



..... THIS MONTH
WE'RE HARVESTING

Corn!

In This Issue



AND MORE!



JUNE

NEWSLETTER

Farmer Spotlight

MARK SALWASSER - FRESNO STATE'S
UNIVERSITY AG LABORATORY FRESNO, CA

The University Ag Laboratory (informally called "the farm") is a 1,000-acre farm located on the California State University, Fresno campus. The farm provides students with real-world experiences in all aspects of agriculture. Mark Salwasser began working on the farm 31 years ago, and for the past three years he has served as farm manager. "We have more than 20 different enterprises on the farm, from vegetable crops to livestock production. We employ approximately 90 students, in addition to campus staff and farm laborers," explained Salwasser. One of those enterprises is corn—100 acres of silage corn which is fermented and used to feed campus livestock, and 60 acres of sweet corn which has become legendary in the region. "People go crazy for it. It's the unofficial kickoff of summer."



Salwasser's goal is to have sweet corn available for purchase from Memorial Day to Labor Day. "We start planting the last week of January and continue planting every two weeks throughout the spring. This will give us a consistent supply of corn for our customers," said Salwasser. White and yellow varieties of sweet corn are planted on raised beds five to six inches apart

using a precision planter—technology which allows farmers to plant seeds at a uniform depth with uniform spacing.

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.

FOOD for FUEL



There are many ways to enjoy corn—as a whole grain, sweetener, vegetable, and even cooking oil. Sweet corn is considered a vegetable.

HERE ARE SOME OF THE UNIQUE
HEALTH BENEFITS OF INCLUDING SWEET CORN IN YOUR DIET:

Healthy EYES

Yellow corn contains lutein and zeaxanthin, two antioxidants that are important to eye health. Lutein is known for lowering the risk of macular degeneration and cataracts.

Happy GUT

The fiber in corn has been shown to promote the growth of friendly bacteria in the large intestine. One cup of fresh sweet corn contains about 3 grams of fiber.

Strong HEART

Corn is a great source of potassium, a nutrient that helps regulate the circulatory system, maintaining adequate blood flow and a strong heartbeat.



CORN SUNFLOWERS



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.

Makes approximately four sunflower gardens.

Ingredients:

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

(Adapted from eatprettydarling.com)

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 approx. 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.

CLASSROOM ★ Connection ★ Legend of 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.

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

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.

The Legend of the Three Sisters

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

The Youngest Sister	The Middle Sister	The Oldest Sister

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.

virtual



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."



SCAN ME

DIG DEEPER

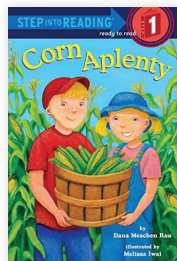
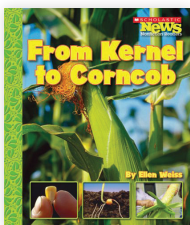
These books, websites, and other resources will help you and your students learn more about corn.

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

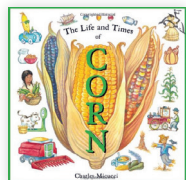
written by Dana Meachen Rau
and illustrated by Melissa Iwai

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.

