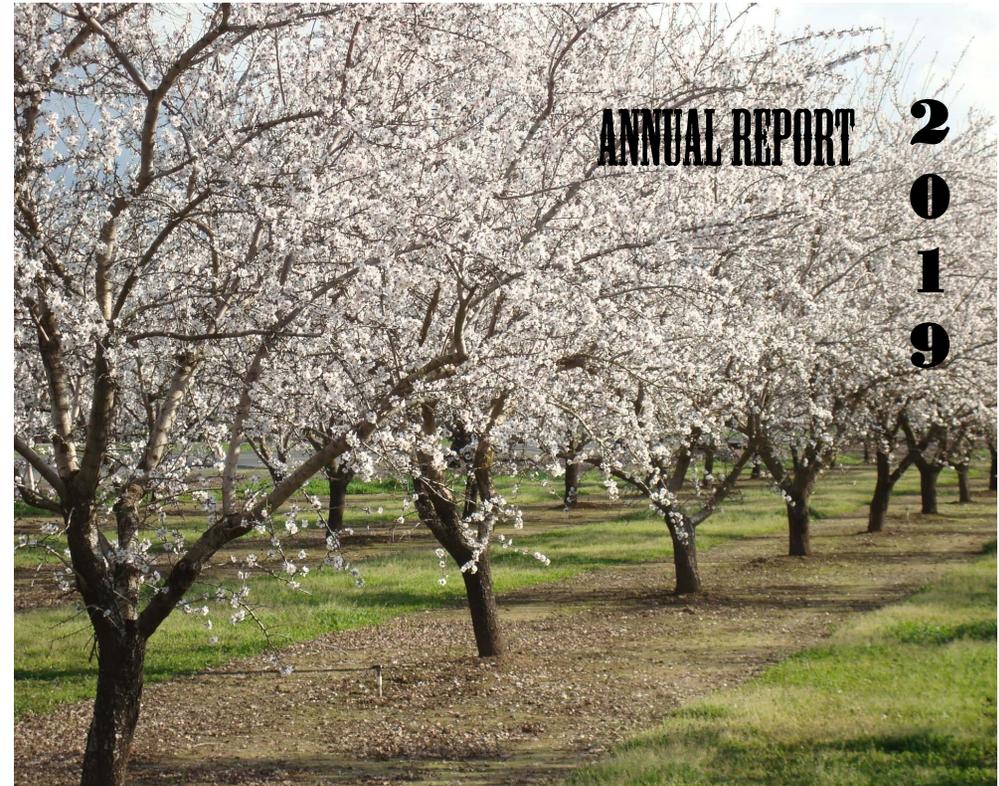


Healthy Californians

UC | University of California
CE | Agriculture and Natural Resources | Cooperative Extension



Farm and Home Advisors
Practical - Trusted - Connected

Since 1914

From the County Director:

Our commitment is to lead the way with innovative research-based answers, to develop outreach with new methods and to reach new clientele. Advisors and their staff, housed in the County of Kern Farm and Home Advisors Department, are a Practical, Connected and Trusted resource for science-based information in agriculture, natural resources, nutrition, consumer science and 4-H youth development.

It is impossible to fully convey the hard work and the myriad projects of our highly dedicated and talented Advisors and staff.

What's important is their impact on individuals and communities.

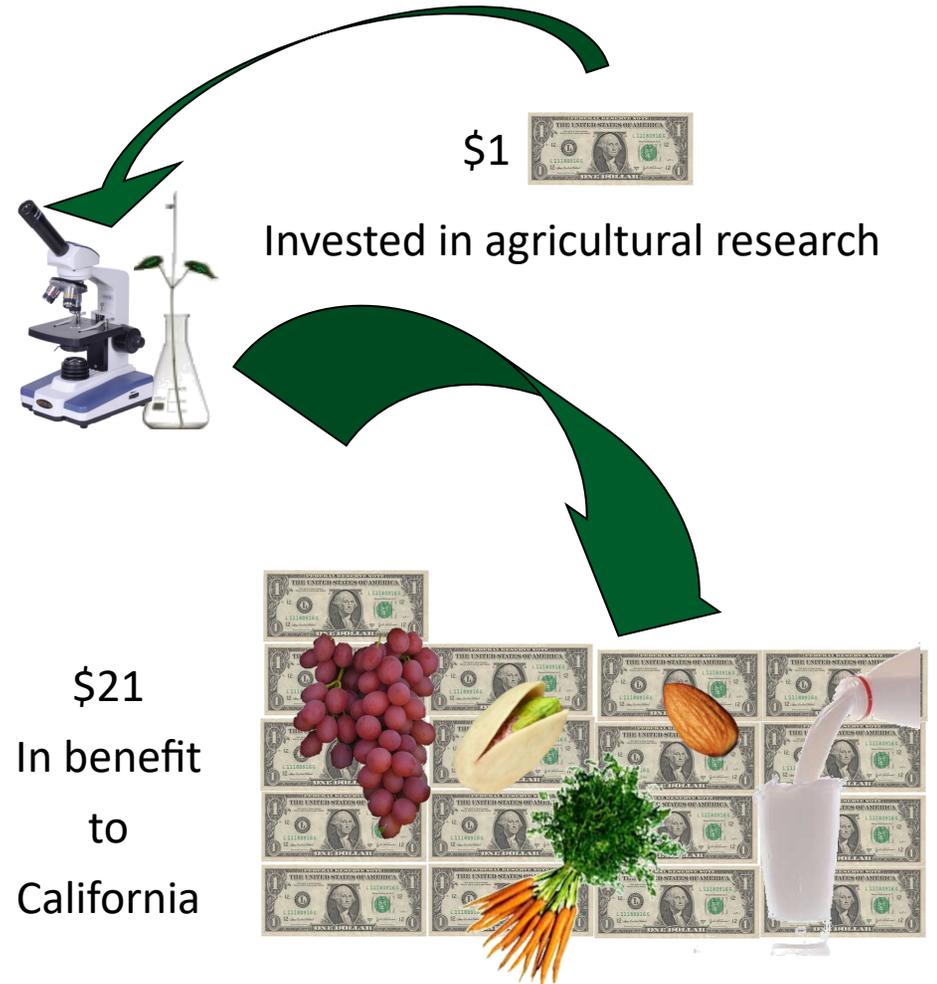


This is a snapshot of the extensive work performed by UC Cooperative Extension — Kern County. Our research and education programs develop and promote

- Healthy Food Systems,*
- Healthy Environments,*
- Healthy Communities and*
- Healthy Californians.*

While these four phrases describe the areas in which we work, they do not stand alone but are unified, codependent and interconnected, describing the holistic manner in which we address issues.

Dr. Brian Marsh



2018 Kern County

Farm Revenue

\$7.5 Billion



Promoting economic prosperity in California

Acala cotton was once king.

Now, most acreage is the higher valued Pima cotton.

Updated fertility and growth regulator guidelines are needed.



Extensive research throughout the San Joaquin Valley is underway to further refine agronomic practices.

Why it matters:

- ◆ Cotton is a valuable crop in areas of Kern County with marginal soils because of its high salt tolerance
- ◆ Best management practices for fertilization improve plant growth without contributing to ground water contamination

Plant diseases and nematodes reduce yields and quality of food.



Research to find the most effective control methods to reduce losses from diseases and eliminate unnecessary fungicide applications.

Discovering alternatives to fumigation and other effective control strategies for nematodes.



Finding answers to post-harvest control of diseases on garlic for improved storability.

Why it matters:

- ◆ Less food waste
- ◆ Reduced chemical use
- ◆ Improved food quality



Safeguarding abundant and healthy food for all Californians

Pistachio cultivation is a large economic driver. Important pistachio breeding research has been conducted in Kern County for decades. Thousands of crosses are being evaluated for potential release.



Why it matters: New varieties have

- ◆ Fewer chilling hours required in response to climate change
- ◆ Natural resistance to navel orange worm to reduce pesticide usage
- ◆ Earlier maturing for more genetic diversity
- ◆ Improved yield resulting in greater economic stability

Glassy-winged sharpshooter and Pierce's Disease



Kern County just wouldn't be Kern County without its grape industry.

Kern County Farm Advisors provide monitoring and education programs that help table-grape growers prevent epidemics of Pierce's disease, a vine-killing bacterium that is transmitted from vine to vine by the glassy-winged sharpshooter.



Why it matters:

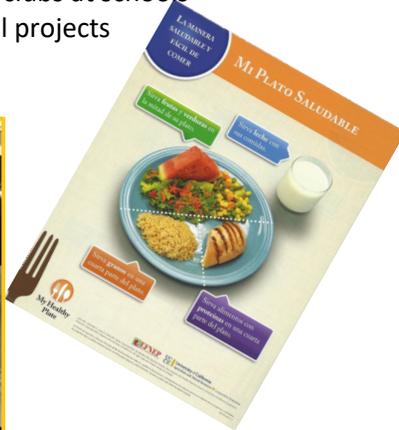
- ◆ Protects 1.5 billion dollars of grape production
- ◆ Backyard grape vines are also vulnerable

Improving California's Health Through Nutrition Education

UC CalFresh helps families and individuals manage their resources more wisely and stretch food dollars by teaching goal setting, planning and shopping skills, and thereby improving their ability to purchase healthy food.

Serving the Community—Education Programs

- ◆ *Making Every Dollar Count* classes teach participants:
 - ◇ Goal setting and how to make sound choices
 - ◇ How to stretch personal and community resources
 - ◇ Strategies to save money on food.
- ◆ *Organizational and Environmental Changes*
 - ◇ Implementing parent walking clubs at schools
 - ◇ Support for playground stencil projects at early childcare centers



4000+ Kern County residents served

Good nutrition and physical activity habits are best when they start at a young age.

Coordinated Approach To Child Health Early Care Education provides children the opportunity to develop motor and manipulative skills through games and activities. Children have the opportunity to be more physically active during school sessions.



Impacting Lives

- ◆ 79% of adult participants reported being more knowledgeable about easy ways to save money on food.
- ◆ 85% of adult participants reported learning to use resources to make money go further.



Participant comments:

- “We eat a lot more healthier. I shop more wisely.”
- “I have started planning my meals one or two days ahead of time, and I find this so much more economical.”
- “I will cook more, ... walk places instead of driving.”

Why it matters:

- ◆ Life-long habits of good nutrition and exercise improve a person's health, productivity and reduce medical costs.

Protecting California's natural resources

Insect Control Through Mating Disruption



Insect pheromones can now be mass-produced in laboratories and applied to fields to interfere with males' ability to find females, such as vine mealybug in grapes and navel orange worm in almonds and pistachios. Without mating, these insects cannot produce offspring, resulting in significant pest control without the use of traditional pesticides.



Why it matters:

- ◆ Fewer pesticide applications
- ◆ Improved insect control
- ◆ Better nut quality

Forage Production in Rangelands

Vegetation assessment data are valuable in determining actual forage production and loss due to drought.



US Drought Monitor



January 2017

Why it matters:

- ◆ Preserves long-term health of range and pasture ground
- ◆ Ability to better manage fuel load in critical fire sensitive areas
- ◆ Assists in managing stocking rates
- ◆ Supports Non-insured Crop Disaster Assistance Program



January 2020

Cover Crops

Many areas suffer from soil compaction and water infiltration problems.

This project aims to:

- ◆ Improve soil water infiltration
- ◆ Reduce soil compaction
- ◆ Improve soil health
- ◆ Increase soil organic matter and nitrogen content
- ◆ Help growers understand the benefits of cover crops
- ◆ Improve bee forage



Why it matters:

- ◆ Better water use efficiency
- ◆ Less dust
- ◆ Improved bee health to combat colony collapse

Horticulture Classes for Landscapes, Orchards, and Gardens

Topics discussed include:

- ◆ Soil properties and modification
- ◆ Plant selection and placement
- ◆ Pruning practices
- ◆ Enhancing green space
- ◆ Fruit, citrus and vegetable production
- ◆ Irrigation and water conservation
- ◆ Integrated Pest Management (IPM)
- ◆ Non-chemical pest management
- ◆ Turf management

Fertilization for roses

Research is being conducted on fertility needs for outdoor roses.



Why it matters:

- ◆ Knowledge promotes more efficient and effective practices
- ◆ Flowering plants beautify landscapes
- ◆ Proper fertilization improves plant growth without environmental degradation
- ◆ Good irrigation management promotes water conservation

D

Developing a qualified workforce for California



4-H Youth Development

4-H is a nationwide youth development organization administered through land-grant universities that promotes:

- Leadership
- Citizenship
- Life skills.

4-H empowers young people to reach their full potential.

4-H enables youth to emerge as leaders by learning through hands-on, research-based projects with adult mentors, in order to give back to their local communities.



4-H Avian Embryology

2500 youth participated from Arvin, Lamont and McFarland schools

Students and teachers learned more about animal science literacy and food production.



Why it matters:

- ◆ Multiple teachers reported that youth with behavioral issues demonstrated empathy for others and improved social skills.

My Head To clearer thinking
My Heart To greater loyalty
My Hands To larger service
My Health To better living

Promoting Positive Youth Development— Outreach Programs

We are dedicated to increasing participation of Latino and other underrepresented populations.



Kern County teens participated in:

- Oregon 4-H Outreach Leadership Institute
- California 4-H Youth Summit at Wonder Valley Ranch in Fresno County
- State Leadership Conference at UC Davis
- Juntos Summer Academy College Readiness Program at UC Merced
- Juntos CSUB College Readiness Orientation and Challenge Course

4-H Cooking Academy

- Training youth how to prepare and serve nutritious meals in a safe, hands-on classroom/kitchen environment.
- Teens are recruited and trained to instruct the classes to elementary aged students.
- Under adult supervision, the teens teach the youth about food safety, nutrition, healthy living and how to prepare food and healthy snacks.



Afterschool programming was delivered at three community centers and four schools.



UCCE Kern County Advisors

Hawau Bojuwon, M.S.; Nutrition, Family, & Consumer Science

John Borba, M.S.; 4-H Youth Development

Julie Finzel, M.S.; Livestock & Natural Resources

David Haviland, M.S.; Entomology

Craig Kallsen, M.S.; Citrus & Pistachio

John Karlik, Ph.D.; Environmental Horticulture & Science

Brian Marsh, Ph.D.; County Director & Agronomy

Jaspreet Sidhu, Ph.D.; Vegetable Crops

Mohammad Yaghmour, Ph.D.; Orchard Systems

Emeritus Advisors

Don Luvisi, M.S.; Viticulture

Margaret Johns, M.S., R.D.; Family, Home & Consumer Science

Joe Nunez, M.S.; Vegetable Crops & Plant Pathology

Blake Sanden, M.S.; Irrigation & Soils



University of California
Agriculture and Natural Resources

Cooperative Extension

ucanr.edu

cekern.ucanr.edu

661-868-6200