

Avocado

Information compiled by the California Avocado Commission

How Produced – Due to California’s coastal microclimates, avocados are produced year-round. As many as 400 avocados are harvested from each tree by hand using special avocado shears called “clippers.” On tall trees, ladders up to 30 feet high and poles up to 14 feet long are used to reach the fruit. The pickers place about 40 pounds of harvested fruit inside a large nylon picking bag that is positioned over their shoulders.

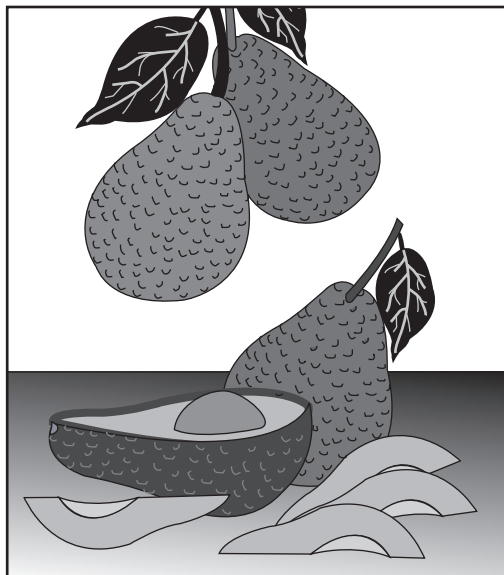
At the grove, the fruit is carefully placed into large picking bins, which hold 900 pounds of fruit, and then transferred to a main road where large “boom” trucks pick up the fruit and haul it to a local packinghouse. Upon arrival, the avocados are immediately put into a large cold storage room for 24 hours to remove field heat and preserve quality. The fruit is then placed onto conveyor belts for grading and sorting. The avocados are gently brushed, washed, inspected for quality and placed into single layered cartons called flats or double layered cartons called lugs. Lugs have a consistent weight of 25 pounds. Quantity varies depending on avocado size—a lug of size 48s holds 48 avocados and weighs 25 pounds. The fruit is shipped in refrigerated trucks to markets nationwide.

Varieties – Hass avocados account for nearly 95 percent of California’s avocado crop volume. They have thick pebbly skins that turn purplish black during ripening and are usually available year-round. Fuerte, Zutano, Bacon, Pinkerton, Reed and Gwen varieties have green skins that do not change color as they ripen. These “greenskin” varieties yield to gentle pressure when ripe and are available November through October.

Commodity Value – California produces nearly 90 percent of the nation’s crop, growing approximately 300 million pounds each year valued at about \$300 million. Over 90 percent of the crop is sold in United States markets with the remainder being sold to Canada, the Pacific Rim and European countries. Most California avocados are sold fresh; however, some are used in processed avocado products such as guacamole.

Top Producing Regions – In California, avocado trees are grown on a coastal strip from San Luis Obispo County south to the Mexican border. These areas are ideal due to their rich soils and mild climates. More than forty percent of

California avocados are grown in San Diego County. There are nearly 6,000 avocado growers in California who grow approximately 60,000 acres of trees.



History – Avocados are native to Guatemala. It is believed that the first one was eaten by a Mayan princess. Hernando Cortez, a Spanish soldier and adventurer, discovered avocados in Mexico City in 1519. He called them “ahuacati.” Also in 1519, Martin Fernandez de Encisco from Colombia reported to Charles V, King of Spain, that he had found a wonderful new fruit – the “aguacate.” The Aztec emperor Montezuma II treated the avocado as a treasure and offered it as a gift to the Spanish conquerors.

In 1751, while traveling the Barbados Islands, Lawrence Washington and his half-brother George noted that “avovago pears” were abundant and popular. Henry

Dalton, in 1848, was the first known Californian to plant avocados. In 1871, R. B. Ord planted trees in Santa Barbara, where they still grow today.

In 1911, Carl Schmidt traveled to Mexico and brought back avocado trees to plant in California. Only one survived the freeze of 1913; hence it was named Fuerte, a Spanish word meaning vigorous and strong. A California postman, Rudolf Hass, discovered the Hass avocado in the 1920s when he began growing avocados on his La Habra property. One tree was different than the Guatemalan seed he planted. He called this rich tasting, bumpy skinned avocado, Hass.

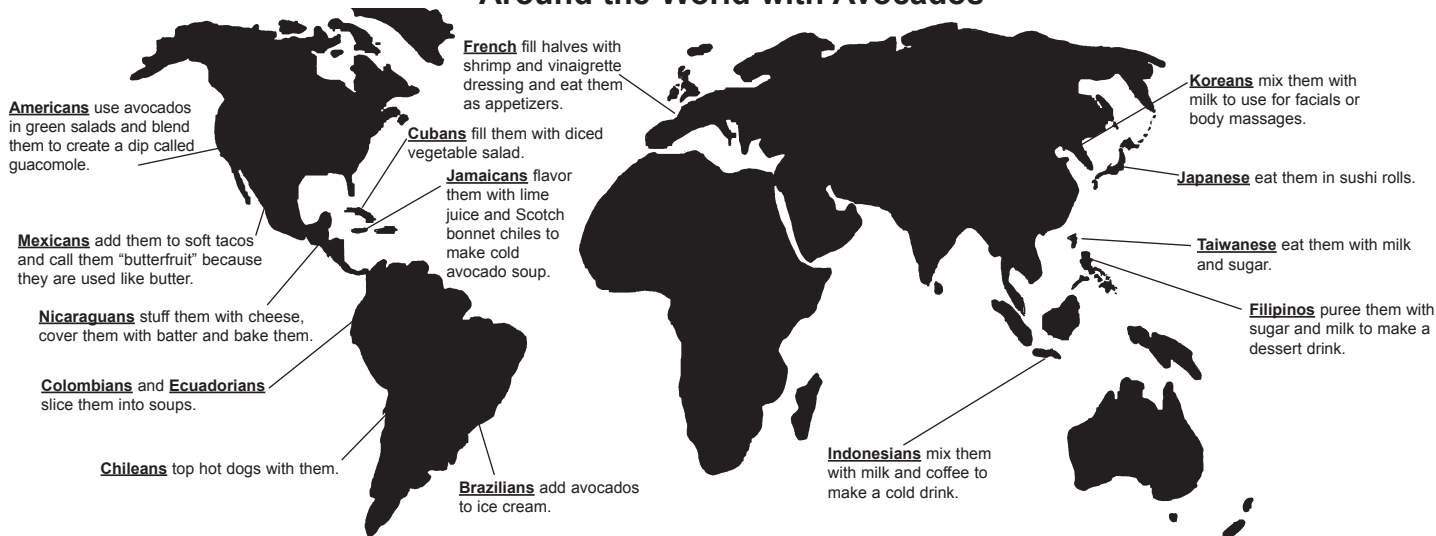
Nutritional Value – California avocados are nutrient dense containing Vitamin B₆, Vitamin C, Vitamin E, potassium and folate. They are also high in dietary fiber and are sodium and cholesterol free. In fact, one-fifth of a medium avocado provides approximately 12 percent of the recommended daily value of fiber.

For additional information:
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Avocado Activity Sheet

Around the World with Avocados



Lesson Ideas

- Design a safe method of transport for avocados.
- Research which beauty products contain avocados.
- On a California county map, shade in the counties which produce avocados.
- Make a picture book illustrating the harvesting of avocados.
- Cut open an avocado seed. Identify the embryo, cotyledons and seed coat. Draw a cross-sectional view.
- Design an experiment that will explore different ways to prevent avocado fruit from browning.
- Record and graph the weekly/monthly prices of avocados.
- Sprout an avocado plant from a seed.
- Examine various avocado skins using a hand lens or microscope.
- Cut an avocado in half; remove the fruit and seed. Weigh the skin, meat and seed in grams. What percent of the avocado is edible?
- If a lug of size 48 avocados weighs 25 pounds, how much does one average avocado of this size weigh? Convert to ounces.

Avocado Fun Facts

1. What does the word "Fuerte" mean?
 2. Which California county produces more avocados than any other county?
 3. Name one variety of avocado that has a green skin.
 4. Which variety of avocado accounts for 95% of California's crop?
 5. How are avocados harvested?
 6. Name one healthy nutrient avocados contain.
 7. How did the Hass avocado get its name?
 8. Which president saw avocados growing on the Barbados Islands in the 1700s?
- 1) Vigorous and strong 2) San Diego 3) Fuerte, Zutano, Bacon, Pinkerton, Reed, Gwen 4) Hass 5) By hand using special shears called clippers 6) Vitamin B₆, Vitamin C, Vitamin E, potassium, folate, dietary fiber 7) It was discovered by a postman named Rudolf Hass 8) George Washington

Lesson Plan: Ripening an Avocado

Introduction: Avocados are shipped "green" to prevent damage during transportation. Many avocados arrive at the store unripened. This experiment illustrates ways to speed the ripening process of this fruit. Ethylene gas is a natural gas emitted from ripened fruit such as bananas and apples. When unripe fruit is exposed to ethylene gas, the fruit ripens.

Materials: At least two avocados per group, bananas, apples, paper bags, plastic bags and other supplies determined by the students, knife.

Procedure:

1. Explain to the students why many fruits, including avocados, are shipped unripe.

2. Divide the students into groups and have them design an experiment that would expedite the ripening process of avocados. Show them various supplies such as bananas, apples, paper bags, plastic bags and other items you have available.
3. Have each group obtain your approval of their experimental design, conduct the experiment, and complete a formal laboratory report.
4. At the completion of all of the experiments, have the students share their results with the class. This can be done while the class eats an avocado snack.
5. Discuss the various methods that are used to commercially ripen fruit such as avocados.

