

lesson 12 Agriculture CALIFORNIA CROPS

OVERVIEW

This lesson introduces students to some of the varied crops and livestock that have been raised in California. You can view or print most single images directly as a JPEG file. However, some documents are in Adobe Acrobat PDF format and must be viewed or printed with Acrobat Reader *In Lesson 12, students use the Sacramento History Online database at <http://www.sacramentohistory.org>.*

STUDENT OBJECTIVES

1. Give examples of the different types of crops that have been important in California agriculture.
2. Explain why growers formed cooperative organizations.
3. Use the SHO database to find specific historical information.

CALIFORNIA HISTORY STANDARDS

4.1.3 - 4.1.5 Physical and human geographic features that define places and regions in California

4.4.5 - 4.4.6 California's rise as an agricultural and industrial power

BACKGROUND ARTICLE 12

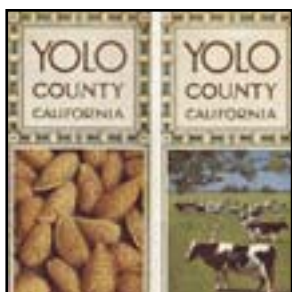
California Crops (page 12-5 through 12-7)

STUDENT ACTIVITY SHEET 12 AND KEY

California Crops (pages 12-9 and 12-10)

DOCUMENTS TO DISCUSS

The documents below provide examples of different types of horse-drawn vehicles.



1. Yolo County pamphlet

[ca. 1913]

This pamphlet describes crops grown in Yolo county and includes many photos.



2. Sacramento County pamphlet

[ca. 1926]

This brochure provides similar information about Sacramento County.



3. A wheat field

[ca. 1924]

Man demonstrates how tall wheat has grown on Natomas Lands wheat farm.



4. Field of beans

[1925]

Man displays bean vine, approximately three weeks after planting.



5. Peach harvest
[unknown]
Wagon with peaches.



6. Summit Pears crate label
[ca. 1900]
This label features the California Fruit Exchange Blue Anchor brand logo.



7. Almond harvest history
[unknown]
This brochure documents the harvesting and processing of almonds before mechanical equipment was used.



8. Almond advertising
[ca.1920]
Drawing/painting of a young girl holding a basket of California almonds. It is a cut-out mounted on card stock.



9. E. Clemens Horst hop field
[1900 - 1920]
View of mule-drawn hop wagon, filled with hop vines at the edge of Horst's hop field in Wheatland.



10. Ostrich farm ad
[unknown]
Advertisement for the Sacramento Ostrich Farm.

INSTRUCTIONS

1. Print any of the images shown above that you will use in your discussion, as well as **Student Activity Sheet 12 and Key**. (Label the images by their number to identify them in the instructions).

2. Read **Background Article 12**. You may wish to read it to your students or print it and have them read it by themselves. Discuss any questions that they may have.

3. Show and discuss **Documents 1 and 2, Pamphlets for Yolo and Sacramento Counties**. Ask students to list crops and livestock that are raised in California. These documents may then be used for small group activities. Have students read through the documents and look at the pictures. They may need help in understanding some of the flowery vocabulary used, so you may want to read and discuss specific pages with them. Have each group make a chart for the booklet they studied, listing the livestock raised and the crops mentioned. Can they identify any changes in the counties and in agriculture since the booklets were published?

4. **Document 3, A wheat field**. Ask students to guess the crop. Relate the image to those of the Natomas reclamation project in Lesson 11. Have students list foods that include wheat. Discuss the importance of wheat in California agriculture.

5. **Document 4, Field of beans.** Ask the students to guess what crop is shown. Discuss the meaning of the term row crops and ask students to name other plants that are grown in rows. Some students may have had experience growing row crops in a garden. Discuss the tasks involved in growing and harvesting such crops.
6. **Document 5, Peach harvest.** Have students name other fruits that are grown in California.
7. **Document 6, Summit Pears crate label.** Tell students that the Blue Anchor logo means that the grower belonged to the California Fruit Exchange. Discuss the benefits of collaborative marketing organizations such as the Exchange.
8. **Document 7, Almond harvest history.** This document illustrates how almonds were harvested before the introduction of mechanical equipment. You may want to print several of the documents for children to review in small groups. Find out how almonds are harvested today and discuss what has changed. If you have access to almonds in the hull, bring some of them into the classroom for children to see.
9. **Document 8, Almond advertising.** The historical collection of the California Almond Growers Exchange is stored in the Sacramento Archives and Museum Collection Center, which has included many of these documents in the *Sacramento History Online* Collection. This cutout is one example of a collaborative marketing effort for the Blue Diamond brand. Ask students how they think it might have been used. (*possibly as a store or fair display*)
10. **Document 9, E. Clemens Horst hop field.** Hops is an unusual crop with which many children might not be familiar, but it was once an important agricultural product in California. You can see a very early film of the Horst Hops Ranch on this site. (http://www.sacramentohistory.org/films_hopfarm.html) *To download and play the film clips, you must have a current QuickTime Player (6.0 or higher).*
11. **Document 10, Ostrich farm ad.** How many children have seen a real ostrich? Where? If possible, bring an ostrich feather to class to show children. Have they seen other unusual animals on farms in California? (*llamas, buffalo, etc.*)
12. Give **Activity Sheet 12: California Crops** (page 12-9). After they have completed the activity, discuss their answers as a group.

FOLLOW-UP

1. **Search the SHO collection** together, using the keyword search. How many of the crops on the lists created in #3 above can you find represented in the collection?
2. **Document 1, The Yolo County pamphlet** mentions that land could be purchased for six to 125 dollars per acre. Find out how much 20 acres of land would cost today and compare the two prices.
3. **Draw an ad** for an agricultural product that could be used in a store display.

REFERENCES AND RESOURCES

2003 Teacher resource guide: A guide to educational materials about agriculture.

Sacramento, CA: California Foundation for Agriculture in the Classroom, 2003.

Coats, L. J. *The almond orchard.* New York:

Macmillan Publishing Company, 1991. (juvenile, set in the early 1900s)

Kelley, R. L. Gold vs. grain: *The hydraulic mining controversy*

in California's Sacramento Valley. Glendale, CA: A.H. Clark Co., 1959.

Jelinek, L.J. *Harvest empire: A history of California agriculture.*

San Francisco, CA: Boyd and Fraser Publishing Company, 1979.

Schlebecker, J.T. *Whereby we thrive: A history of American farming, 1607-1972.*

Ames, IA: The Iowa State University Press, 1975.

Selling the Gold: The history of Sunkist and Pure Gold. Stanford, CA: Stanford

Upland Library Foundation, 1999.

RELATED LINKS

Almond

technical summary of almond characteristics

(<http://www.uga.edu/fruit/almond.htm>)

California Asparagus Commission

includes a page for kids

(<http://www.calasparagus.com/industry/background.htm>)

California State Historical Landmarks for Yuba County

includes marker information for Wheatland Hop Riot

(http://ceres.ca.gov/geo_area/counties/Yuba/landmarks.html)

History of Almonds from Blue Diamond Growers

(<http://www.bluediamond.com/almonds/history/index.cfm>)

History of Blue Diamond Growers

<http://www.bluediamond.com/about/history/index.cfm>)

Oranges for Health--California for Wealth

history of citrus farming

(http://www.californiahistory.net/8_pages/industry_oranges.htm)

Ostrich entry in *World Almanac for Kids*

(<http://www.worldalmanacforkids.com/explore/animals/ostrich.html>)

sacbee: Our Century

life in Sacramento 1900-1919, Wheatland riot, importance of canneries

(http://www.sacbee.com/static/archive/news/projects/people_of_century/century_special/early.html)

Sunkist Growers

includes a page for kids

(<http://www.sunkist.com>)

background 12 CALIFORNIA CROPS



Following the decline of the Spanish ranchos and the hide trade, California farmers began to plant wheat on a large scale. Raising livestock for meat and dairy products also became important industries in the state. As irrigation and reclamation made more land available, farmers planted a remarkable variety of new crops, including rice, cotton, row crops (such as celery, melons, lettuce, and tomatoes), citrus fruits, stone fruits (such as peaches, cherries, and plums), and nuts (almonds and walnuts).

Specialty crops also included olives, sugar beets, hops, and strawberries. Other business ventures, from growing eucalyptus trees to raising ostriches, were not as successful. Except for oranges, apples were the first fruit grown on a large scale. The development of canning and drying methods soon made it profitable to grow other fruits such as peaches and pears. Tomatoes and asparagus also became important crops for canning.

Before the invention of specialized planting, harvesting, and processing machines, it took many laborers to have a successful farm. Immigrants from other countries, including China, Japan, Mexico, Italy, and Portugal made up much of the labor force in California. Even after machines took over many farming tasks, some operations, such as picking tomatoes or delicate fruit, still required human labor.



Wheat. From the 1860s until about 1900, wheat was the main crop in California. It did not require irrigation and was relatively easy to grow. However, in the 1880s, some farmers changed from dry-land wheat farming to irrigating their fields. In California, harvested wheat could be stored in fields during the summer and did not need to be covered to prevent rotting. One of the largest wheat-farming operations was that of Dr. Hugh J. Glenn, for whom Glenn County is named.

The ports that were used for the hide trade, especially San Diego and Monterey, became the center of the wheat export business. In the 1850s, Isaac Friedlander, a German immigrant, began by importing wheat and flour, but he soon became an exporter. Known as the *Grain King*, Friedlander bought crops from farmers and arranged to send the wheat to England on tall ships. However, in 1877, a crop failure left him with too many ships and not enough wheat, and his business never recovered. George McNear became the next big wheat exporter, dominating the business for 25 years.



Citrus fruits include oranges, lemons, grapefruit, and limes. Citrus trees were brought to California with the Spanish padres who founded the early missions. However, William Wolfskill planted the first commercial orange grove, in 1841, in what is now Los Angeles. During the Gold Rush, oranges protected miners from scurvy, a once-common disease caused by a lack of Vitamin C. In the 1870s, Joseph Wolfskill, William's son, was the first person to ship oranges to the East coast by railroad.

In 1871, the U.S. Department of Agriculture gave Eliza Tibbetts, who lived in Southern California, several fruit trees from Brazil. This seedless variety is known as the Washington Navel Orange. Navel oranges are easy to peel and keep well for shipping. Eliza sold cuttings from the original trees to farmers throughout California, where navel oranges quickly became a popular crop. About that time, farmers also began to plant Valencia oranges, which ripen in summer and are used mainly for juice.

In 1892, some farmers joined to form the Southern California Fruit Exchange. This group established districts and local associations with their own brands. After several reorganizations, the California Fruit Growers Exchange was founded in 1905, to include Northern California growers. The Fruit Exchange controlled prices and helped farmers cooperatively sell and market their produce without competing against each other. Many other produce growers also formed cooperative groups.



Almonds. In California, almonds were first planted in the 1850s. Today, the state produces more than two thirds of the world's almond crop, and no other state grows them commercially. Almonds are related to peaches. However, because they start to bloom in February, they cannot be grown where winters are too cold. A crop like almonds could successfully be grown on a smaller piece of land than a crop such as wheat, because the almond farmers could earn a higher price for their crop.

Like the citrus growers, almond farmers formed a cooperative group for marketing and selling their crop. Founded in 1910, this group was named the California Almond Growers Exchange. In 1914, the growers association created the Blue Diamond brand, which is still used today.

Until the 1960s, most almonds were harvested by hand. Men would climb the trees and shake the nuts loose with large mallets. They would then stand on the ground to knock the remaining nuts down with long poles. The nuts fell onto a canvas sheet, which was dragged by hand from tree to tree or moved on wooden sleds by horses and unfolded under each tree. After each tree was knocked, the sheets were folded again and moved to the next tree.

Almonds have an outer hull that dries and splits as the almond ripens. This hull must be removed before shipping. Prior to mechanization, hulling was done by hand, often by women and children. Once hulled, the nuts were transferred to drying racks. When they were dry, the almonds were put into sacks that were sewn closed, ready to be shipped to market.

Today, almonds are shaken from the trees by machines onto ground that has been rolled smooth. Farmers use other machines to sweep the nuts into rows, pick them up, and put them into trailers for hauling to the processing facility.



Hops is a plant that is used in brewing beer. The hops cones contain different oils, which add flavor and make the beer foamy. The cones grow on high vines and originally had to be picked by hand. At one time, Emil Clemens Horst owned more acres of hops than anyone else in the entire world. He had large hops ranches in Oregon and California, including one in the Sacramento area. In 1909, Clemens patented a mechanical hops separator that made it easier to harvest the crop. (This machine is shown in the film about hops on the sacramentohistory.org web site.)

A hops farm was the site of one of the most famous labor-related events in California history, the Wheatland Hops Riot of 1913. Four people died and many were injured in the incident. The farmer, Ralph Durst, advertised for 1,000 workers, but about 3,000 people showed up. The riot started after laborers (immigrants from many countries) began protesting over poor housing, conditions, and pay, and a deputy sheriff fired a warning shot to break up an angry crowd. Many workers were arrested, and the National Guard was called in to restore order. Two labor organizers from the International Workers of the World were sentenced to life imprisonment. However, because of the strike, some government agencies began to look at ways to improve conditions for farm laborers, and the State Commission on Immigration and Housing was formed, which focused attention on poor conditions in labor camps and led to new laws.



Ostriches were one of the most unusual commercial birds to be introduced in California. The American ostrich, called a *rhea*, was imported from Africa in the 1880s. They were bred for ostrich feathers (plumes), which were fashionable in the latter part of the nineteenth century as decorations for hats and clothing. Eventually, fashions changed, and ostrich feathers went out of style.

activity sheet 12
CALIFORNIA CROPS

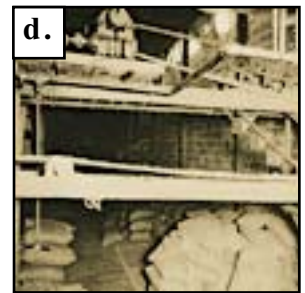
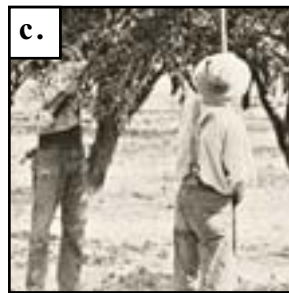
I. Name the Crop

Find a matching image for the names using the keyword search. Write down at least one crop that was grown on the person's farm or ranch. In most cases, you only need to search by the person's last name.

1. Kherkeva _____
2. Dan Sturm _____
3. Philip S. Driver _____
4. Jane Garden _____
5. O.M. Saylor _____
6. W.W. Pallady _____
7. H.M. Swally _____
8. Joseph Bittencourt _____
9. Charles and Lewis Moreing _____
10. F. W. Keisel _____

II. Photo Match

Match the photo by putting the correct letter next to the description.



- _____ 1. almond orchard
- _____ 2. shaking almond trees
- _____ 3. almond bleacher
- _____ 4. almond drying yard

activity sheet 12
CALIFORNIA CROPS

KEY

I. Name the Crop

Find a matching image for the names using the keyword search. Write down at least one crop that was grown on the person's farm or ranch. In most cases, you only need to search by the person's last name.

1. Mr. Kercheva _____ **pears** _____
2. Dan Sturm _____ **almonds** _____
3. Philip S. Driver _____ **beans, peaches** _____
4. Jane Garden _____ **lettuce** _____
5. O.M. Saylor _____ **alfalfa** _____
6. W.W. Pallady _____ **broom corn** _____
7. H.M. Swally _____ **pears** _____
8. Joseph Bittencourt _____ **sugar beets** _____
9. Charles and Lewis Moreing _____ **rice** _____
10. F.W. Keisel _____ **peaches** _____

II. Photo Match

Match the photo by putting the correct letter next to the description.



- b** 1. almond orchard
- c** 2. shaking almond trees
- d** 3. almond bleacher
- a** 4. almond drying yard