

Pears

Information compiled by the California Pear Advisory Board

How Produced – Rich soil, plenty of water, warm days and cool nights are the best conditions for pear growth. Pear trees are in production for an average of 50 to 75 years, although some pear trees still produce after 100 years.

In winter, trees are pruned and replacement trees are planted. It takes five to seven years for a tree to produce fruit. Pear trees are unique since they are self-pollinating. They do not need bees for this process. The California pear harvest begins in late June and continues through September. Pears do not ripen properly on the tree, so growers pick the fruit when it is mature, but green. Pears are harvested by hand, placed into bins and transported to a packing house. The pears are graded for quality, sorted by size, and packed for the fresh market or sent to a processing facility. Next, pears are cooled to slow down the ripening process. To initiate ripening, pears are brought to room temperature.

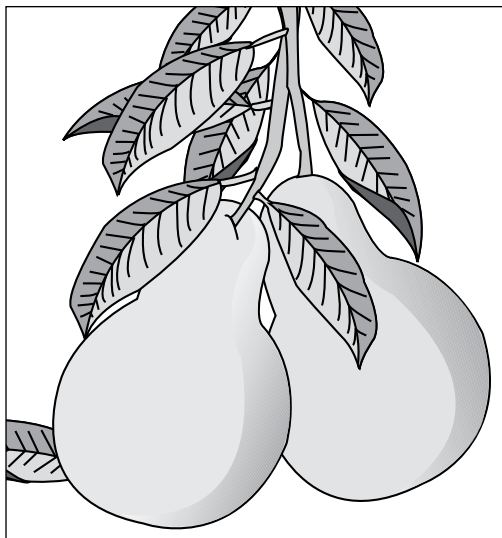
Pears are processed into canned pears, fruit cocktail, juice concentrate, and baby food products, and are often dried. They can be found in such items as fruit juices, baked goods and snack foods like fruit roll-ups.

History – In eighth century B.C., pears captured the praise of the Greek poet Homer, who referred to them as a “gift of the gods.” The Romans proceeded to use grafting techniques to develop more than 50 varieties and introduced cultivated pears into other parts of Europe.

The Bartlett pear was developed in England in the seventeenth century by a schoolmaster named John Stair. He sold some cuttings to a horticulturist named Williams, who further developed the variety and renamed it after himself. Early Americans brought pear seedlings across the Atlantic to the Massachusetts Bay Colony. In 1812, nurseryman Enoch Bartlett discovered the pear variety and, unaware of the pear’s true name, distributed it as a “Bartlett.” However, it is still known as the “Williams” pear around the world. Bartlett cuttings eventually came west when the forty-niners headed for the great California Gold Rush and continue to grow in California today.

Varieties – The pear, scientifically known as *Pyrus communis*, is a member of the rose family. The Bartlett comprises 75 percent of California’s pear acreage and 90 percent of its

tonnage. The Bartlett has a teardrop shape with thin skin that turns from green to yellow when it ripens. When California Bartletts are golden yellow, they are ready to eat. Remember to handle gently to avoid bruising.



Other California varieties include Bosc, Seckel, Comice and Red pears. Each has its own distinct shape, color and flavor. The Red Sensation variety was discovered as a “bud sport” on a Bartlett tree. A bud sport is a tree limb that naturally transforms and develops a different fruit variety from that of the original.

Commodity Value – California ranks number one in Bartlett pear production, generating 40 percent of the nation’s Bartlett crop. It also produces 25 percent of all pears grown in the United States, ranking number two in the nation. California produces approx-

imately 200,000 tons each year and adds \$70 million to its economy. California exports more than 20 percent of its fresh crop. Canada and Mexico receive more than 95 percent of California’s exports.

Top Producing Counties – Pears are grown in two primary growing regions of Northern California on approximately 12,000 acres. The regions are divided into “early” and “late” districts based on the timing of the harvest. The early district, called “River Pears,” spans the Upper Sacramento Valley of Sutter and Yuba counties and along the Sacramento River Delta in the counties of Sacramento, San Joaquin, Yolo, Solano and Contra Costa. The early district produces 135,000 tons, about two-thirds of California’s annual pear crop. The late district, called “Mountain Pears,” spans Mendocino, Lake and El Dorado counties. This area produces approximately 70,000 tons of pears annually.

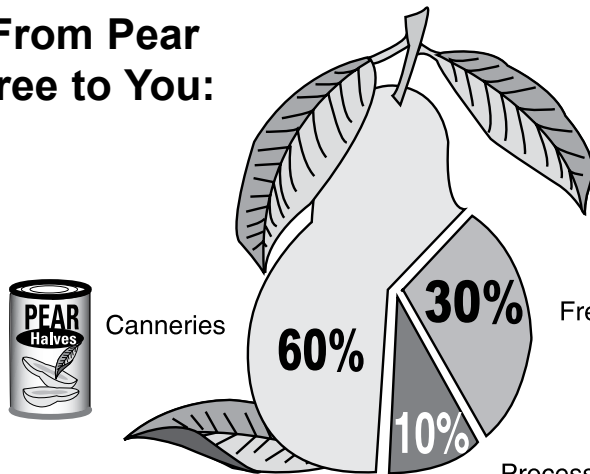
Nutritional Value – One medium pear provides 16 percent (four grams) of the daily requirement for dietary fiber, 10 percent of the daily requirement of vitamin C, and a healthful source of potassium. One pear has approximately 100 calories and contains no cholesterol, sodium or saturated fat.

For additional information:
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Pear Activity Sheet

From Pear Tree to You:



How Are Pears Consumed?

Lesson Ideas

- Slice a pear in half. Find the stem, core, shoulder, flesh, seeds, skin and calyx.
- On a map of California, identify the River and Mountain districts.
- Dehydrate pears and calculate the percent water loss.
- Compare the color, taste and texture of various pear varieties. Graph or chart your results.
- Examine pear fruit cells under a microscope. Observe the sclerenchyma cells, which give pears their unique texture.
- Dip the tips of your thumb and little finger on an inkpad and make pear prints.
- Write a song or poem about pears highlighting their unique characteristics.
- Cut a firm pear in half, dip in paint and use it to make prints.
- Create a collage of food products that contain pears.

Fantastic Facts

1. How long does it take for a pear tree to produce fruit?
 2. Why are pears picked fully grown but still green?
 3. How can consumers initiate ripening in pears?
 4. How did the Greek poet Homer refer to pears?
 5. Why is the Bartlett pear sometimes called the Williams pear?
 6. What is the most common variety of pear grown in California?
 7. What is a bud sport?
 8. How much of the daily requirement for dietary fiber does one medium pear provide?
- 1) Five to seven years 2) Pears do not ripen properly on the tree 3) Store pears at room temperature 4) As a "gift of the gods" 5) A horticulturist named Williams originally developed the variety 6) Bartlett 7) A tree limb that naturally transforms and develops a different fruit variety from that of the original 8) 16 percent

Lesson Plan: Ripe for the Taking

Introduction: Since pears do not ripen properly on trees, growers pick pears while they are still green, but mature. Seventy percent of consumers want to buy Bartletts that are just starting to "break color" from green to yellow, yet only 47 percent of grocery chains ripen Bartletts in the backroom. A considerable amount of time and money has gone into informing grocers how to properly ripen pears as well as increase their shelf life. This activity allows students to compare the ripening rates of pears under various conditions. Pears are considered ripe when they are slightly soft when gently pressed on the stem end of the fruit.

Materials: Unripe pears for each variety you are testing, thermometers, resealable plastic bags, supplies determined by students.

Procedure:

1. Explain to the students that pears ripen best after they have been picked. Have the students think of variables that may affect the ripening rate of pears and brainstorm a list of variables that can be explored in a classroom setting.

2. Have the students create and perform an experiment that will test one aspect of fruit ripening. One such experiment is described below.

Make two sets of three pears each in a re-sealable plastic bag. Place one bag in the refrigerator and one on a counter top. Record temperatures. Over the next few days, record temperatures, and changes in fruit color and firmness. Compare the ripeness of the two sets of fruit.

3. Have the students discuss the results of each of the performed experiments.
4. Individually or as a class, have the students write a memo or cardboard box cover that explains to the grocer how to store and ripen pears. Or, have students design an ad that explains to consumers how to ripen pears at home.

