly, vice president and general manager of Boutonnet Farms

in California's Salinas Valley. Kelly oversees nearly 800 acres of broccoli and more than 1,600 acres of other brassica crops, including cauliflower and Brussels sprouts.

Kelly's career in agriculture started early. At 14, he spent his summers working on a local mushroom farm, where he discovered a passion for the industry that has shaped his future. After earning a degree in agricultural business from Cal Poly, he spent more than two decades growing vegetables. Through it all, one thing has remained constant: Every season brings something new. "Every year is a little bit different," Kelly said. "We face different challenges every year, whether it's weather, pests, disease, or markets. It keeps you on your toes."

In Kelly's operation, broccoli is typically grown from seed planted directly into the soil using precision air planters. These machines use air pressure to place seeds evenly and accurately. Planting begins in late October and continues for several months, allowing harvest to begin in late March and continue through Thanksgiving. California's mild coastal climate provides stable temperatures that help broccoli thrive

throughout the growing season.

As the crop grows, Kelly and his team use technology to improve efficiency and quality. GPS-guided equipment helps manage tillage, irrigation, cultivation, and weed control. Some equipment can even identify individual weeds and treat only those plants, reducing the need for costly control measures. Growers also monitor for insect pests, especially diamondback moth larvae, which feed on broccoli leaves and developing heads.

Depending on the season, broccoli reaches maturity in 80 to 120 days. Harvest requires two or three passes through each field because plants do not all mature at the same time. Workers harvest the firm, dark green heads by hand before the broccoli is quickly packed, cooled, and shipped to grocery stores across the country. Much of Kelly's broccoli reaches major retailers, often packaged under store brand names, and can go from harvest to grocery store in as little as three to five days.

After harvest, the remaining portions of the broccoli plants are shredded in the field and incorporated into the soil. As the plant material breaks down, it adds organic matter and helps feed the microorganisms that cycle nutrients back into the soil for future crops. For Kelly, seeing the process come full circle is one of the most rewarding parts of farming. "To get a successful crop from start to finish and see it end up on someone's dinner table is something that's very satisfying."

FOOD for FUEL



Every crunchy bite of broccoli contains nutrients your body needs to grow, move, and stay healthy.

**HERE ARE SOME OF THE HEALTH BENEFITS
OF INCLUDING BROCCOLI IN YOUR DIET:**

Strong BONES

Broccoli contains vitamin K, a nutrient that helps your body build strong bones and keep them healthy as you grow.

Happy GUT

One cup of raw broccoli contains about 2.5 grams of fiber. Fiber helps keep your digestive system running smoothly and supports a healthy gut.

Body DEFENDER

Broccoli is packed with vitamin C, which helps your body heal and keeps your immune system strong.



BUILD A BROCCOLI FOREST

Broccoli grows on tall stems that support clusters of small green florets, which can look like tiny trees in a forest. In this activity, students will use broccoli, pretzel sticks, and other fruits and vegetables to create their own edible broccoli tree. Just like trees in a forest, broccoli plants need sunlight, water, and nutrients from the soil to thrive.

Ingredients:

- 5-7 broccoli florets
- 5-7 pretzel sticks
- 5 sliced carrot rounds or halved cherry tomatoes
- Favorite veggie dip

Tools:

Cutting board, knife, paper plates

Always check student information, especially allergies, before preparing or serving food to keep everyone safe.

Directions:

1. Wash your hands with soap and water.
2. Wash your produce under running water.
3. Place broccoli florets on a plate to create the treetops of your forest.
4. Use pretzel sticks to create tree trunks by placing them under the broccoli florets.
5. Add sliced carrots or halved cherry tomatoes to represent fruit growing on your broccoli trees.
6. Add your favorite dip and enjoy your edible forest snack.



The Brassica Family Tree

Broccoli, cabbage, kale, cauliflower, Brussels sprouts, and kohlrabi may look very different, but they all share a common ancestor: wild mustard. Over thousands of years, farmers selected plants with desirable traits and saved their seeds, gradually changing the plants from one generation to the next. By examining the traits of different brassica vegetables, students can investigate how selective breeding has shaped the foods we eat today.

Objectives:

Students will compare traits among related brassica vegetables and explain how selective breeding changes traits over time.

California Standards:
NGSS: MS-LS4-4, MS-LS4-6; CC ELA:
RST.6-8.1, RST.6-8.7, WHST.6-8.1

Materials: Worksheet (page 3), scissors, glue or tape, pencils, optional fresh samples of brassica vegetables for observation and tasting.

Procedure:

Before the lesson, the teacher will prepare and pre-cut all ingredients, then arrange them in separate containers at the front of the room.

1. Show students several brassica vegetables, such as broccoli, cabbage, kale, cauliflower, Brussels sprouts, and kohlrabi. Ask: "What do you notice? Do you think they could be related?" Explain that these vegetables share a common ancestor, wild mustard.
2. Introduce selective breeding as a process in which farmers select plants with desirable traits and save their seeds for future generations. Ask: "If you were a farmer, what traits might you select for?"
3. Distribute the worksheet. Explain that the chart provides clues about the plant parts and traits farmers selected. Students use the clues to identify each mystery vegetable and complete the chart. They then cut out and glue the matching illustration in the correct row. Students use evidence from the chart to explain their choices to a partner.
4. Review the completed chart. Discuss how farmers selected different parts or traits of the same ancestral plant. For example, broccoli was developed for enlarged flower buds, kale for leaves, kohlrabi for a swollen stem, and Brussels sprouts for enlarged side buds.
5. Ask: "How could repeated selection change these traits over generations?" Discuss how selecting a desired trait can change its frequency in a population. For example, if a farmer repeatedly saved seeds from plants with larger leaves, what would you expect to happen to the number of plants with large leaves over generations?
6. Optional: Allow students to taste several brassica vegetables. Ask: "What similarities do you notice even though these vegetables look different?" Discuss how related plants can share characteristics as a result of selective breeding.

The Brassica Family Tree

How did early farmers shape the vegetables we eat?

Broccoli, cabbage, kale, cauliflower, Brussels sprouts, and kohlrabi all share a common ancestor: wild mustard.

Over many generations, early farmers selected plants with desirable traits and saved their seeds. How did these related vegetables become so different?

Directions: Use the clues to complete the chart. Cut out the six vegetables at the bottom of the page. Use the clues to place each vegetable in the correct mystery vegetable box.

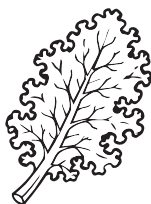
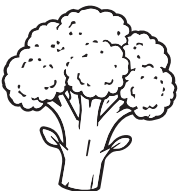
How Selection Changes a Population

A farmer has 20 plants with different-sized leaves. The farmer wants to grow plants with large leaves. Which plants should the farmer save seeds from? Why?

After many generations, what will happen to the number of plants with large leaves?

Explain your prediction.

MYSTERY VEGETABLE	PLANT PART SELECTED	DESIRED TRAIT	WHAT DO YOU NOTICE?
A		Large, leafy growth	Broad leaves with ruffled edges
B	Flower buds		Green head made of many small buds
C	Leaves	Tightly packed leaves	
D		Thick, swollen stem	
E	Side buds	Many small buds along the stem	
F			Firm, pale head made of tightly packed structures



virtual

FIELD TRIP

Let's take a trip to Fisher Ranch in California's Salinas Valley to discover how broccoli makes its journey from field to table. Andrew Fisher takes viewers behind the scenes to explore how his team harvests and packs fresh broccoli right in the field, as well as the innovative automation that helps create uniform bunches ready for grocery store shelves.

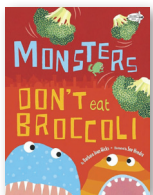


Watch Video

DIG DEEPER

These books, websites, and other resources will help you and your students learn more about broccoli.

BOOKS



Monsters Don't Eat Broccoli

by Barbara Jean Hicks (Grades K-3)

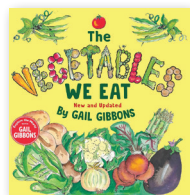
A humorous picture book in which a group of monsters insists they would never eat broccoli, even as they unknowingly gobble it up. The playful

book encourage children to look at vegetables in a new way and consider trying new foods.

Broccoli Is Trying to Kill Me

by Sarah A. Miller (Grades K-3)

This imaginative picture book follows a child who believes broccoli and other vegetables are plotting against him. Filled with humor and exaggeration, it provides an entertaining opportunity to discuss food preferences, healthy eating, and the importance of trying new foods.



The Vegetables We Eat

by Gail Gibbons (Grades 3-5)

This nonfiction picture book introduces readers to a variety of vegetables, including broccoli, while explaining how they grow and where

they come from. Clear illustrations and accessible text make it a valuable resource for exploring plant parts, agriculture, and the journey from farm to table.



WEBSITES

oceanmist.com

Learn about how broccoli is grown, harvested, selected, and stored from one of California's largest vegetable growers. The site also features nutrition information, recipes, and videos showing how broccoli is produced from field to table.

learnaboutag.org

The California Foundation for Agriculture in the Classroom provides free resources to teachers. The resources highlight many of California's 350 agricultural commodities, including broccoli.

taproduce.com/broccoli

One of California's leading vegetable growers, Tanimura & Antle provides information about broccoli production, nutrition, selection, and storage. Visitors can learn how to choose high-quality broccoli, explore growing practices, and discover tips for preparing it.

RESOURCES

Lesson Plan: Broccoli & Cauliflower (Grades K-4)

By Vermont Harvest of the Month

This lesson offers hands-on ways for students to explore broccoli and cauliflower. Activities include identifying the parts of the plant we eat, learning about broccoli's origins and plant family, and tasting and comparing broccoli and cauliflower prepared in different ways.

Lesson: Vegetables: Tops and Bottoms (Grade 3-5)

By National Center for Agricultural Literacy (NCAL)

Students investigate vegetables, including broccoli, to learn which parts of plants we eat, how vegetables are grown and harvested, and their nutritional benefits. Students can research broccoli's production, compare its nutritional value with other vegetables, and create a board game to share what they learned.



A Teacher's Guide to Farm to School Partnerships

Great things happen when classrooms and cafeterias work together! Discover resources and a special guide packed with creative ideas for partnering with your school nutrition program.

Download today at learnaboutag.org/farmtoschool