

Harvest of the Month



Network for a Healthy California



Nutrition Facts

Serving Size: ½ cup cooked asparagus (90g)

Calories 20 Calories from Fat 0

% Daily Value

Total Fat 0g 0%

Saturated Fat 0g 0%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 13mg 1%

Total Carbohydrate 4g 1%

Dietary Fiber 2g 7%

Sugars 1g

Protein 2g

Vitamin A 18% Calcium 2%

Vitamin C 12% Iron 5%

Health and Learning Success Go Hand-In-Hand

A school garden is a great way to introduce students to fruits and vegetables. Research shows that school is where children develop many lifelong habits and preferences. School-based nutrition education promoting healthful eating and physical activity can improve academic performance. Help your students do their best during testing. Implement *Harvest of the Month* and connect to core curricula, the cafeteria, home, and community.

Exploring California Asparagus: Taste Testing

Getting Started:

- Talk to your school nutrition staff about getting asparagus from a local grower.

What You Will Need (per group):

- One cooked* spear per student plus two additional raw spears per group
- Cutting board and knives (two per group)
- White board and pens

*Pre-cook asparagus by microwaving or coordinate with school nutrition staff to cook and bring to the classroom.

Activity:

- Distribute two raw spears to each student group. Have students feel and observe one spear; identify and record the parts of the spear.
- Have students slice and taste the second spear; record observations.
- Have students cut the first spear crosswise and lengthwise; identify and record internal structure.
- Distribute one cooked spear to each student.
- Discuss changes that occur as asparagus cools (e.g., smell, color, texture).
- When cool, have students slice spears into thirds and taste the tip, center, and end; record differences.
- Poll students to find out if they prefer raw versus cooked asparagus and one section of the spear over another and why.

For more ideas, reference:

Kids Cook Farm—Fresh Food, CDE, 2002.

Cooking in Class: Asparagus Appetizer

Makes 36 servings at 2 tablespoons each

Ingredients:

- 1 pound fresh baby asparagus, washed, trimmed at ends
- 1 (15-ounce) can black beans, drained and rinsed
- 6 tablespoons balsamic vinaigrette

1. Cut asparagus into one-inch pieces and place in large bowl.
2. Add black beans to the bowl.
3. Toss asparagus and beans with the vinaigrette until coated.
4. Place 2 tablespoons on paper tray. Serve immediately.

Nutrition information per serving:

Calories 20, Carbohydrate 4 g, Dietary Fiber 1 g, Protein 1 g, Total Fat 0 g, Saturated Fat 0 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 64 mg

Adapted from: Tasting Trio Team, *Network for a Healthy California*, 2010.

Reasons to Eat Asparagus

A ½ cup of cooked asparagus is:

- An excellent source of folate and vitamin K.
- A good source of vitamin C, vitamin A, and thiamin.
- A source of vitamin E, fiber, iron, potassium, riboflavin, and niacin.

Champion Sources of Vitamin E*:

- Cooked spinach
- Nuts (almonds, hazelnuts, peanuts)
- Oils (corn, cottonseed, safflower, soybean)
- Peanut butter
- Sunflower seeds
- Wheat germ

*Champion sources provide a good or excellent source of vitamin E (at least 10% Daily Value).

For more information, visit:

<http://ods.od.nih.gov/factsheets/vitamine.asp>
www.nal.usda.gov/fnic/foodcomp/search/
 (NDB No.: 11012)

ASPARAGUS

What Is Vitamin E?

- Vitamin E is an antioxidant that protects the body's cells.
- Vitamin E helps the body use vitamin K and keeps the immune system, skin, and hair healthy.
- Vitamin E is a fat-soluble vitamin. The way vitamin E is absorbed depends on the digestion and absorption of fat.
- Alpha-tocopherol is the most widely available form of vitamin E found in food.

For more information, visit:

<http://jn.nutrition.org>

<http://lpi.oregonstate.edu/infocenter/vitamins/vitaminE/index.html>

How Much Do I Need?

A ½ cup of cooked asparagus is about six asparagus spears. The amount of fruits and vegetables each person needs to eat depends on age, gender, and physical activity level. Students need to get at least 60 minutes of physical activity every day. People who are very active should eat the higher number of cups per day. Have students write down their fruit and vegetable consumption and physical activity goals. Students can list meals and snacks they will eat and activities they will do to reach their goals.

Recommended Daily Amount of Fruits and Vegetables*

	Kids, Ages 5-12	Teens and Adults, Ages 13 and up
Males	2½ - 5 cups per day	4½ - 6½ cups per day
Females	2½ - 5 cups per day	3½ - 5 cups per day

*If you are active, eat the higher number of cups per day.

Visit www.mypyramid.gov to learn more.

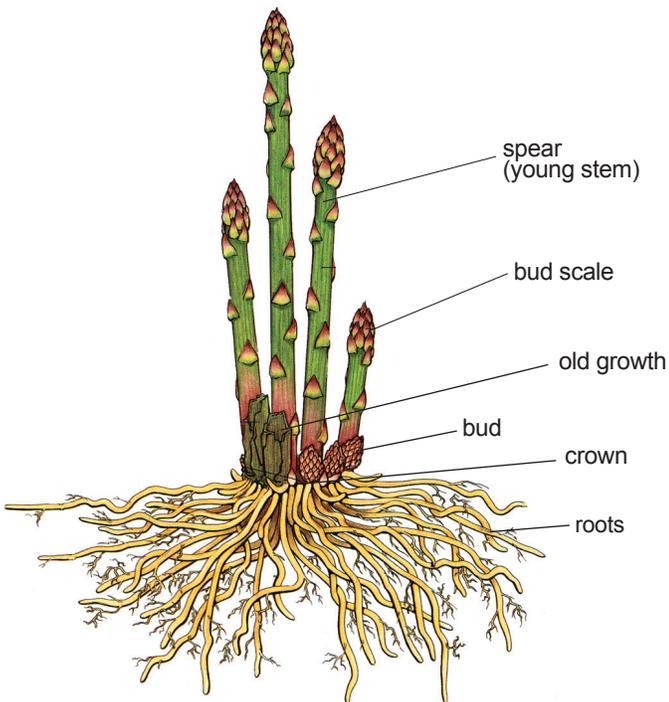


Image adapted from: *Stinky and Stringy: Stem & Bulb Vegetables*, Meredith Sayles Hughes, 1999.

Download botanical images from www.harvestofthemoonth.com.

Botanical Facts

Pronunciation: ə-spär'ə-gēs

Spanish name: espárrago

Family: Liliaceae

Genus: *Asparagus*

Species: *A. officinalis*



A perennial member of the Lily family, asparagus is also related to onions, leeks, and garlic. Derived from the Greek word *aspharagos* meaning "sprout" or "shoot," asparagus was known as *sperage* and referred to as "sparrow grass" by English-speaking Europeans until the late 19th century.

Asparagus can be harvested in three different colors: green, white, and purple. Green asparagus is most commonly grown. White asparagus is grown by burying the crowns under a foot of soil preventing photosynthesis. Purple asparagus spears turn green when cooked. While there are several varieties of each color, they are most commonly marketed by their color (e.g., *green asparagus*, etc.).

For more information, visit:

www.cfaitec.org/factsheets/pdf/Asparagus.pdf

www.ohioline.osu.edu/b826/b826_2.html

How Does Asparagus Grow?

Asparagus is a long-lasting perennial plant (about 15 to 20 years) that requires about three years from time of planting to establish permanent roots and produce quality spears. The plants are most commonly grown from one-year-old crowns (an underground stem from which the spears shoot), providing a crop more quickly than if grown from seed. The edible stalks are shoots that develop into fern-like plants in warmer temperatures if uncut.

Asparagus requires a period of dormancy. This dormancy occurs naturally in California during winter when cooler temperatures inhibit plant growth. In the first year, it is essential for ferns to develop and for the spears to not be harvested in order for the roots to develop.

Temperature	Above 50 F
Soil	Well-drained, sandy loam
Planting	Trenches about 8 inches deep by 12 inches wide; rows spaced 4 to 6 feet apart
Irrigation	Well-irrigated in first year, then during fern season; avoid watering during harvest season
Harvesting	Hand-harvested when spears are 6 to 10 inches long; spears cut 1 to 2 inches below or about 2 inches above the ground

For more information, visit:

http://aggie-horticulture.tamu.edu/Publications/easygardening/E-503_asparagus.pdf

Student Sleuths

- 1 In what food sources is vitamin E found? What are the eight common forms in which vitamin E occurs?
- 2 Asparagus is a source of many vitamins, including both water-soluble and fat-soluble vitamins. Make a list of these water-soluble and fat-soluble vitamins found in asparagus. How does each vitamin function in your body? Identify your Recommended Daily Intakes (RDI) for these vitamins. Make a list of foods that are good or excellent sources for each vitamin.
- 3 Record your food intake for one day. Determine if you are eating enough fat-soluble and water-soluble vitamins. (Hint: Use the Pantry tool available at www.nutritiondata.com to record your meals and assess nutrient intake.)
- 4 White asparagus is grown from the same crown as green asparagus. Research how farmers grow the white variety. Hypothesize what process occurs (or does not occur) to make the white variety. Identify on a map the regions that produce white asparagus. Compare and contrast nutrient values for white and green asparagus.

For information, visit:

www.cfaitc.org
www.calasparagus.com
<http://jn.nutrition.org>

Just the Facts

- Asparagus cooks fast! Roman Emperor Augustus coined the phrase “*velocius quam asparagi coquantur*,” which means “faster than you can cook asparagus.” Over the years, this has been shortened to “in a flash.”
- Ancient and medieval medicinal practices used crushed asparagus tips to reduce swelling and alleviate pains associated with bee stings, wounds, and infections.
- In proper conditions, asparagus can grow as much as one inch per hour — up to 12 inches in one day.

Sources:

www.fruitsandveggiesmatter.gov/month/asparagus.html
www.calasparagus.com

Home Grown Facts

- California is the nation’s leading supplier of asparagus, producing nearly half (48%) of the U.S. supply.
- San Joaquin County produces two-fifths (40%) of the state’s asparagus supply.
- Asparagus’ harvest season lasts two to three months, but California’s geography allows for fresh asparagus to be available from January through September.
- Other top-producing counties include Monterey (20%), Fresno (18%), Imperial (10%), and Sacramento (3%).
- Ninety-eight percent of California’s asparagus crop is marketed as the fresh green variety, with the remaining two percent for processing or sold as the white and purple varieties.

For more information, visit:

www.cdffa.ca.gov
www.nass.usda.gov/Statistics_by_State/

Student Champions

Encourage students to challenge their classmates to turn off the “screen” (e.g., TV, computers, phones) and be more active. Spring is also a good time to get outdoors and work in a garden.

- Challenge classmates to keep the TV turned off for at least one week.
- Make a list of other activities you can do in place of watching TV.
 - **Examples:** Playing a game (soccer, basketball, softball, tag); jumping rope; dancing; gardening; walking the dog; hiking.
- Write journal entries of what you do instead of watching TV.
- Make arrangements with school officials to stay on campus after-hours to work in the school garden.
- Talk to your classmates and neighbors about planting a community garden or starting an after-school gardening club.

For more ideas, visit:

www.tvturnoff.org
www.csgn.org

School Garden: Pollinators

If your school has a garden, here is an activity you may want to implement. Look for donations to cover the cost of seeds, tools, irrigation systems, electric pumps, and any salary incurred by garden educators or others.

Many animals and insects help pollinate plants, which supports fruit and seed production. They also eat insect pests and add beauty to the garden. In this activity, students will explore their school garden to identify how many different pollinators they can find.

What You Will Need (per team of two students):

- Notebooks for journaling
- Colored pencils or crayons
- Magnifying glasses

Activity:

- Teams select a plant to observe for pollinators in the garden.
- Use the magnifying glasses to look for clues of pollinators.
- Record the type of plant observed and what types of pollinators are spotted.
- Draw pictures in notebooks matching the color and appearance of the plants and pollinators.
- Share findings as a class.
- Have a class discussion on other ways plants can be pollinated (e.g., wind, rain).
- Ask students to write a story about why it is important for plants to be pollinated.

Adapted from: www.lifelab.org

For more ideas, visit:
www.kidsgardening.com



Adventurous Activities

History Exploration:

Asparagus has been cultivated for more than 2,500 years by people worldwide. It continues today to be a universal vegetable, grown and consumed in Asia, Europe, South America, and North America. Have students research a historical topic of interest and then write an essay or deliver a living history presentation. Topics may include:

- Research the beginnings of the California asparagus industry. Who were the first people to grow asparagus? Why did growers produce more green asparagus? When and why did fresh asparagus become more common than canned or frozen asparagus?
- Research the medicinal uses of asparagus. Hypothesize why asparagus was used for these purposes.
- Choose a culture, group of people, or country and research the role asparagus has played in its society or agricultural economy. Include recipes, holidays, medicinal uses, literature, and/or economic impact.

For more activities, visit:
www.harvestofthefmonth.com

A Spear of Asparagus History

- Ancient Greeks and Romans began cultivating asparagus more than 2,500 years ago. It was valued both as a food and for medicinal remedies.
- Early English and Dutch colonists brought asparagus to North America.
- In 1852, migrant family workers started growing asparagus in the Stockton-Sacramento Delta.
- Thomas Foon Chew built the first cannery to package green asparagus in Isleton, California in 1919.
- Beginning in the 1950s, U.S. farmers began to grow more green asparagus than white asparagus due to consumer preference.
- In the mid-1980s, fresh asparagus was shipped worldwide for the first time by airplanes from California.

For more information, visit:
www.cfaitc.org/factsheets/pdf/Asparagus.pdf

Literature Links

- **Elementary:** *Earthworms: Underground Farmers* by Patricia Lauber, *Good for Me Vegetables* by Sally Hewitt, and *Inch by Inch: The Garden Song* by David Mallett.
- **Secondary:** *Dictionary of Horticulture* by National Gardening Association and *On Good Land: An Autobiography of an Urban Farm* by Michael Ableman.

For more ideas, visit:
www.cfaitc.org/books

Physical Activity Corner

Gardening is a great way for students to be active, practice, and understand science lessons, and learn valuable life skills. Gardening uses all of the major muscle groups, increases flexibility and helps strengthen joints. Promote students' physical and mental health by getting outdoors and working in a school garden:

Warm up:

Stretch for at least five minutes to keep muscles flexible and help prevent injury.

Mix it up:

Rotate every 15 to 20 minutes between gardening tasks like raking, weeding, pruning, and digging. (Stretch briefly between chores.)

Color it in:

Plant a variety of colorful fruits and vegetables using plants and seeds donated to the school. Students can pick different color groups to harvest.

Cool down:

End gardening session by allowing students to reflect on what they created or maintained. Students can write in journals, pick flowers, harvest crops, and enjoy what they have created.

For more ideas, visit:
www.pecentral.org

Cafeteria Connections

Conduct an Asparagus Trivia Contest in the school cafeteria. Share this newsletter with school nutrition staff to create sets of trivia information, questions, and answers. Here are a few ideas to get started.

- Create table tents with trivia using asparagus facts.
- Place tents on cafeteria tables.
- Create trivia questions and distribute questionnaire to students in lunch line (or as students enter cafeteria).
- Students find answers while eating meal (from facts on table tents) and enter their questionnaire into a drawing for prizes.

Helpful Hints:

- Work with older students, an academic club, or science class to gather and create the trivia information.
- Use facts from this newsletter to create tent information or visit www.calasparagus.com.
- Ask an art class to help you design the table tents.

Adapted from: Team Nutrition, "Food Works," 1995.

