Blueberries

How Produced – Blueberries are part of the Ericaceae plant family, which includes the flowering azalea and heather plants. They grow best in acidic soil with plenty of water and good drainage. Highbush blueberries—the ones you find in grocery stores—grow on bushes planted in long rows. The bushes can grow up to 12 feet tall, but most peak at about 6 feet. In the spring, clusters of white blossoms pop up all over the bushes and are pollinated by bees. Each blossom eventually becomes a berry—first hard and green, then reddish purple, and finally blue.

California blueberries are harvested from May through July. For the fresh market, blueberries are mainly picked by hand. For other markets, blueberries are gathered with large machines that gently shake each bush so ripe berries fall into a catching frame.

Varieties – With California’s numerous micro-climates, many different blueberry varieties can thrive in the state. There are hundreds of varieties, but only about a dozen are sold commercially. Farmers usually grow several varieties at a time. When blueberries are harvested, the varieties are combined which gives a batch of blueberries its varied colors, textures, and levels of sweetness. Each variety is unique in its size, shape, color, and taste.

Commodity Value – Over the past five years, blueberry production and consumption has almost tripled. California is one of the top six blueberry producing states in North America. California moved 70 million pounds of blueberries into domestic and export markets in the 2019-2020 season. Most of the state’s crop stays in California, with some transported to other states. About twelve to fifteen percent is exported, with Canada, Taiwan, and Japan being the top international markets.

Top Producing Counties – With 80 individual producers, blueberries are grown throughout California. In the most recent season, California farmers produced blueberries in 28 counties on nearly 9,000 acres. The greatest blueberry acreage can be found in Tulare County, where blueberries are grown on roughly 2,400 acres. San Joaquin, Kern, and Fresno counties follow Tulare County in total acreage for blueberry production.

Nutritional Value – Blueberries are low in fat, a good source of fiber, and an excellent source of manganese. A one-cup serving of blueberries contains 80 calories and virtually no fat. One serving helps satisfy recommended daily fiber intake. Dietary fiber is important in maintaining digestive health and reducing the risk of heart disease. A single serving of blueberries delivers almost 25% of one’s requirement of vitamin C, which helps the body maintain a healthy immune system. Blueberries are high in manganese. Manganese plays an important role in bone development and converting proteins, carbohydrates, and fats into energy.

For additional information:
California Blueberry Commission
(559) 221-1800
Website: www.calblueberry.org
U.S. Highbush Blueberry Council
www.blueberry.org

This is one in a series of fact sheets composed by the California Foundation for Agriculture in the Classroom (CFAITC). For additional educational materials: CFAITC, 2600 River Plaza Drive, Suite 220, Sacramento, CA 95833-3293 © (916) 561-5625 © (800) 700-AITC © Fax: (916) 561-5697
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**Lesson Ideas**

- Make a family tree showing several subfamilies, genera, and species related to the Ericaceae plant family.
- Write an expository paragraph highlighting different ways Native Americans used blueberries for medicinal purposes.
- Investigate the history of fruit crate labels. Create a vintage-looking fruit crate label for California grown blueberries.
- Visit [www.calblueberry.org](http://www.calblueberry.org) and rewrite one of the recipes to serve your entire class.
- Create a bar graph comparing the vitamin C content of a variety of fruits and vegetables, including blueberries.
- Early American colonists made blue paint by boiling blueberries in milk. Experiment with making different shades of blue before painting a masterpiece.
- Compare the cost per pound of fresh, frozen, and canned blueberries. Make a bar graph highlighting your findings. Track the cost over time and create a line graph.

**Fantastic Facts**

1. Blueberry bushes can grow up to 12 feet tall.
2. Blueberries are stored in large refrigerated rooms until they’re taken to market.
3. The first commercial crop of blueberries was harvested in 1916.
4. Canada imports more California blueberries than any other country.
5. Tulare County has the greatest blueberry acreage.
6. One serving of blueberries provides the recommended amount of daily fiber.
7. Native Americans used wild blueberries for food and medicinal purposes.
9. Fresh market blueberries are harvested by hand, while other markets (frozen, dried, canned) use machines.

**Lesson Plan: Testing Soil pH**

**Introduction:** Blueberries require acidic soils. UC Cooperative Extension recommends a soil pH between 4.8 and 5.5. If you plant blueberries in neutral or alkaline soils (soil pH 7 or higher) the plants will yellow and grow poorly, if at all.

**Objective:** Students will test soil pH and determine if it is adequate for growing blueberries. Students may amend the soil to attain the proper pH requirements.

**California Standards:** ELA CC: RST.6-10.3, 7; NGSS: MS-LS1-5

**Materials:** pH test strips (available at most garden centers), hand trowel, distilled water

1. Brainstorm with the class what plants need to grow. Record ideas. Be sure to include space, water, air, soil, light, and nutrients. Explain that when we talk about soil, there are minimum requirements the soil must meet. One of these requirements is the pH, or acidity, of the soil.
2. Collect a soil sample from a potential planting site. The soil should be collected from approximately 5-10 centimeters below the soil’s surface.
3. Place the soil in a bowl. Pour distilled water into the bowl until the soil has the consistency of a milkshake. Stir the mixture to ensure the water is fully incorporated.
4. Hold a pH test strip at the non-reading end and dip the strip into the dirt mixture for 20-30 seconds. Lift the pH strip from the water and dip it briefly in distilled water to clean off the dirt.
5. Use the color-coded key included in your pH test kit to read the pH of your soil.
6. Test the soil pH of several different sites around your home or school. Plot your data on a map. Provide a site recommendation based on evidence for planting blueberry bushes.
7. If your sites tested above pH 7, add acidifying material such as sulfur and ammonium-based fertilizers. Retest the soil. Add additional acidifying material, testing as necessary, until you reach the desired level. Continue to add material periodically to maintain a low pH.