Farmers face a number of challenges, and the West’s ongoing drought is at the top of Salwasser’s list. “Water supply and related costs are a significant concern. We only received irrigation water during one month last year, and we don’t know what we’ll get this year,” stated Salwasser. Many of Fresno State’s crops, including sweet corn, are irrigated with buried drip tape, which allows them to conserve water.

After 75 days, sweet corn is ready to harvest. The corn kernels should appear plump and taste sweet. “Ears are hand-harvested selectively, which means the harvest crew will harvest the same field 2-3 times—each time only harvesting the ears that have reached peak maturity,” said Salwasser. Corn is rinsed with cold water to maintain the ideal amount of moisture, then sent into cold storage for 24-48 hours.

After 48 hours, the corn is transported to the campus’ Gibson Farm Market. “The first corn of the season will bring crowds to the market,” said Salwasser. “It’s crazy. It’s kind of like a carnival or fair atmosphere. We sold 49,000 ears on opening day last year.” If customers can wait a few days, they can enjoy corn without the crowds. Fresno State’s corn is available all summer long.
**The Three Sisters**

The Three Sisters is the native legend of how corn, beans, and squash came to be grown together in so many different native cultures. The traditional Three Sisters garden forms an ecosystem by creating a community of plants and animals. This system creates a symbiotic relationship between the three plants—each plant helps the others grow.

**Materials:**
- “The Legend of the Three Sisters” (available online at ganondagan.org/learn/legend-of-the-three-sisters), worksheet (page 3), corn, bean, and squash seeds (optional)

**Procedure:**
1. Introduce students to the concept of symbiotic relationships. A symbiotic relationship is a relationship between two different kinds of living things that live together and depend on each other. For example, a hippo with a bird on its back—the bird is delighted by the plentiful supply of food, and the hippo is pleased to be bug free. As a class, brainstorm examples of symbiotic relationships that the students are familiar with.
2. Tell students that today they will read a legend that introduces three different crops that benefit from being planted together. The legend is called “The Legend of the Three Sisters” and slightly different versions have been told by Native American tribes across the nation.
3. Read the legend together. Stop and decode any words that might challenge students, such as “frock,” “mocassin,” and “plaintive.”
4. Explain to students that in a three sisters planting, the three partners benefit one another. Corn provides support for bean vines. Beans, like other legumes, have bacteria living on their roots that help them absorb or “fix” nitrogen from the air and convert it to a form that the plants can use. The large, prickly squash leaves shade the soil, preventing weed growth, and deter animal pests.
5. Have students complete the student worksheet on page 3 to demonstrate comprehension. Review students’ responses.
6. If there is access to a garden, plant a small plot of the three sisters to observe how they support one another as they grow.

**Objectives:**
- Students will explore the foods, customs, and stories of Native Americans. Students will learn about the benefits of planting corn, beans, and squash together.

**Standards:**
- CC ELA: RL 1-8.1, RL 1-7.2
- CA History-Social Science 4.2

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**CORN SUNFLOWERS**

**Ingredients:**
- Four ears of yellow corn
- Sliced black olives
- Toothpicks
- Large pot, water, knife, cutting board

**Directions:**
1. Place a large pot of water over high heat. Bring to a boil.
2. Remove outer husks and silk before rinsing corn under running water.
3. Place the clean ears of corn in the boiling water. Boil for approximately five minutes, until kernels are bright yellow and crisp tender.
4. Allow ears to cool slightly. Ask an adult to slice the corn into one inch rounds. Stick a toothpick in one end and top with a black olive in the center. Arrange several on a plate to make a sunflower garden.
5. Children may enjoy eating their creations by holding the toothpick and nibbling around the edges.

**Makes approximately four sunflower gardens.**

(Adapted from eatprettydarling.com)

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**CLASSROOM Connection**

**Legend of the Three Sisters**

Kids love eating sweet corn but sometimes a whole corn on the cob can be tricky for little hands to hold onto. In this recipe, a grown up can help slice the ears into smaller rounds while kids arrange them into a sunflower garden.

(Adapted from eatprettydarling.com)
The Legend of the Three Sisters

1. In the graphic organizer below, list the characteristics of each sister.

<table>
<thead>
<tr>
<th>The Youngest Sister</th>
<th>The Middle Sister</th>
<th>The Oldest Sister</th>
</tr>
</thead>
</table>

2. Who are the three sisters? Based on the characteristics above, which plant represents which sister?

   Squash: the ____________ sister
   Corn: the ____________ sister:
   Beans: the ____________ sister:

3. How do the three sisters demonstrate a symbiotic relationship?

   Draw a picture to show how they support each other.

4. Legends are meant to help explain things that happen in nature. What can we learn from this legend?


Did you know?
Native American culture is known for its rich oral tradition. Instead of using written language to document history, they often relied on verbal language to share their history, customs, rituals, and legends.
This video, produced by the University of California’s Division of Agriculture and Natural Resources, shows how sweet corn is grown, harvested, handled, and marketed in California. Highlights include a close-up of a precision planter at work, harvest that happens in the middle of the night, and a glimpse of Fresno State’s Gibson Market during the seasonal “corn rush.”

**DIG DEEPER**

These books, websites, and other resources will help you and your students learn more about corn.

**BOOKS**

**From Kernel to Corncob**  
*by Ellen Weiss*  
This book is part of the Scholastic News Nonfiction Readers series. It features bright and attractive photographs, information about the parts of the corn plant, and factual descriptions of how corn grows.

**Corn Aplenty**  
*written by Dana Meachen Rau and illustrated by Melissa Iwai*  
A story of two friends who regularly pass by a farm—in a car, by bike, and on foot—and notice changes happening over time. Through careful observation, they see the farmer prepare the field, plant corn seeds, tend the corn, harvest the corn, and sell the corn.

**The Life and Times of Corn**  
*by Charles Micucci*  
This nonfiction picture book covers just about anything you ever wanted to know about corn. Colorful, beautifully-drawn illustrations and an informal, easy-to-read text will appeal to children ages five to nine.

**WEBSITES**

**learnaboutag.org**  
The California Foundation for Agriculture in the Classroom provides free resources to teachers. The resources highlight many of California’s 400 agricultural commodities, including corn.

**ncga.com**  
The National Corn Growers Association’s informative website features articles around key issues such as ethanol, sustainability, and trade. Teachers and students will enjoy educational resources available through their Nourish the Future initiative.

**RESOURCES**

**Article: Sweet! California Corn is the Cream of the Crop**  
*Grades 5-12*  
*By California Bountiful*  
This article, suitable for older students, introduces readers to a California sweet corn operation, G&S Farms, as well as two customers—a chef and a restaurateur. Includes tips for choosing the right color of sweet corn.

**Fact and Activity Sheet: Corn**  
*Grades 6-12*  
*By California Foundation for Agriculture in the Classroom*  
This California-specific fact sheet includes information on corn production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about corn.

**Resource: Corn in the Classroom**  
*Grades K-8*  
*By Missouri Corn Growers Association*  
Corn in the Classroom includes a variety of resources including traditional lesson plans, presentations, hands-on activities, and supplemental activity books. Resources feature both sweet and field corn, with a greater focus on field corn which is commonly fed to animals or used to make renewable fuels like ethanol. Students will learn about the importance of corn and the role it plays in our everyday lives.