



..... THIS MONTH
WE'RE HARVESTING
Berries!

In This Issue



AND MORE!

Farmer Spotlight

**SHARON WEAVER - SUMNER PECK RANCH
FRIANT, CA**

When Sharon Weaver became Executive Director of the San Joaquin River Parkway and Conservation Trust in 2015, she didn't know farming was on the horizon. "The trust works with public and private landowners to acquire land for the San Joaquin River Parkway," Weaver said. The organization acquired 76-acre Sumner Peck Ranch in December 2020. "It's a really key property on the river that includes a half-mile of river frontage and wildlife habitat. I've always had a personal interest in farming, but this is the first farm our organization has owned." The trust's board of directors decided to continue farming the established crops on the property, which includes 25 acres of wine grapes, two acres of citrus, and two acres of blueberries.

Blueberries are a permanent crop that can bear fruit for up to 50 years. "Blueberries need healthy soil, plenty of water, and good drainage," Weaver explained. Blueberries grow on deciduous bushes that can reach 5- to 8-feet high at maturity.



In March, clusters of white blossoms pop up all over the bushes and bee boxes are brought in to pollinate the crop. In April, each blossom becomes a berry—first hard and green, then reddish purple, and finally blue. As the berries grow, each plant is drip-irrigated with water pumped from the San Joaquin River. The blueberries at Sumner Peck Ranch are planted in dense rows—so dense that a tractor can't access the field without damaging the plants. "We rely on string trimmers for weed control.

We are moving toward sustainability, which means more mowing and fewer chemical controls," Weaver shared.

Berry color, size, plumpness, and sweetness are all signs harvest is ready to begin. Harvest typically begins in mid-May and lasts approximately four weeks. Labor costs can be high when it comes to harvesting blueberries, but at Sumner Peck Ranch customers pick their own fruit. During harvest, customers can fill their buckets to the brim Friday through Monday from 8:30am to 4:00pm. For Weaver, harvest time is all about connecting with the community. "I'm excited about this project because it's a new and different way for people to interact with land along the parkway. Everyone can enjoy the beautiful San Joaquin River."

FOOD for FUEL



Berries provide health benefits. They are full of essential vitamins and a natural source of beneficial antioxidants.

HERE ARE SOME OF THE
HEALTH BENEFITS OF INCLUDING BERRIES IN YOUR DIET:

Strong BONES

Blueberries are an excellent source of manganese—one 100 gram serving contains 25% of your daily needs. This nutrient is essential for bone health, including bone development and maintenance.

Radiant SKIN

Strawberries are an excellent source of vitamin C, with one cup providing more than 100 percent of the recommended daily value. Vitamin C helps protect our body's cells from sun damage while improving skin elasticity and tone.

Happy GUT

The fiber content of blackberries makes them a great supplement for a healthy digestive tract—just one cup contains 8 grams of fiber.



SUMMER BLUEBERRY MUFFINS

Can you feel it? Summer is just around the corner! This simple recipe makes moist and fluffy muffins with whole wheat flour, heart-healthy oats, and sweet blueberries. They are best fresh from the oven, but are also delicious once cooled. These muffins are the perfect addition to a school lunchbox, or they make a quick breakfast before the next summer adventure!



(Adapted from wellplated.com)

Ingredients:

- Cooking spray
- 1½ cups white whole wheat flour
- ¾ cup old-fashioned rolled oats
- ½ cup lightly packed light brown sugar
- 1 tablespoon baking powder
- ½ teaspoon ground cinnamon
- ½ teaspoon salt
- 1 cup milk
- ¼ cup unsalted butter, melted
- 2 large eggs
- 2 teaspoons vanilla extract
- 1 cup blueberries (fresh or frozen)

Tools: Oven, large mixing bowl, large spoon, medium bowl, whisk, measuring cups and spoons

Directions:

1. Preheat the oven to 400°F. Spray the muffin cups with cooking spray. Set aside.
2. If using fresh blueberries, wash your produce under running water. Pat dry.
3. In a large mixing bowl, stir together dry ingredients: flour, rolled oats, brown sugar, baking powder, cinnamon, and salt.
4. In a separate bowl, whisk together the milk, butter, eggs, and vanilla.
5. Make a well in the center of the dry ingredients. Add the wet ingredients and carefully stir until just blended. Do not over mix.
6. Gently toss the blueberries with one tablespoon of flour, then fold them into the batter. This will prevent the berries from sinking to the bottom of the muffins.
7. Divide the batter among the prepared muffin cups. With an adult's supervision, bake until the muffins are set in the middle and lightly browned, about 18 minutes.
8. Remove from the oven and let cool. Enjoy!



Pollination Station

fertilization happens—the ovule becomes the seed and the ovary becomes the fruit. Berries have many ovules, and therefore, many seeds. A strawberry blossom may have up to 500 ovules!

Farmers rely on the help of pollinators to produce the large, juicy berries we enjoy. Bees and other pollinators visit the small blossoms looking for nectar and pollen. As they fly from blossom to blossom, they spread the pollen from one flower to the next. The pollen attaches to the stigma (the female part of the flower) and male cells travel down the style to the ovary. This is where

Objectives:

In this lesson, students will develop a simple model that mimics a bee pollinating a berry plant.

California Standards:
NGSS: 2-LS2-2, 4-LS1-1

Materials: Macaroni and cheese powder (one packet for every 10 students), paper plate (one per group of four students), markers, chenille stem (one per student), juice box (one per student), small die-cut flowers, and student worksheet (page 3).

Procedure:

1. Read the mini book, *The Buzz on Berries*. Review the process of pollination and identify key words like pollen, nectar, stamen, and stigma.
2. Divide the class into groups of four. Distribute a paper plate to each group. Invite students to draw a berry blossom on the paper plate. Pour approximately one-third packet of cheese powder onto each plate. The cheese represents the pollen.
3. Next, give each student a juice box and a paper flower to place on top. Insert the straw in the middle of the flower. The juice box represents a flower and its nectar.
4. Give each student a chenille stem and invite them to gently twist it around their index finger. Bend the ends slightly to form the bee's legs and feet. Compare the chenille stem to the natural structure of a bee—the hairs on a bee's legs help them collect and carry pollen.
5. Invite students to mimic pollination by having their "bee" fly to the paper plate, gently land on the "pollen," and visit their juice box for "nectar." Encourage students to gently tap their bee on the flower to see the pollen transfer. Students will enjoy sipping the "nectar" as they work.
6. Distribute the student worksheet and instruct students to complete the worksheet in their groups.

Pollination Station

How do bees help berries grow?

This activity will help us understand the important role of pollinators in food production.

**Imagine you are a bee.
Look closely at your feet.**

Draw what you see.

**Write three words that
describe what you see.**

**Visit the large white flower.
This is a berry blossom.**

Draw what your feet look like after.

**Write a sentence about
what happened.**

**Time for some nectar! Land
on the small flower and move
around as you drink nectar.**

Draw how the small flower changes.

**Write a sentence about
what happened.**

How do bees help berries grow? Discuss as a group, and then write a short paragraph describing how bees help.

First, _____

Next, _____

Finally, _____

virtual



Nicole Jolly from True Food TV, takes viewers to a cranberry farm in Southern New Jersey to discover how cranberries grow. What might be even more fascinating is how they're harvested—in flooded sunken fields called bogs. The Leigh Brothers, seventh generation cranberry farmers, share how managing water resources is an essential part of cranberry production.



DIG DEEPER

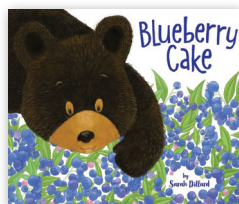
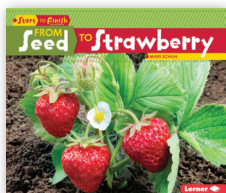
These books, websites, and other resources will help you and your students learn more about berries.

BOOKS

From Seed to Strawberry

by Mari Schuh

How does a tiny seed grow into a sweet, juicy strawberry? In this nonfiction book featuring vivid photographs, readers will follow each step in the cycle from planting seeds to eating delicious strawberries.



Blueberry Cake

by Sarah Dillard

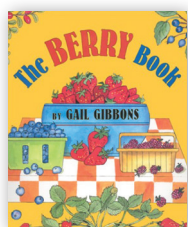
There's nothing Little Bear loves more than delicious, delectable blueberries. When Little Bear goes to pick berries so Mama can fix him a treat, he

just can't resist eating them all! Includes a kid-friendly recipe for blueberry cake.

The Berry Book

by Gail Gibbons

This picture book describes many types of berries, edible and poisonous; explains how several varieties are cultivated, harvested, and used; and includes recipes for blueberry pie, blackberry jam, and raspberry ice cream.



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 berries.

californiastrawberries.com

The California Strawberry Commission's website introduces consumers to berry growers through their online video series, *Farmer Stories*. The website also features information about health and wellness, how strawberries are grown, and nutritious recipes.

RESOURCES

Activity: Strawberry pHun! Ag-Bite (Grades 6-8)

By California Foundation for Agriculture in the Classroom

This resource features a "bite-sized" activity about strawberries. Students will learn more about the pH scale by creating a berry puree and measuring the pH of strawberries. Includes additional classroom activities for nutrition, science, and math.

Lesson Plans: Harvest Lessons: Berries (Grades K-4)

By Vermont Harvest of the Month

This unit includes eight different activities to help students learn more about berries. Featured activities focus on everything from pollination and economics to comparing wild and cultivated berries and recipe testing.

Resource: Strawberry Ag Mag (Grades 3-8)

By North Carolina Farm Bureau Ag in the Classroom Foundation, Inc.

In this Ag Mag issue, students learn about the history of the strawberry, hybridization, the life cycle and anatomy of the strawberry plant, careers, and more.

