

# Harvest of the Month



Network for a Healthy California



## Nutrition Facts

Serving Size: 2 medium kiwifruit (148g)	
Calories 90	Calories from Fat 6
% Daily Value	
Total Fat 1g	1%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 4mg	0%
Total Carbohydrate 22g	7%
Dietary Fiber 4g	18%
Sugars 13g	
Protein 2g	
Vitamin A 3% Vitamin C 229% Calcium 5% Iron 3%	

Source: [www.nutritiondata.com](http://www.nutritiondata.com)

KIWIFRUIT  
November

## Health and Learning Success Go Hand-in-Hand

Supporting the health of students is essential for optimal achievement. Research shows a positive relationship between healthy students, enhanced learning and classroom attendance. **Harvest of the Month** connects with core curricula to give students the chance to explore, taste and learn about the importance of eating fruits and vegetables. It links the classroom, cafeteria, home and community to motivate and support students to make healthy food choices and be physically active every day.



## Taste Testing with California Kiwis

Taste testing activities allow students to experience the featured produce with their senses, engaging them in the learning process and creating increased interest, awareness and support for increasing consumption of fruits and vegetables.

### Tools:

- One whole and one sliced kiwi per two students
- Pencil and paper

### Activity:

- Each student makes two columns on a sheet of paper, labeled whole and sliced
- Feel the outside of the whole kiwi, noting in one column the texture, look, color, smell, sound and firmness
- Follow with the sliced kiwis, noting in the second column the flavor, texture, look, smell and colors
- Compare and contrast the two columns

### For more ideas, reference:

*School Foodservice Guide – Successful Implementation Models for Increased Fruit and Vegetable Consumption*, Produce for Better Health Foundation, 2005, pp. 39-42.

## Cooking in Class: Kiwi Spears

### Ingredients:

#### Makes 30 tastes at 1 small spear each

- 10-12 kiwis, peeled and sliced
- 5 tangerines, peeled and segmented
- 5 bananas, peeled and sliced
- Sturdy plastic straws, cut in half, or stir sticks

Thread two slices each of kiwis, tangerines and bananas, in alternating pattern, onto straws. Serve individual spears.

Source: [www.harvestofthemonth.com](http://www.harvestofthemonth.com)

### For more ideas, reference:

*Kids Cook Farm-Fresh Food*, CDE, 2002.



## November Events

- American Diabetes Month
- National Family Week
- National Children's Book Week

## Reasons to Eat Kiwis

### Two medium kiwis contain:

Excellent amounts of Vitamin C, providing 60 milligrams per serving — that's 230 percent of the recommended Daily Value.

The richest source of lutein among fruits and vegetables. Lutein is a phytonutrient proven to be effective in reducing the risk of cancer.

Both soluble and insoluble fiber, which help protect against heart disease, cancer and diabetes.

Copper, a mineral that supports infant growth, bone strength, brain development and the building of a strong immune system.

Potassium, which helps control blood pressure and heart health. A single serving of kiwi outranks bananas as the top low-sodium, high-potassium fruit.

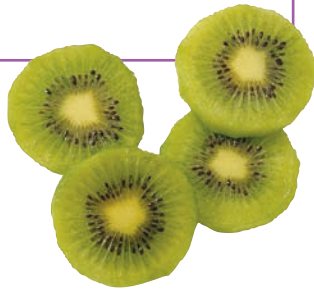
Folate, magnesium and Vitamin E — all offering health benefits that range from bone formation to protection against birth defects and cancer.

## Eat Your Colors

Fruits and vegetables come in a rainbow of colors. Eat a variety of colorful fruits and vegetables every day — red, yellow/orange, white, green and blue/purple. Kiwis are of the green variety.

- Green fruits and vegetables help maintain vision health and strong bones and teeth. They may also lower the risk of some cancers. Examples include kiwis, green apples, green pears, avocados, okra, peas, broccoli, asparagus and spinach.

For more information, visit:  
[www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov)  
[www.harvestofthemoonth.com](http://www.harvestofthemoonth.com)



## What's in a Name?

**Pronunciation:** kē'wē-frōōt  
**Spanish name:** kiwifruit or kiwi  
**Family:** Actinidiaceae  
**Genus:** *Actinidia*  
**Species:** *A. deliciosa*

The kiwifruit is the edible fruit of the woody vine *Actinidia deliciosa* of the genus *Actinidia*. Although native to China, *A. deliciosa* spread to New Zealand in the early 20th century. Those who tasted the fruit thought it had a gooseberry flavor and began to call it the "Chinese Gooseberry." The fruit finally received its name in 1959 when it was first commercially popularized and an export company from New Zealand named it after the national bird, the kiwi.

In North America, it is commonly known as "kiwi," but it is marketed to the rest of the world as "kiwifruit." There are 400 varieties of kiwis, but Hayward is the most popular variety in the United States.

For more information, visit:  
[www.kiwifruit.org](http://www.kiwifruit.org)

## Just the Facts

Fresh kiwis are the most nutrient-dense of all fruits.

Kiwis grow on vines that can be as high as 30 feet.

Kiwis are actually a berry.

The skin of a kiwi is edible, but not appealing to most people.

Kiwis contain an enzyme that acts as a natural meat tenderizer.

## Student Sleuths

- 1 What are the benefits of folate?
- 2 What is the difference between soluble and insoluble fiber? What are the benefits of each?
- 3 Which enzyme makes the kiwi a natural meat tenderizer? What does it do?

For information, visit:  
[www.thefresh1.com/kiwifruit.asp](http://www.thefresh1.com/kiwifruit.asp)  
[www.kiwifruit.org/nutrition\\_menu.htm](http://www.kiwifruit.org/nutrition_menu.htm)

## How Do Kiwis Grow?

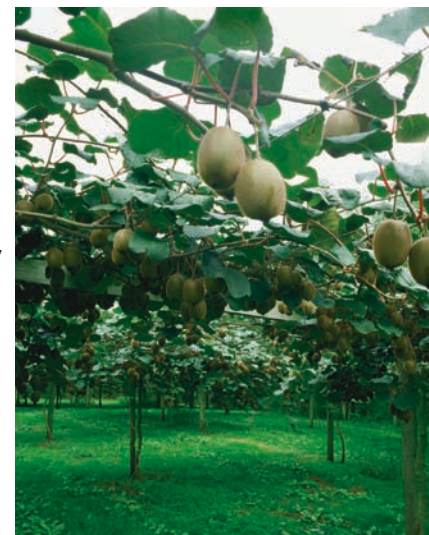
Kiwis grow on large, tender vines that can reach a height of 15 to 30 feet. The vine's shoots are thickly covered with reddish hairs and its large, heart-shaped leaves grow from six to nine inches long and up to eight inches wide. Due to the weakness of their vines, kiwis are commercially grown on sturdy support structures. From November to February, kiwi vines are dormant and must chill for about 600 to 850 hours at temperatures below 45 F. Vines are pruned during this time to help maintain kiwi production and regulate next season's crop yield and fruit size.

Budbreak in California generally occurs in mid to late March, depending on the growing location and weather condition. As the new, green shoots begin to elongate, parts of the flower form rapidly. By the time shoots have grown four to six inches long, all parts of the flower have been formed. The flower parts continue to expand until bloom, which usually starts in May.

Kiwi plants are dioecious, meaning individual plants are male or female. Only female plants bear fruit and only when pollinated by a male plant. They are typically planted in a vineyard at a ratio of about eight females to one male. Growers bring in bees during bloom so that the bees can move the pollen from the male to the female vines.

Following pollination, the fruit grows rapidly for the first 60 days and then slows until harvest. During this time, the grower manages the irrigation, nutritional and other cultivating needs of the plants. In California, where growing season temperatures are typically warm, 90 to 105 F, and summer rainfall is nonexistent, supplemental irrigation is necessary to achieve optimum kiwi growth and production. Peak water use on a hot summer day is about 10,000 gallons per acre.

Harvest begins in late September, with the majority of fruit harvested during October and early November.



## Home Grown Facts

- California is the only state that commercially produces kiwis for the United States marketplace.
- California kiwis represent 95 percent of all kiwis grown in the United States.
- Approximately 8,000 acres are devoted to the production of kiwis in the United States.
- Kiwis were not widely available in California grocery stores until 1970.

For more information, visit:  
[www.kiwifruit.org](http://www.kiwifruit.org)

## Cafeteria Connections

- Set aside a time each day to review the school menu with students and discuss why eating a variety of colorful fruits and vegetables is healthy for them. Ask students to identify other fruits and vegetables on the school menu that fit into the “green group” with the kiwi.
- Have students keep records for a week of what meals are served in the cafeteria. Have them find out what fruits and vegetables are being served in the meals. Research where the fruits and vegetables are grown. Have students interview those responsible for buying food and determine how much, if any, is locally grown.

For more ideas, reference:

*Fruits and Vegetables Galore*, USDA, 2004.

[www.nal.usda.gov/kids](http://www.nal.usda.gov/kids)

[www.agclassroom.org](http://www.agclassroom.org)



## School Garden: Giving Thanks

Make November's school garden project a writing activity. Have students write an essay or short story on the following:

- What does the garden give you for which you are thankful?
- What do you think it would be like if you had to grow your own food?
- What do you notice that tells you winter is coming?

If interested in growing kiwis in your school garden program, visit:

[www.fsa.usda.gov/ca](http://www.fsa.usda.gov/ca)

[www.cfaitc.org](http://www.cfaitc.org)

[www.agclassroom.org](http://www.agclassroom.org)



## Student Sleuths

- 1 Identify on a world map the countries where kiwis are grown.
- 2 When did the California kiwi industry begin?
- 3 Kiwis are available year-round in the United States. How does the growing and harvesting time compare to other kiwi-producing countries, like Chile and New Zealand? Is it different? Why or why not?
- 4 Research how the care of the kiwi vine and the importance of pruning are similar and different to that of other vine and tree fruit.

For information, visit:

[www.kiwifruit.org/history.htm](http://www.kiwifruit.org/history.htm)

[www.dole5aday.com/ReferenceCenter/Encyclopedia/Kiwifruits/index.jsp](http://www.dole5aday.com/ReferenceCenter/Encyclopedia/Kiwifruits/index.jsp)

[www.fruitsandveggiesmatter.gov/month/kiwi.html](http://www.fruitsandveggiesmatter.gov/month/kiwi.html)

## A Slice of Kiwi History

The history of the kiwi began in the Yangtse River valley in China, where it was called “Yang Tao.” The fruit Yang Tao was considered a delicacy by the court of the great Khans who cherished its delicious flavor and emerald-green color.

The first seeds were brought out of China by missionaries to New Zealand at the turn of the 20th century. Early nurserymen in New Zealand, such as Alexander Allison, Bruno Just and Hayward Wright, recognized the potential of the fruit and it soon became a popular backyard vine.

Kiwi plants were first exported to the United States in 1904, but it wasn't until between 1960 and 1970 that kiwis gained popularity in domestic markets.

**1960:** Carl Heinke, the first commercial grower of California kiwi, planted nine Chinese Gooseberry vines in Paradise, at the request of his friend, Bob Smith. (Smith was employed by the U.S. Plant Introduction Gardens and was conducting research on Chinese Gooseberries in California to determine potential for their commercial production.)

**1961:** The first New Zealand kiwi was sold at Trader Vic's in San Francisco.

**1962:** The first consumer request for kiwis occurred when a customer asked a produce manager at her local supermarket for Chinese Gooseberries. Never having heard of the fruit, the manager contacted produce dealer Frieda Caplan, who then began importing kiwis from New Zealand.

**1966:** Smith gave kiwi seeds to a grower in Gridley, named George Tanimoto, who planted the seeds in a nursery.

**1968:** Tanimoto transferred the resulting vines to an acre of land.

**1970:** Tanimoto's kiwi vines yielded 1,200 pounds of kiwis. California kiwis found their way into the United States market when Caplan's company, Frieda's Fresh Produce, purchased Tanimoto's entire harvest.

**1977:** With the rise in popularity of the then-exotic kiwi, the Kiwifruit Growers of California was established.

**1980:** The California Kiwifruit Commission was formed when both California and New Zealand kiwis became popular with the introduction of French nouvelle/California cuisine.



## Physical Activity Corner

As the winter holidays approach, students need extra support to stay healthy and focused in the classroom. Children should engage in at least one hour of physical activity every day to stay fit both mentally and physically. Dedicate the month of November to playing a different game or activity, like *Supermarket Face-Off*, each week in or out of the classroom.

### Supermarket Face-Off

**Objective:** Develops motor, listening and team skills

#### Supplies:

- Play area (30 x 30 paces), divided in half
- Two “home” bases
- Four cones for boundaries (optional)

#### Preparation:

- Separate class into two teams: *Fruits* and *Veggies*
- *Fruits* and *Veggies* face each other on opposite sides

#### Activity:

- Call out the name of a fruit; *Fruits* run back to their base and avoid being tagged by *Veggies*
- Call out the name of a vegetable; *Veggies* run back to their base and avoid being tagged by *Fruits*
- If tagged, change to the team that tagged you
- At end of game, see which items you have more of in your “shopping cart”: *Fruits* or *Veggies*
- *Variations:* Instead of calling out a fruit or vegetable, encourage careful listening by calling out “orrrrr-nament” (instead of “orange”) or “bbbb-basket” (instead of “banana”)

**Go Farther:** Have students use different types of motor skills to get to their base (e.g., walk, run, skip, hop).

**Bring It Home:** Encourage students to go to the grocery store with their family members to select fruits and vegetables to bring home to eat.

For more ideas, visit:  
[www.sparkpe.org](http://www.sparkpe.org)



## Literature Links

- **Primary:** *Fruit is a Suitcase for Seeds* by Jean Richards, *Yes We Have Bananas: Fruits from Shrubs and Vines* by Meredith Sayles Hughes, *Tree to Table* by Kelly King and Cynthia Livingston, and *Tall and Tasty Fruit Trees* by Meredith Sayles Hughes.
- **Secondary:** *Where'd You Get Those Genes?* by Beth Brookhart and Pam Schallock, *How Much is Too Much? How Little is Too Little?\** by Pamela Emery and *The Chemistry of Fertilizers* by Jean Kennedy.

\*Available through California Foundation for Agriculture in the Classroom.

## Calendar Connection: Kids for Kiwis

### National Children's Book Week

- Have students make drawings and write short stories featuring kiwis. Make copies of the stories, bind them into a book and give to the child nutrition and other school staff.
- “Swap” story books with another school participating in **Harvest of the Month** and share the new kiwi stories with your class or send to a local grocery store to display in the produce section.

For more ideas, reference:

*School Foodservice Guide – Successful Implementation Models for Increased Fruit and Vegetable Consumption*, Produce for Better Health Foundation, 2005, pp. 39–42.

## Adventurous Activities

### Field Trip:

Take students to a farmers’ market. To find the location of a farmers’ market in your area, visit [www.localharvest.org/farmers-markets](http://www.localharvest.org/farmers-markets). Or, bring the field trip to the school. For more information on Farm to School programs, visit [www.farmtoschool.org/ca/index.htm](http://www.farmtoschool.org/ca/index.htm).

### Science Investigation:

Cut a kiwi in half and have students compare how the inside looks like the iris of an eye.

### History Exploration:

Have students research the various uses of kiwis throughout history and do a classroom presentation.

### Creative Writing:

Using the facts learned from the *Student Sleuths*, have students interview their parents and friends to share their “Kiwi IQ.”

### Marketing Lesson:

Many fruits are sold by their variety, but kiwis are usually sold by the general name “kiwifruit” or “kiwi.” Discuss with your class the reasons for the differences in the way kiwis are marketed in comparison to other produce.

For more ideas and information, visit:  
[www.ars.usda.gov/is/kids](http://www.ars.usda.gov/is/kids)



Next Month: Sweet Potatoes

