

# Harvest of the Month



Network for a Healthy California



FUYU

## Nutrition Facts

Serving Size: 1 medium persimmon (168g)

Calories 118      Calories from Fat 3

	% Daily Value
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 2mg	0%
Total Carbohydrate 31g	10%
Dietary Fiber 6g	24%
Sugars 21g	
Protein 1g	
Vitamin A 55%	Vitamin C 21%
Calcium 1%	Iron 1%

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

For nutrition information in bar graph format, visit the *Educators' Corner* at [www.harvestofthemonth.com](http://www.harvestofthemonth.com).

**PERSIMMONS**  
November

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

A recent USDA study showed the majority of students eat less than half of the recommended amount of fruits and vegetables. Students who eat a variety of colorful fruits and vegetables and get regular physical activity demonstrate improved school attendance, memory function and listening skills. Use **Harvest of the Month** to encourage healthful behaviors, connect with core curricula and link the classroom, cafeteria, home and community.

## Exploring California Persimmons

By offering activities that allow students to experience persimmons using their senses, it engages them in the learning process and creates increased interest, awareness and support for eating more fruits and vegetables.

### Tools:

- One ripe Fuyu and Hachiya persimmon per every four students\*
- Paper and pencils
- Cutting board and knife

\*Refer to *What's in a Name?* on page 2 for information on how to determine ripeness.

### Sensory Exploration Activity:

- Divide class into groups of four and distribute persimmons
- Observe and feel both varieties of persimmons (whole)
- Cut Fuyus into quarters; as appropriate, slice or scoop Hachiyas
- Note texture, smell and taste of each variety
- Discuss similarities and differences in taste, color, texture, smell and shape; use descriptive words to explain
- Determine which variety students prefer; graph results

### For more ideas, reference:

*The Power of Choice*, USDA, 2003.

## Cooking in Class: Persimmon Salad

### Ingredients:

Makes 36 tastes at ¼ cup each

- 9 cups spinach, washed
- 9 Fuyus, sliced
- ¾ cup dried cranberries
- 4½ tablespoons olive oil
- ½ cup 100% orange juice
- ¾ cup rice vinegar
- Salt to taste
- Small plates and forks

Combine oil, orange juice, rice vinegar and salt for dressing. In large bowl, combine spinach, persimmons and cranberries. Toss salad with dressing and serve immediately.

Adapted from:

[www.lapublichealth.org/nutrition](http://www.lapublichealth.org/nutrition)

For more recipes, visit:

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

## Reasons to Eat Persimmons

One medium persimmon provides:

- An excellent source of fiber, most in the form of soluble fiber.
- An excellent source of Vitamins A and C and the mineral manganese.
- A source of Vitamin B6 and potassium.

Dietary fiber is a complex carbohydrate, generally divided into two categories: water soluble and water insoluble. Soluble fiber has been shown to protect against heart disease and can also lower blood sugar levels. Insoluble fiber aids in digestion and may reduce risk of colon cancer.

For more information, visit:

[www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov)

## November Events

- National Diabetes Month
- National Family Week
- National Fig Week



HACHIYA

## How Much Do I Need?

A serving of persimmons is one medium-sized fruit, which is about the size of a baseball. Remind students that eating a variety of colorful fruits and vegetables throughout the day will help them reach their recommended needs.

### Recommended Daily Amounts of Fruits and Vegetables\*

Kids, Ages 5-12	Teens, Ages 13-18	Adults, 19+
2½ - 5 cups per day	3½ - 6½ cups per day	3½ - 6½ cups per day

\*Ranges take into account three activity levels: sedentary, moderately active and active. For example, active individuals should aim to eat the higher number of cups per day. Visit [www.mypyramid.gov](http://www.mypyramid.gov) to learn more.

## 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.

These may lower the risk of some cancers. Persimmons are in the yellow/orange color group.



Color Group	Health Benefits	Examples of Fruits and Vegetables
Yellow/Orange	Help maintain heart health, vision health and healthy immune system	Fuyu persimmons, yellow pears, yellow figs, tangerines, sweet potatoes, yellow peppers, yellow onions

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

## Just the Facts

- In Asia, persimmons have been cultivated for thousands of years and rank next to citrus fruit in importance, culturally and economically.
- The persimmon is Japan's national fruit.
- The art of hoshigaki — hand-dried persimmons — is an integral part of traditional Japanese New Year's celebrations.
- The Fuyu was developed by breeding out the tannic acid from the Hachiya, making it more appealing to taste and easier to eat whole and raw.
- Persimmon trees are also cultivated for timber (used in golf clubs, textile weaving and furniture), wildlife (flowers produce nectar for honeybees), and beautification.

Source:

*Chez Pansse Fruit*, Alice Waters, 2002.

[www.mfc.state.ms.us/seedlings/](http://www.mfc.state.ms.us/seedlings/)

## What's in a Name?

**Pronunciation:** pər-sim'ən

**Spanish name:** persimo

**Family:** Ebenaceae



**Genus:** *Diospyros*

**Species:** *D. kaki*



Ancient references to the persimmon as “food for the gods” have led to its classification in the genus *Diospyros* of the Ebony family. (“Dios” means God; “pyros” means grain or food.) The English word “persimmon” is derived from the Algonquian language of the eastern United States meaning “dry fruit.”

Today, all persimmons cultivated in California (and most in the United States) are of the *D. kaki* species. Although native to China, this species is often referred to as Japanese or Oriental persimmons.\* These fruits are generally divided into two categories: astringent and non-astringent.

	Astringent 	Non-astringent 
Varieties	Hachiya	Fuyu
Color	Bright, deep orange-red	Light orange
Shape	Acorn-shaped	Spherical, pumpkin-shaped
Use**	Must be jelly soft before it is edible; used mostly for baking	May be eaten raw when firm or soft

\*See *A Piece of Persimmon History* on page 3 for origin.

\*\*To ripen firm astringent varieties, store at room temperature. To expedite process, place in paper bag with apple or banana.

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

## Student Sleuths

- 1 Some persimmon varieties contain tannins, which cause astringency. What are tannins? What are other sources of tannins?
- 2 Persimmons are high in antioxidants. What are antioxidants and what do they do for the body?
- 3 What are the top three persimmon-producing counties in California? Locate on a map. When do these regions harvest persimmons? What similarities are there between these counties (e.g., climate, location, geography)?
- 4 Create a presentation on the five fruit and vegetable color groups. List the key nutrients and health benefits provided by each color group. Of the health benefits, which are most important to you?

For information, visit: <http://pestdata.ncsu.edu/cropprofiles/docs/capersimmons.html>  
[www.nutritiondata.com](http://www.nutritiondata.com)



## A Piece of Persimmon History

- The *D. kaki* species originated in China and made its way to Japan more than a thousand years ago.\*
- Commodore Perry brought seeds back to the United States from Japan after his 1852-54 expedition. The seeds were first planted in the area around Washington, D.C., but were killed by an early frost.
- In 1870, grafted trees were successfully introduced into Georgia and California by early USDA plant explorers.
- At least 500 different *D. kaki* varieties were brought to California during a major planting spree from 1870 to 1920. In 1877 alone, more than 5,000 plants in 19 varieties were imported from Japan.
- Today, the two major Japanese varieties grown in California are the Hachiya and the Fuyu.

\*Persimmons of the species *D. virginiana* (American persimmon) are native to North America, mostly on the East Coast. While it was a food staple of early Native Americans, the species today accounts for less than 1 percent of the country's total crop production.

### For more information, reference:

*Chez Panisse Fruit*, Alice Waters, 2002.

<http://food.oregonstate.edu/faq/uffva/persimmon2.html>

## School Garden: Cover Crops

November is an ideal time to clean up the garden from summer and prepare it for winter. Planting leguminosae cover crops is one way to add nutrients to soil. Legumes contain bacteria, rhizobia, which grow on their roots. The rhizobia take nitrogen from the air and fix it to the soil. The roots use this nitrogen for growth.

- Implement *The Matchmaker* activity to demonstrate how some plants can naturally add nitrogen to soil.\*

### Materials:

- Selection of seeds from Leguminosae family (bell beans, fava beans, red clover, alfalfa, peas, purple vetch)
- Minimum two seeds per student
- Soil test kit, garden plant markers and pencils

\*For activity, visit the *Educators' Corner* at [www.harvestofthemonth.com](http://www.harvestofthemonth.com).

Source: *The Growing Classroom*, Roberta Jaffe and Gary Appel, Life Lab Science Program, 1990, pp. 93–95.

## Home Grown Facts

- In 2004, California produced 99 percent of the *D. kaki* crop in the United States at a total value of about \$10.3 million.
- Tulare and Fresno counties produce 53 percent of the State's total production.
- Other major persimmon-producing regions include Orange, Riverside and San Diego counties. A small percentage is grown in Sutter and Placer counties.
- Persimmons reached their peak in popularity during the first half of the 20th century. The Hachiya was the preferred variety, but production declined and has since been surpassed by the Fuyu.

### For more information, visit:

[www.cdfa.ca.gov/card/pdfs/2cdfagovstat.pdf](http://www.cdfa.ca.gov/card/pdfs/2cdfagovstat.pdf)

<http://pestdata.ncsu.edu/cropprofiles/docs/capersimmons.html>

## How Do Persimmons Grow?

The persimmon is a deciduous tree, adaptable to a wide range of soils and climates and immune from most diseases and insects. Although the trees can withstand temperatures as low as 0 F when fully dormant, they do not produce well in high summer heat or desert regions. Trees are either male or female, but some have both male and female flowers; sexual expression can also vary from year to year. Reaching heights of up to 25 feet, trees bear fruit about two to three years after grafting and have a life span of about 10 years.

Temperature	30 - 80 F
Peak season	October through December
Preferred soil	Deep, well-drained loam soils; pH range of 6.5 - 7.5; aerated
Exposure and Irrigation	Full sun with water at minimum interval of 10 days; need 36 to 48 inches of water annually
Planting	Seeds must be planted in deep holes (about 18")
Propagation	Grafting and budding onto seedling rootstock (usually by whip or cleft)
Flowers	Multiple male blossoms on long stems; few females, swollen at base of plant
Pollination	Can bear fruit without pollination (parthenocarpic), but produce more and tastier fruit with pollination
Pruning	Prune early to prevent overgrowth and overproduction
Harvesting	Occurs before fruit begin to ripen when dark orange and firm, usually from late autumn into winter

### For more information, visit:

[www.crfp.org/pubs/ff/persimmon.html](http://www.crfp.org/pubs/ff/persimmon.html)

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

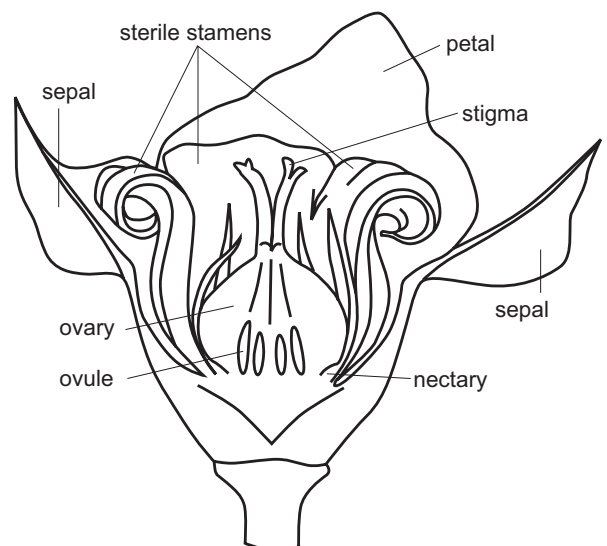


Image adapted from:

[www284.pair.com/florists/all-about-flowers/Persimmon.htm](http://www284.pair.com/florists/all-about-flowers/Persimmon.htm)

Floral terminology provided by E. Sandoval, Curator, College of Biological Sciences Greenhouses, University of California, Davis.

To download reproducible botanical images, visit the *Educators' Corner* at [www.harvestofthemonth.com](http://www.harvestofthemonth.com).



## Student Advocates

After the persimmon was introduced in America in the late 1800s, it became one of the country's most popular fruits, particularly in California. Although California continues to lead the nation in persimmon production, its popularity has declined considerably. Using what they have learned in class, students can "re-introduce" the persimmon to the community.

- Write an article that describes the two main varieties and the nutritional benefits. Include examples of how they can be used in meals and recipes. Submit articles to local print outlets.
- Design posters or brochures to promote the nutritional benefits and uses of persimmons. Include healthy holiday recipes. Display on campus, at grocery stores or persimmon stands at farmers' markets.

## Physical Activity Corner

The brain is activated during physical activity. Neurological research has shown that sitting for more than 10 minutes reduces concentration and increases fatigue. Movement, on the other hand, increases blood vessel activity allowing for the delivery of oxygen, water and glucose to the brain. Integrating physical activity into the classroom can help optimize students' performances.

### Flying Colors:

**Objective:** Kinesthetic movement, nutrition education

### Activity:

- Students jump up and down (or hop on one leg)\*
- Call out one of the fruit/vegetable color groups (red, green, yellow/orange, etc.)
- One at a time, each student calls out a fruit or vegetable within named color group
- Continue for all color groups

\*Variations may involve identifying different movements to represent fruits and vegetables, or the different color groups. For example, jumping may represent red fruits while running in place may represent blue/purple vegetables.

**For more ideas, visit:**

[www.take10.net](http://www.take10.net)

[www.liveitprogram.com](http://www.liveitprogram.com)



## Adventurous Activities

### Science Exploration:

Cut persimmons will brown when exposed to air. Ask students to first research the concept of enzymatic browning or oxidation. Have students hypothesize what can be done to prevent this reaction from occurring. Then test students' hypotheses in an experiment using both Fuyu and Hachiya persimmons. Students compile information on graphs and present to their peers.

**For more activities, visit:**

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

## Cafeteria Connections

The sweet and spicy Fuyu has apricot and cinnamon flavors that are appealing to children. It is easy to prepare and does not brown quickly. Introduce students to this unique fruit by incorporating it into the school menu.

- Use firm Fuyus as a "cracker" and pair with other fruits or lowfat cheese.
- Pair Fuyu with a crisp vegetable and a dip.
- Offer sliced or shredded persimmons in the salad bar.

### Other ideas for incorporating persimmons:

- Ask students (K–5) to develop a snack recipe.
- Ask students (6–8) to develop a lunch recipe.
- Gather healthy holiday recipes that contain persimmons to share with students and families.

**For more ideas, visit:**

[www.fns.usda.gov/tn/](http://www.fns.usda.gov/tn/)

## Literature Links

- **Elementary:** *Tall and Tasty Fruit Trees* by Meredith Sayles Hughes, *The Honey Makers* by Gail Gibbons and *Harvest Year* by Cris Peterson.
- **Secondary:** *Trees are Terrific* by Sandra Stotksy and *Emergence of Agriculture* by Bruce Smith.

**For more ideas, visit:**

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

**Next Month: Dried Fruits**

