



**CALIFORNIA STRAWBERRIES:**  
*Growing a Sustainable Future*



CALIFORNIA  
**STRAWBERRY**  
COMMISSION



## California's strawberry farmers are among the most progressive and environmentally conscious growers in the state and the world.

They are always looking toward a better way of doing things: better for workers, better for the land, better for communities, and better for the planet.

California strawberry growers are constantly evolving and learning the most sustainable ways to grow strawberries and then putting them into practice. When water was scarcely available, strawberry growers implemented drip irrigation. As migrant farmworkers were looking to start a new life and family, strawberry farming made it possible for them to settle into a single location in the state and work year-round, many advancing into managerial and ownership positions.

### ABOUT CALIFORNIA STRAWBERRIES

Strawberries are a vital and loved crop in the United States, and California leads the way, producing about 90% of the U.S.-grown strawberries. On an average year, California strawberry growers harvest 1.8 billion pounds of strawberries.

All California strawberries are hand-picked and packed in the field. This is a critical part of a berry's journey because strawberries do not continue to ripen after they're harvested. It's all dependent on the skilled harvesters who know exactly which berries are ready to pick.

Immediately after harvesting, the strawberries are taken to a cooling facility where huge fans cool them down and draw out the field heat. Once cooled, they're loaded into refrigerated trucks for same-day shipments and arrival within 3-4 days to grocery stores across the country.



The California strawberry sustainability promise has three key pillars:

ENVIRONMENTAL  
STEWARDSHIP

ECONOMIC  
IMPACT

GROWING  
COMMUNITIES



## ENVIRONMENTAL STEWARDSHIP



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### *Leading the Way in Organics*

California grows more organic strawberries than anywhere else in the world.

**1 IN 4** California strawberry farmers grow both conventional and organic berries.



### *Integrated Pest Management*

All conventional growers incorporate organic methods into their farming practices. Some of these techniques include:

Implementing hand weeding in the field to reduce chemical herbicide use.

Using mechanical bug vacuums to suck up harmful insects and reduce pesticide use.

Releasing beneficial insects in the field as a first line of defense.

Using fish emulsion in place of chemical fertilizers.

### *Water Management*

California strawberry farmers are leaders in resource conservation and early pioneers of water-saving drip irrigation.

**One acre of strawberries requires less water than an acre of homes in Los Angeles.**





## California Strawberry Commission & Cal Poly Strawberry Center Partnership

**CURRENT RESEARCH 2023**

The goal of the Strawberry Center research is to increase the sustainability of the California strawberry industry through research and education that addresses industry needs. Key benefits to current research includes non-chemical pest and disease control and workforce efficiency and safety.

<i>Automation</i>		
PROJECT	OVERVIEW	STATUS
<b>Optimized Bug Vacuum</b>	Removes Lygus bugs from the field via a tractor-mounted vacuum that sucks up insect pests as it rolls throughout the field.	Currently used by industry
<b>UV-C Light Treatment</b>	Implements a non-chemical way to manage pests and disease, reducing powdery mildew in strawberries when applied at night.	Early adoption
<b>Hoop House Arch Remover</b>	Provides labor support by autonomously disassembling hoop arches in the field.	Trials underway
<b>Optimized Spray Rig</b>	Improves application coverage and uniformity.	Currently used by industry
<b>Lygus Bug Monitor</b>	Improves Lygus bug detection and integrated pest management practices.	Trials underway
<b>Strawberry Decapper</b>	Improves workforce efficiency with automated calyx removal.	Currently used by industry
<b>Heated Hole Puncher</b>	Deploys a mechanical rig that burns a hole through the mulch.	Trials underway

“The research being done at the Strawberry Center is vital to the strawberry industry and is helping fulfill the Commission’s goal of providing our growers with the latest research and innovations to improve sustainability and efficiency.”

RICK TOMLINSON, PRESIDENT,  
CALIFORNIA STRAWBERRY COMMISSION

The Strawberry Center was formed in 2014 as a partnership between the California Strawberry Commission and Cal Poly aimed at increasing the sustainability of California’s \$3 billion strawberry industry through research and education.



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Commission & Cal Poly  
Strawberry Center Partnership

**CURRENT RESEARCH 2023**

California's strawberry farmers are among the most progressive and environmentally conscious growers in the state and the world. They continue to lead, evolve and implement the most sustainable farming practices and ways to grow strawberries, which includes the research and innovations coming from the Strawberry Center.

<i>Pathology</i>		
PROJECT	OVERVIEW	STATUS
<b>Impact of minor soilborne pathogens and abiotic problems on strawberry plant health</b>	Investigates the role of minor soilborne pathogens such as Pythium and Rhizoctonia as well as abiotic agents such as salt and drought in causing disease in strawberry plants.	Trials underway
<b>Susceptibility to Macrophomina crown rot and Verticillium wilt in 63 cultivars and advanced breeding lines</b>	Builds on six years of previous research where strawberry varieties and elite breeding lines are evaluated for their susceptibility to these diseases under various field conditions in the event of an outbreak of either disease.	Trials underway
<b>Surveys of soilborne pathogens in Santa Maria and Oxnard</b>	Determines which pathogens are causing the most damage to strawberry crops so that growers know what diseases they may have in their fields and how to directly treat it.	Trials underway
<b>Determination of optimum planting timing using plug transplants</b>	Evaluates the optimum planting dates by examining three fall planting dates and two cultivars.	Trials underway
<b>Effect of drought stress and heat on Macrophomina crown rot</b>	Studies the effect of soil temperature and moisture on Macrophomina crown rot by using white or black mulch to produce different soil temperatures and number of drip lines to produce different levels of soil moisture and distribution.	Trials underway

“The Cal Poly Strawberry Center creates a strong synergistic relationship with the students, researchers and the strawberry industry. California is leading the way in strawberry farming, not just in volume, but in innovative, sustainable practices that have been adopted around the world.”

NEIL NAGATA, NAGATA BROTHERS FARMS

Strawberry farmers have invested more than \$17 million, more than any other farm group in the world, in the search for solutions that address problems related to soil-borne disease. These research efforts have been instrumental in the development of new technologies that reduce emissions and amplify the strawberry plants' inherent ability to resist diseases.



## ECONOMIC IMPACT



# STRAWBERRIES ARE CALIFORNIA'S THIRD HIGHEST GROSSING CROP BRINGING IN \$3.02 BILLION IN 2021.

*(Source: Based on USDA ERS numbers published as of September 1, 2022)*

California produces **90% of the strawberries** grown in U.S. on only 1% of California's farmland.

There are more than **400 California strawberry growers, shippers and processors**, many are multi-generational and family-owned businesses.



**97 cents** of every farm dollar goes back into the community.

**70,000 jobs created.**

Jobs in upwards of **30 different sectors** — from on the farm to manufacturing, delivery, distribution, research and education

Direct impact of strawberry farmers is **\$2 billion.**

Packaging and shipping, land cost, farm supplies, equipment, labor costs, taxes

Indirect impact of strawberry farmers is **\$1.02 billion.**

Trucking box companies, railroads, warehouses, retailers, fertilizer, tractors, uniforms, trucks, containers, tools, seedlings; local business: restaurants, auto dealers, realtors, health care; public service: police, teachers, parks, roads, libraries



## GROWING COMMUNITIES



# GROWING STRAWBERRIES IS AS MUCH ABOUT THE PEOPLE BEHIND THEM AS IT IS THE FRUIT THEMSELVES.

California strawberries are **considered the crop of opportunity**, cultivating opportunities for Latinos and generations of immigrants coming to the U.S. in pursuit of the American Dream.

**75% of the strawberry workforce is Latino**, including management and field workers.

**25% of California strawberry farmers started out as field workers.**

**Most strawberry farmers live and work in the communities where they farm**

- so protecting the health of the people, the land and environment is their top priority.

### TRAINING TOOLS

**More than 3,000 farmers, ranch managers and crew supervisors are trained annually** through regular in-person and virtual workshops on topics like workplace safety, workplace conditions and food safety.

### EDUCATING THE NEXT GENERATION

In 2013, the Strawberry Center, a partnership between the California Strawberry Commission and Cal Poly, was created to increase the sustainability of the California strawberry industry through research and education that addresses industry needs.

**125 students** have received industry-related work experience

**40 students** have landed paid internships





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**BEHIND EVERY CALIFORNIA STRAWBERRY IS A STORY.**

Take a look **#BehindtheBerry** and hear directly from the hardworking farmers and farmworkers who grow and harvest California strawberries on **CaliforniaStrawberries.com**.

