



..... 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.



SUNNY SWEET CORN SALAD

Introducing a delightful new side dish recipe that's perfect for summer gatherings and barbecues: a refreshing sweet corn salad. This easy-to-make salad not only highlights the natural sweetness of fresh sweet corn but also incorporates a colorful medley of seasonal vegetables. It's the perfect way to celebrate the bountiful flavors of summer!



Ingredients:

- 3 cups sweet corn kernels (about five ears)
- ½ cup red pepper, diced
- ½ cup cucumber, diced
- 1 cup grape tomatoes, halved
- ¼ cup red onion, diced

Dressing:

- 2 tbsp. lime juice
- 1 tbsp. olive oil
- 2 tsp. honey
- Salt and pepper to taste

Tools: Large pot, stove, ice, chef's knife, cutting board, large bowl, spoon, small bowl, whisk

Directions:

1. Prepare the corn kernels in advance with adult supervision. Shuck the corn and remove the husks and silks.
2. Bring a large pot of salted water to a boil. Cook the shucked corn for 3 minutes.
3. Drain the corn and place the cobs in ice water to cool. Once cooled, cut the kernels off the cob, staying close to the cob.
4. Wash the vegetables under running water and pat them dry. Dice the red pepper, cucumber, and red onion. Halve the grape tomatoes.
5. In a large bowl, combine the corn kernels, red pepper, cucumbers, grape tomatoes, and red onion.
6. In a small bowl, whisk together the dressing ingredients until well combined.
7. Drizzle the dressing over the salad and mix well to coat the vegetables. Season with salt and pepper to taste.
8. Cover the bowl and chill until ready to serve. It pairs perfectly with crispy tortilla chips, adding a delicious crunch to every bite!

(Adapted from eatsamazing.co.uk)

CLASSROOM Connection

Corn Seed Explorers

dissecting a corn seed, we can uncover its protective seed coat and examine the single cotyledon responsible for nourishing the plant during early growth. Through this hands-on activity, we gain a deeper understanding of the complex structures and processes that drive plant development.

All plants can be classified into one of two categories: monocot or dicot. The classification of plants as monocots or dicots informs us about their characteristics, growth patterns, and reproductive structures. Today, we are diving into the exploration of monocot plants, focusing on the corn seed. By

Objectives

In this lesson, students will dissect corn seed, in order to observe and identify its key structures.

California Standards:
NGSS: 3-LS1-1, 4-LS1-1

Materials: Wet corn seed (soaked in water for 24 hours), dry corn seed, toothpick, hand lens, and student worksheet (page 3).

Procedure:

1. Read the mini book, *Discovering the Wonders of Corn*. Remind students that when farmers plant corn seed, they are actually planting a dried kernel of corn.
2. Explain the concept of seed categorization, specifically dicotyledons and monocotyledons. Emphasize that monocotyledons are plants with seeds that have only one cotyledon or seed leaf.
3. Prepare the necessary materials for each student. Ensure that each student has a hand lens, toothpick, and a copy of the worksheet.
4. Distribute two corn seeds to each student, one dry and one wet. Instruct the students to compare the two seeds and document their observations on the student worksheet. Encourage them to pay attention to any noticeable differences between the dry and wet seeds.
5. Guide the students on carefully removing the seed coat from the wet corn seed using the toothpick. Remind them to be gentle to avoid damaging the seed.
6. Ask the students to identify and document the different parts of the seed on the worksheet. This may include the embryo, cotyledon, seed coat, and any other relevant structures.
7. After the investigation is complete, provide an opportunity for students to share their findings and discuss their observations as a group.



Corn Seed Explorers

1. Observe the dry and wet corn seeds, comparing their texture and size. Draw a picture of each seed in the provided table.
2. To examine the wet corn seed further, use a toothpick to gently remove the seed coat. Starting from the edge of the seed is recommended, as it should peel away easily.
3. Use a hand lens to examine the seed coat and draw and describe it in the table.
4. Carefully split the corn seed in half. You will notice that the embryo is attached to the top of one of the cotyledons. Using the hand lens, make observations of the embryo and record your findings.

Draw and label your findings

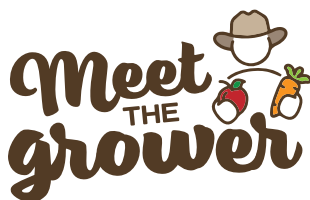


Dry seed coat	Wet seed coat	Magnified wet seed coat

Inside the corn seed. Label the seed coat, cotyledon, and embryo.

Write three facts about monocot seeds:

1. _____
2. _____
3. _____



Join us for an exclusive interview with Fresno State's university farm manager, Mark Salwasser. Mark works alongside more than 100 student farmers responsible for cultivating an array of delights, from juicy grapes to Fresno State's famed sweet corn. Listen as Mark shares his profound passion for nurturing crops and growing the next generation of agricultural leaders.



DIG DEEPER

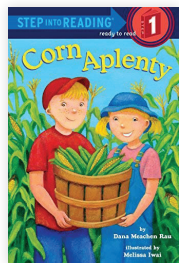
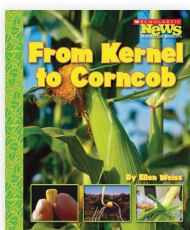
These books, websites, and other resources will help you and your students learn more about corn.

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

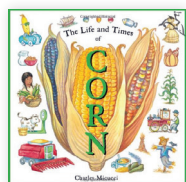
written by Dana Meachen Rau
and illustrated by Melissa Iwai

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.

