

Asparagus

Grow

Crowning Vegetable

Asparagus is a vegetable. It is a member of the Lilaceae family, related to onions, leeks, and garlic.

Asparagus is a perennial plant that is long-lasting, about 15 to 20 years. It requires three years from the time of planting to establish permanent roots and produce quality spears. Asparagus plants typically grow from a one-year old crown that is planted a foot deep. The crown is an underground stem from which the edible spears shoot. Growing from a crown yields a crop more quickly than if grown from seed. The edible shoots can develop into fern-like plants in warmer temperatures if left un-cut. Asparagus requires a period of dormancy. In the first year, it is essential for ferns to develop and the spears not to be harvested to encourage root growth.

Plant asparagus crowns in trenches, 12 inches wide by 8 inches deep. Space rows 4 to 6 feet apart. Asparagus prefers well-drained, sandy soil that is well-irrigated. Do not water the plants during harvest time.

The peak growing season for asparagus in the U.S. is from April to late June. After harvesting is done in the late summer, the spears leaf out into ferny foliage. The leaves produce food necessary for a healthy productive crop for the next season. The leaves also bear inedible red berries with seeds that can be planted.¹⁻³

Fun Fact: Asparagus can really grow. Asparagus roots can grow 20 feet deep. Under ideal conditions, an asparagus spear can grow 12 inches in 24 hours!¹⁻²

Choose

Asparagus spears can be green, white or purple. They are harvested by hand when about 6 to 10 inches long. The larger the diameter of the spear, the more mature the asparagus plant. When selecting asparagus spears, look for tender, firm, straight, smooth stalks, uniform in size with tightly closed tips. Note that thick spears with wide ridges may be tougher and more “woody” textured.^{1,4}



Fun Fact: California is the largest asparagus producer in the United States.¹

Store

Keep fresh asparagus clean, cold, and covered. It is best stored in the refrigerator and used within 2-3 days after purchase for best quality. To maintain freshness, wrap a moist paper towel around the stem ends or stand the whole bunch upright in 2 inches of cold water.^{1,4}

Fun Fact: Asparagus is derived from the Greek word aspharagos meaning “sprout” or “shoot”.¹

Use

We eat the stem (spear) of the asparagus plant. Before consuming, trim the stem end about ¼ inch to remove the thick, “woody” end. Asparagus can be enjoyed fresh, steamed, sautéed, or stir fried. It can be mixed with other vegetables, beans, grains, poultry, beef, pork, or seafood for a flavorful dish. Asparagus makes a great addition to a crudité, along with other fresh vegetables. Wash under clean, running water before cooking or eating.^{1,3-4}

Asparagus

Teach

STEM Science

Most asparagus grown is green. The green color comes from chlorophyll in the cells of the asparagus. Chlorophyll captures energy from the sun to help plants make food for growth. When plants are not exposed to sunlight, they do not develop a green color. White asparagus results when the crown is buried underneath a foot of soil. The stems that sprout from the crown never see sunlight and turn green. Purple asparagus turns green when cooked.¹

Class Activity - Analyzing Asparagus

Materials:

- Fresh asparagus stems - green, purple and/or white
- Biodegradable straws
- Construction paper to create leaves and flowers
- Scissors and glue
- Cups of water
- Small rubber bulbs or dropper tops

Steps: **Use food safety steps. Wash hands and produce.*

1. Explain to students how stems carry water and soil nutrients from the roots to the rest of the plant, transport sugars and other compounds from photosynthesis down to roots, and support leaves, flowers, and fruits.
2. Provide students with straws, construction paper, scissors, and glue. Ask them to create and add leaves and flowers to their straws. Give each student or group of students a cup of water and a small bulb or dropper top. Demonstrate how they can use the bulb or dropper top to draw water up and release it back down the straw. This provides a visual of how water and nutrients move through stems.
3. Have students wash hands again. Give each student a clean, asparagus stem (one of each color). Instruct them to examine the stem for nodes, where leaves and branches develop. Internodes are where vertical growth occurs. Students may sample the asparagus.
4. Instruct students to record their observations.
5. Brainstorm a list of edible stems we eat.

Eat

One cup of raw asparagus has about 27 calories and ½ cup of cooked asparagus has about 20 calories. It is an excellent source of vitamin K and copper and a good source of folate, thiamin, riboflavin, niacin, vitamin E, iron, manganese, fiber, lutein, and zeaxanthin.

Fun Fact: Asparagus is one of three vegetables common in North American cuisine that comes from a perennial plant. The other two are artichokes and rhubarb.³

Vitamin K helps our body clot blood and make proteins needed for our blood, bones, and kidneys. Copper is part of many enzymes. It helps your body produce energy in all body cells, develop connective tissue, melanin, and myelin, and make hemoglobin which is needed to carry oxygen in red blood cells. Our bodies need folate for blood cell, DNA, and genetic development. Thiamin and riboflavin help regulate metabolism and produce energy in all cells. Riboflavin also supports cell growth and helps convert tryptophan to niacin. Iron is needed for brain development, immune function, and hemoglobin, which carries oxygen from our lungs to every body cell. Niacin helps to regulate cholesterol, protects the health of our heart, and acts as an antioxidant. Vitamin E acts as an antioxidant, helping to protect cells from the damage caused by free radicals. Soluble fiber helps lower blood cholesterol. Insoluble fiber aids digestion. Manganese helps with forming bone and converting carbohydrate, protein, and fat into energy. Lutein and zeaxanthin are carotenoids that may help maintain normal vision.⁵⁻⁶

Find

For more asparagus facts and resources, visit:

1. California Harvest of the Month, <https://harvestofthemonth.cdph.ca.gov>
2. Wisconsin Department of Public Instruction, <https://dpi.wi.gov/school-nutrition/programs/fresh-fruit-vegetable>
3. North Carolina State Extension, www.ces.ncsu.edu
4. U.S. Department of Agriculture, Food and Nutrition Service, www.fns.usda.gov
5. USDA FoodData Central, <https://fdc.nal.usda.gov/index.html>
6. Academy of Nutrition and Dietetics, www.eatright.org