

The logo features a vertical orange bar to the left of the text. The text is in a bold, blue, sans-serif font, arranged in two lines: "UNIVERSITY OF CALIFORNIA" on top and "Agriculture and Natural Resources" below it.

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

A wide-angle landscape photograph showing rolling green hills and mountains under a blue sky with scattered white clouds. In the foreground, there are fields of tall grasses and yellow wildflowers. A small building is visible on the left side of the middle ground.

COOPERATIVE EXTENSION/HANSEN AGRICULTURAL RESEARCH AND EXTENSION CENTER
VENTURA COUNTY | ANNUAL REPORT 2018-2019

True to the mission of the land grant universities, UC Agriculture and Natural Resources connects the power of UC research in agriculture, natural resources, nutrition and youth development with local communities to improve the lives of all Californians.

UC ANR Public Value Statements

Promoting economic prosperity in California

Developing a qualified workforce in California

Safeguarding abundant and healthy food for all Californians

Protecting California's natural resources

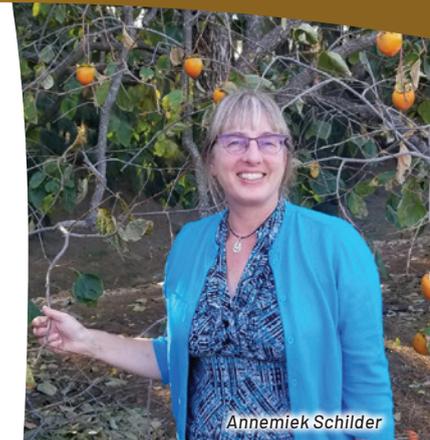
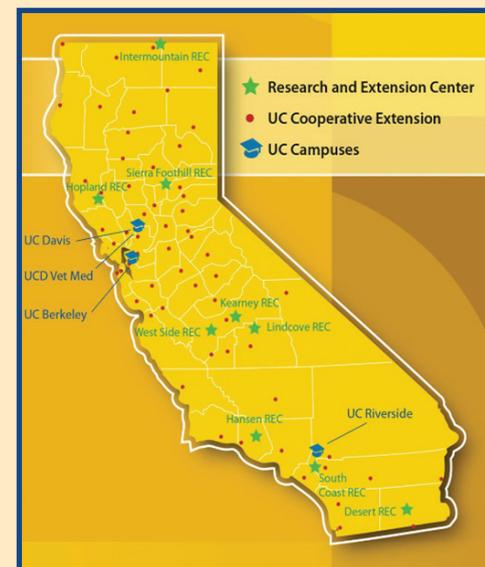
Building climate-resilient communities and ecosystems

Promoting healthy people and communities

Developing an inclusive and equitable society

LEVERAGING THE POWER OF UC ANR

County-based advisors and community education specialists work closely with colleagues and specialists throughout the state, bringing expertise and research and extension funding to Ventura County.



Annemiek Schilder

September 1, 2019

Honorable Board of Supervisors and members of the community of Ventura County,

As the new director of the University of California Cooperative Extension (UCCE) in Ventura County and the Hansen Agricultural Research and Extension Center (HAREC), which are both part of the University of California Division of Agriculture and Natural Resources (UC ANR), it gives me great pleasure to share our accomplishments for the 2018-2019 fiscal year with you.

In the United States, we routinely take the abundance of safe and nutritious food for granted. What many fail to realize is that it takes good-quality soil and water, the dedication and hard work of farmers and farm workers, and innovative research and education to stay abreast of challenges, such as invasive pests and diseases, water and nutrient issues, climate change, and technological and socioeconomic developments.

It is our mission to find solutions that sustain the productivity of agricultural lands while enhancing the health of our environment and well-being of the people of Ventura County. Cooperative Extension plays a critical role in sharing science-based information with the farming community and the public. HAREC provides land and facilities for local adaptive research and educational programs. Statewide programs such as 4-H, UC Master Gardeners and UC California Naturalists provide social and learning opportunities and life skills for youth and adults alike. Additionally, as a county-based organization, we are in a unique position to receive feedback from the community to inform our research and education priorities.

The following pages highlight the extent of the research and outreach conducted in the community by advisors, staff and volunteers to help fulfill our mission. We extend our gratitude to Ventura County, UC ANR, the UC Thelma Hansen Fund and other funding agencies and donors for their financial and logistical support of our programs. We also thank our collaborators listed in the back of this annual report; growers and other stakeholders; and all the energetic volunteers who generously dedicated their time and resources to furthering our mission. We look forward to another successful year of serving Ventura County in 2019-2020.

Sincerely,

Annemiek Schilder

Director, University of California Cooperative Extension in Ventura County and the Hansen Agricultural Research and Extension Center



Ventura River

WILDFIRE PREPARATION AND RECOVERY

This program is a collaborative effort among the Natural Resources, Livestock & Range, and Crop Advisors and addresses the needs of the urban, rural, ranching, and agricultural community in Ventura County as they recover from the 2017-2018 wildfires. The program helps prepare communities for future fires at the landscape and neighborhood scales, and works with land use planning personnel to increase the county’s resilience to future fires as they plan and permit new development.

The 2017 Thomas fire and 2018 Hill and Woolsey fires devastated parts of Ventura County and left communities severely traumatized. In the immediate aftermath of the Thomas fire, Advisor Ben Faber made farm visits and organized grower meetings to assess damage to citrus and avocado orchards, facilitated emergency financial assistance from the USDA Farm Services Administration, and answered numerous phone calls from farmers and the public for advice. Advisor Matthew Shapero visited affected ranches and arranged emergency hay deliveries to feed livestock.

“Irrigated avocado and citrus orchards constitute a natural firebreak and protected Ojai, Ventura, Santa Paula and Fillmore from further devastation in the Thomas fire.”
- Dr. Ben Faber, UCCE Advisor, Ventura County -

After the Thomas, Hill and Woolsey fires, Advisor Sabrina Drill participated in post-fire landscape recovery and watershed protection education as well as statewide planning activities to reduce the impact of future fires. Over 500 homeowners were educated about fire-resistant landscaping. Dr. Drill also worked with numerous agencies and community groups to develop a strategic plan for recovering burned watershed areas in a way that supports community and ecosystem resilience to both fire and flooding. In addition, she collaborated with UC ANR specialists and extension personnel from around the state to develop guidelines for land use planning in fire-prone areas.

PROJECTS ONGOING OR COMPLETED IN 2018/2019:

- **Fire Workshop for County and City Land Use Planners:** Best practices for new or re-development in fire-prone areas
- **Fire and Flow Forum Strategic Plan:** A compilation of prioritized recommendations to guide recovery and long-term resiliency of Southern California watersheds
- **Fire recovery in home landscapes:** Collaboration with Ventura Surfrider to revise Ocean-Friendly Gardening Guidelines for home gardeners in fire-prone areas
- **Prescribed Fire Field Day:** Demonstration of the use of prescribed fire to manage fire risk on a ranch in Orcutt, California



CALIFORNIA NATURALIST PROGRAM

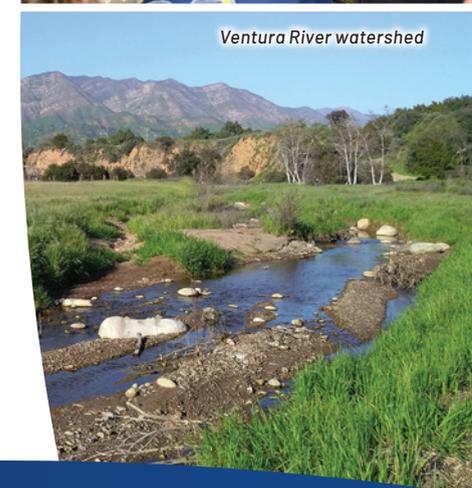
The statewide UC California Naturalist (CalNat) Program’s mission is to foster a diverse community of naturalists and promote stewardship of California’s natural resources through education and volunteer service. The CalNat program uses a science curriculum, hands-on learning, problem solving, citizen science, and community service to instill a deep appreciation for the natural environment and to inspire individuals to become stewards of their local resources.

The CalNat program works with local organizations to conduct CalNat trainings of volunteers in Ventura County. The Ojai Valley Land Conservancy aims to promote stewardship of the natural communities along the Ventura River, areas in downtown Ojai and east of the Ojai Valley. The Wishtoyo Foundation in Ventura incorporates a unique focus on indigenous traditional knowledge, coastal ecology, and marine science in addition to the standard CalNat curriculum. Collectively, 52 naturalists were trained, reporting 747 volunteer hours valued at over \$22,000. In 2019, Sabrina Drill transferred the directorship of the CalNat program to Gregory Ira, who is based at UC ANR headquarters in Davis, California.

Recovering landscape after Thomas Fire



Julie Clark De Blasio provides information on invasive shot hole borer at Insect Festival, Oxnard



Ventura River watershed

Invasive shot hole borer.
Photo by Curtis Ewing - CAL FIRE



Sycamore heavily infested with ISHB.
Photo by Beatriz Nobua-Behrmann - UCCE



INVASIVE SHOT HOLE BORERS

Invasive shot hole borers (ISHB) are recently introduced beetles that are spreading rapidly in southern California and so far have been found in 7 counties, including Ventura County. There are two beetle species: the polyphagous shot hole borer and the Kuroshio shot hole borer. They attack over 200 species of trees including avocado, sycamore, oaks, willows, cottonwoods, and other native riparian tree species as well as common ornamental species. Dead and dying trees change the ecology of the landscape and add fuel for wildfires.

"ISHB beetles are 'fungal farmers': they feed on the fungi that grow in their tunnels and that end up killing the trees."
- Annemiek Schilder, Director UCCE Ventura County -

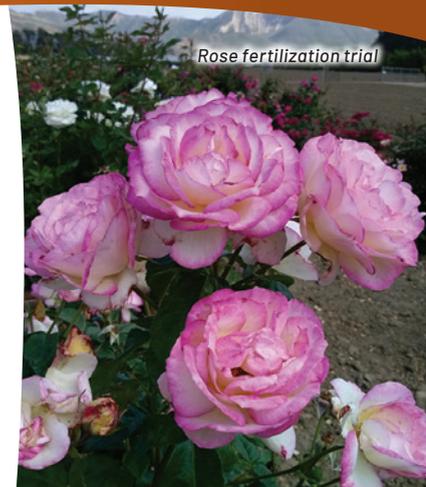
A new ISHB infestation was identified in Ojai in 2018. An on-site workshop to identify and manage infestations trained 65 attendees including local arborists, the Ojai Valley Land Conservancy, academics, government personnel, and land managers. This resulted in the removal of amplifier trees, i.e. trees that produce large numbers of beetles that then spread the infestation to new areas. Participants in regional workshops (throughout Southern California) reported a 50% increase in their intention to properly treat and dispose of green waste, another important means of ISHB spread. The Ventura County Agricultural Commissioner is currently enacting a green waste/ISHB monitoring program to prevent movement of ISHB to and within Ventura County.

ONGOING INVASIVE SHOT HOLE BORER WORK

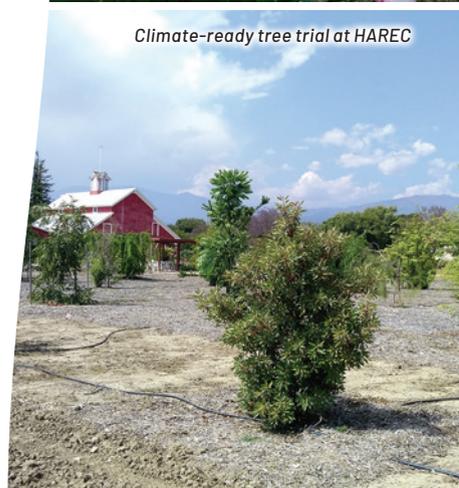
- Train arborists, land managers, and other stakeholders about these pests
- Support the development of a county-wide pest surveillance program
- Help municipal and conservation land managers and farmers manage current infestations
- Update websites (www.pshb.org, <https://ucanr.edu/sites/pshb/>)
- Share information on ISHB with decision-makers and resource managers
- Participate in development of a California ISHB Task Force and work plan

Sabrina Drill, PhD - Natural Resources Advisor
Julie Clark De Blasio, MUP - Community Education Specialist

Rose fertilization trial



Climate-ready tree trial at HAREC



A bee pollinating a rose



Environmental Horticulture and Plant Pathology is concerned with plants in the landscape, such as trees, turf grass, shrubs and flowering ornamentals in urban and natural areas. The benefits of landscapes are shade, reduced energy costs of buildings, and open and recreational spaces all of which improve the quality of life and health of Ventura County citizens. Program clientele include city, state, federal parks and facilities grounds staff, arborists, pest control advisors, landscape architects, consultants, farmers, educators and gardeners, essentially anyone interested in landscape and other plants.

"Recent research shows that exposure to trees and a green environment reduces stress and improves health of people in those environments."
- Dr. A James Downer, UCCE Advisor Ventura County -

Research and extension topics are water management and conservation, pest and disease diagnosis and management, urban forestry and arboriculture, soil issues, and the use of mulches and green waste management. Management of landscape insect pests and diseases is focused primarily on exotic pests but also deals with native insect and disease issues. Dr. Downer also provides oversight, guidance and education to the Ventura County Master Gardener Program.

CURRENT PROJECTS INCLUDE:

- **Climate-Ready Tree Study:** A long-term study to evaluate the growth and survival of trees in hotter climates with less water
- **Effects of urban environmental factors on tree development:** A study to understand carbon capture by urban trees in various stressful environments
- **Fertility requirements of landscape roses:** This study examines the fertilizer (nitrogen and magnesium sulfate) needs of different rose cultivars
- **Tree-turf grass interactions:** A study to investigate the effect of turfgrass on tree establishment
- **Pittosporum decline:** A study of a fungal disease of Victorian box, a common landscape tree
- **Effect of compost and yard waste on control of root rots:** A long-term study of compost-induced disease suppression in soils

A. James Downer, PhD - Environmental Horticulture and Plant Pathology Advisor

Dr. Downer is currently on sabbatical at the Southwestern Research Station in Portal, Arizona, where he is studying adaptations of trees to climate extremes.



Ventura County rangelands

Rangelands in Ventura County provide a host of ecosystem services such as water storage and filtration, wildlife habitat, carbon storage, and scenic viewsheds as well as being the primary forage base for the county's livestock industry. For generations, ranchers have sustainably managed these rangeland ecosystems while providing a quality, safe agricultural product. Increasingly, however, the county's livestock industry faces new ecological, economic, and regulatory challenges. The goal of the Livestock & Range program is to assist producers and rangeland managers in successfully navigating these challenges by providing relevant, science-based information and conducting research that is responsive to the needs of local clientele.

PROJECTS ONGOING OR COMPLETED IN 2018-2019

- **Forage production monitoring plots:** Establishing twelve sites on rangelands to monitor forage biomass production, floral species composition, invasive plants, drought impacts, and shifts in species composition due to a changing climate; in collaboration with the Ventura County Agricultural Commissioner
- **Post-wildfire grazing:** A study to monitor rangelands post-Thomas Fire and impacts on rangeland recovery in the presence of grazing
- **Trace mineral status of beef cattle:** Taking blood samples from cattle on ranches across the county to assess trace mineral deficiencies and evaluating a new mineral supplement program to improve cattle health
- **Low-stress livestock herding and stockmanship:** Research with a Ventura County producer on a ranch in Los Angeles County into practices that improve animal welfare and increase forage harvest efficiency and utilization on ranches
- **Water Quality in the Ventura River watershed:** Working with the Los Angeles Regional Water Quality Control Board, CoLAB, and the Ventura County Cattleman's Association to develop a GIS spatial analysis of potential impacts from cattle on the watershed

- **Ag Pass Program:** Working with the Central Ventura County Fire Safe Council to improve the Ag Pass program, which allows agriculturalists access to areas otherwise excluded to the general public in the event of disaster
- **US Drought Monitor:** Working closely with Ventura County cattle producers and federal agency staff to refine and optimize the nationally-based U.S. Drought Monitor. A regional workshop was held in February 2019 with Drought Monitor staff to facilitate conversation between meteorologists and agriculturalists around how drought is depicted on maps and how it actually impacts producers on the ground.

The U.S. Drought Monitor (www.drought.gov) is a map that is updated weekly to show the location and intensity of drought across the United States.

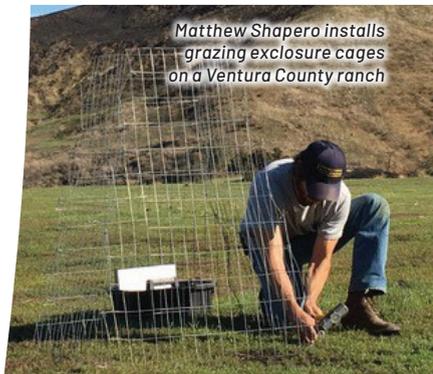
HIGHLIGHTS AND IMPACTS:

- Baseline data on trace mineral deficiencies in beef cattle in Ventura County have been established. A new trace mineral supplement is currently being evaluated that has the potential to dramatically improve animal health and ranch productivity in the region.
- **Newsletter - Livestock & Range News:** http://ceventura.ucanr.edu/Live_Stock_-_Range_Programs/Newsletters_385/

Matthew Shapero, MS - Livestock and Range Advisor



Rangeland post-Thomas Fire



Matthew Shapero installs grazing exclosure cages on a Ventura County ranch



Cattle on ranch burned by the Thomas Fire



Matthew Shapero demonstrates how to measure forage growth



Harvest of experiment designed to determine best fertilization practices for strawberries

The goal of this program is to improve irrigation water and fertilizer use efficiency in the production of vegetable and berry crops in Ventura County in order to enhance economic and environmental sustainability of Ventura County's agriculture.

The continued trend of decreasing water availability and increasing environmental regulations to address surface and groundwater quality issues are posing unprecedented challenges to Ventura County growers. Irrigating and fertilizing more efficiently is essential, not only to maximize yields and returns but also to prevent groundwater contamination. A new free online software program (*CropManage* - <https://cropmanage.ucanr.edu>) that makes optimal recommendations for both water and nitrogen fertilizers for berry and vegetable crops was developed by an interdisciplinary UC ANR team. *CropManage's* recommendations have proven successful in six replicated field studies conducted in Ventura County. A hands-on workshop to train growers and irrigators in using *CropManage* is provided yearly.

ONGOING OR COMPLETED PROJECTS:

- Assessing the impact of nitrogen fertilizer amount and source on strawberry yield, fruit quality and shelf life
- Improving salinity management of strawberry cultivars in California
- Improving irrigation management in celery production
- Quantifying celery nitrogen uptake for optimum fertilizer management
- Assessing nitrogen uptake and growth patterns of raspberry to improve fertilizer application timing
- Comparing the accuracy and precision of soil chemical analysis performed by commercial laboratories in the Western United States
- Role of water stress in development and management of *Macrophomina* charcoal rot (a soilborne disease) of strawberry
- Development of site-specific management of soil pests of strawberries using molecular quantification, remote sensing and field scouting

BENEFITS TO GROWERS

Based on a few simple inputs, *CropManage* can provide any level of irrigation and fertilization decision support in order to validate or improve your existing operation's production – and increase your overall confidence.



20% to 40% Reduction in Water and Fertilizer With Same Yields

CropManage has been ground-truthed in more than 30 field trials throughout California and has produced consistent, and in many cases, improved crop yields.



Supports Irrigation AND Fertilization Recommendations

CropManage combines irrigation and fertilization recommendations that, when used together, significantly improve yields while reducing costs.



Steeped in Deep Research

CropManage is the result of years of ongoing, in-depth University of California agricultural research and crop modeling algorithms.



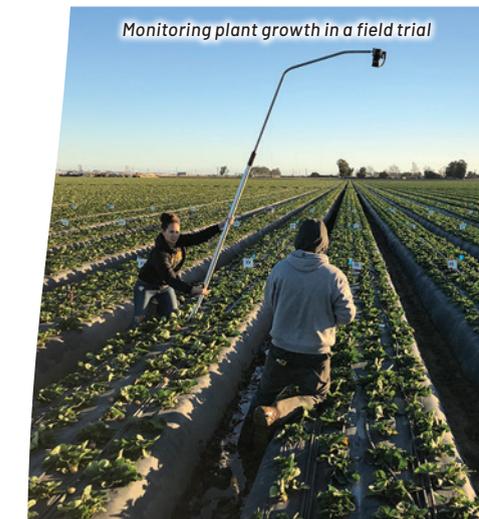
No Extra Equipment Required

CropManage allows growers to leverage their existing infrastructure and does not require operational changes or purchase/implementation of new equipment.

Andre Biscaro, MS – Irrigation and Water Resource Advisor



Dr. Rick Snyder, biometeorologist, installing a weather station to optimize water use in celery



Monitoring plant growth in a field trial



Andre Biscaro teaching growers how to use *CropManage*



Organic strawberries grown in ASD experiment

Ventura County is a leader in year-round berry production with almost 14,000 acres of strawberries, raspberries, blackberries, and blueberries grown with a market value of about \$873 million. In addition, a huge variety of vegetables, including celery, lettuce, spinach, greens, kale, cabbage, herbs, carrots, radishes, tomatoes, peppers, pumpkins, and onions are grown on 38,000 acres with a production value of \$572 million. Insect and mite pests, as well as soilborne diseases, literally take a bite out of production and can be devastating in certain crops and seasons. The goal of this program is to enhance sustainable pest management and reduce environmental impacts of berry and vegetable crop production in Ventura County.

A recent project continued a decade of research on anaerobic soil disinfestation (ASD), a natural alternative to chemical fumigation of soil prior to strawberry planting. ASD relies on addition of organic matter to the soil followed by tarping. As microbes rapidly degrade the organic matter, they create anaerobic conditions that kill fungal pathogens in the soil. While thorough wetting of the soil was deemed necessary for ASD to be successful, we found that reduced irrigation had no negative effects on strawberry yields. A majority of organic strawberry growers have adopted this technology.

Collaborative teams of Ventura County advisors and other UC researchers focusing on improved sustainability of strawberry production generated over \$1 million in external competitive grant funding from federal, state and industry sources. This funding supported programs that benefit the county and California strawberry production.

Raspberries and blackberries are widely grown in plastic tunnels due to higher yields and fruit quality compared to open field-grown berries. However, post rows that channel rainwater from plastic tunnels can lead to soil erosion and nutrient and pesticide pollution of the runoff water. Working with a UC economist, the Resource Conservation District, UC Riverside scientists and Driscoll/Reiter growers, we showed that inexpensive treatments such as cover crops, mulch, weed barrier, and polyacrylamide (an inert polymer used to stabilize soil) can reduce soil erosion and sediments in runoff water several-fold, and losses of phosphorus by 24-85%. A barley cover crop and mulch also reduced nitrate leaching into groundwater by over 80% compared to untreated soil. These conservation practices can help growers meet the runoff water quality control goals.

Anna Howell, MS, Entomologist and Staff Research Associate, studied the effects of commonly used pesticides on beneficial mites in strawberries to help growers make better pest management decisions that promote biological control of harmful mites and thus reduce the need for chemical control. Anna also educated growers and the public at numerous educational events on pest and beneficial insects of fruit and vegetable crops and on the need to protect and attract local pollinators, such as native bees. Anna left UCCE Ventura to take a position with an agricultural company in May 2019.

ONGOING OR COMPLETED PROJECTS:

- Reduced-risk and organic management treatments for soil disinfestation
- Minimizing pollutants in stormwater runoff from plasticulture production systems
- New public caneberry cultivar evaluation
- Improved weed control in vegetable crops and strawberry
- Improving mechanical harvesting for peppers

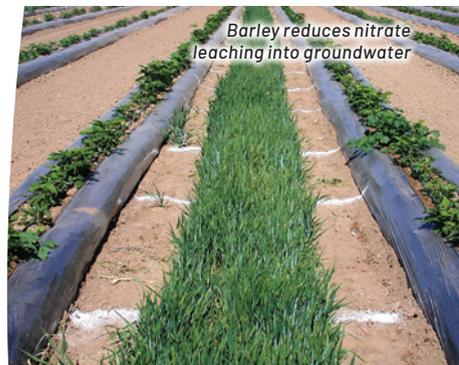
Oleg Daugovish , PhD – Berry and Vegetable Crop Advisor



New strawberry varieties have excellent resistance to Fusarium wilt



Oleg Daugovish (left) discussing raspberry trials with IPM Advisor Chris Greer



Barley reduces nitrate leaching into groundwater



Mulch in tunnel post row reduces soil erosion



New citrus orchard in Ojai

Thanks to a favorable climate, Ventura County is a major producer of avocados and citrus fruit, covering 17,000 and 18,000 acres, respectively. Minor subtropical crops such as banana, cherimoya, passion fruit, feijoa, macadamia nut, and pitahaya (dragon fruit) are also grown here. There are many production challenges in these crops related to pests, diseases, temperature extremes, and water and fertilizer use. Soil and microclimate variability complicate irrigation management, as too little water during a sudden heatwave - as happened in July 2018 - can set trees back for years, while too much water may increase deadly Phytophthora root rot. For crops that are new to Ventura County, such as coffee, horticultural practices and variety performance need to be studied to ensure grower success. The primary goal of this program is to optimize agricultural practices for subtropical crops in an environmentally sound manner.

"In an exciting new project on pollination of avocado flowers to see how we can improve avocado fruit set, night-time visitors to the flowers are being monitored for the first time in California. At this point it appears that syrphid flies (a.k.a. hover flies) may be as or more important than native bees in pollinating avocado flowers. Syrphid flies are also important predators of avocado pests. By increasing the numbers of syrphid flies through the establishment of gardens within orchards, we may be able to increase fruit set as well as reduce pest problems in avocado orchards."

- Dr. Ben Faber, UCCE Advisor, Ventura County -

ONGOING OR COMPLETED PROJECTS:

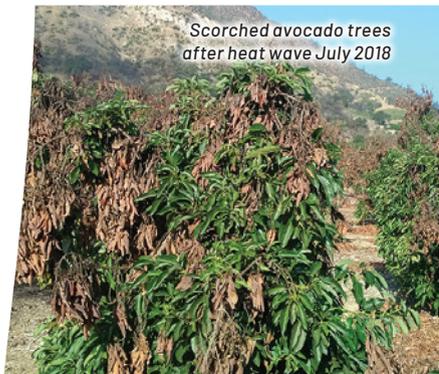
- **Pollination of avocado:** Study of night-time pollinators of avocado flowers and ways to improve fruitset
- **Rootstock/scion selection for avocado and lemon:** Determining the best rootstock and scion combination for adaptation to current production systems in Ventura County
- **Coffee and tea cultivar evaluation:** Determining most productive coffee and tea cultivars as niche crops for Ventura County

- **Pomegranate nitrogen management:** Determining optimal fertilization practices for pomegranate
- **Wild fire effects on soils:** Determining the effects of wildfires on soil structure and chemical composition and suitability for crop production
- **Local evapotranspiration mapping for avocado irrigation management:** Determining how variability in water use by avocados can be better quantified to optimize water use

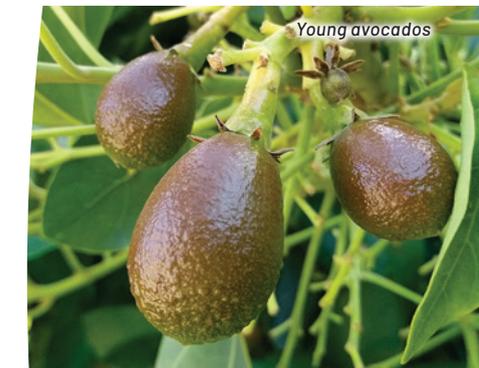
Ben Faber, PhD - Advisor



Ben Faber teaching in a lemon orchard



Scorched avocado trees after heat wave July 2018



Young avocados



THELMA HANSEN FUND

Thelma Hansen was a farmer's daughter from Saticoy who studied mathematics at UC Berkeley in the early 1900's and later returned to the area to continue farming. Her generous bequest in 1993 created the Thelma Hansen Fund, a UC endowment that supports and maintains University research and extension activities for the sustainability and benefit of agriculture and natural resources in Ventura County. In 2018, the grant program was reinstated and a total of \$130,000 was made available to support research and education projects that benefit Ventura County agriculture and natural resources.



Syrphid fly on avocado flower-pollinator and predator of pests



HAREC field trip youth learn how to harvest carrots from Master Gardener Sylvia Van Wagner

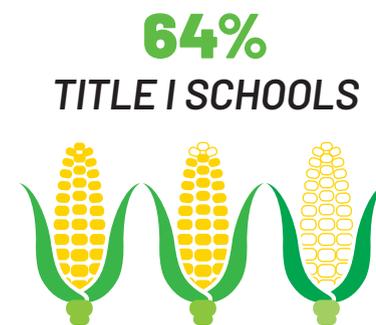
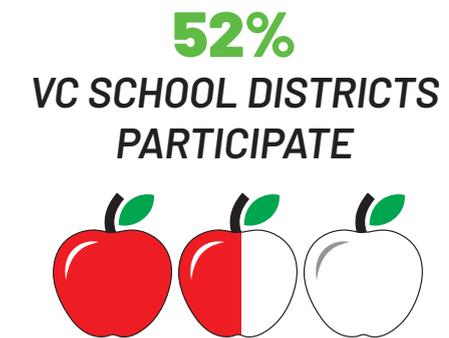


4-H is a nationwide program designed to develop life skills, leadership and responsibility through experiential learning activities and a positive youth development approach. Working together, UC Cooperative Extension and Hansen Agricultural Research and Extension Center (HAREC) program staff provide oversight for community club activities and an agricultural literacy school enrichment program. This collective effort makes for a robust 4-H Youth Development Program able to serve the county's diverse population.

- Fourteen 4-H Community Clubs and 2 Military Clubs with 589 members ages 5-18 providing a variety of hands-on projects under the guidance of adult volunteer leaders with focus on STEM (science, technology, engineering, math) education, healthy living, large and small animal husbandry, leadership and civic engagement
- HAREC hosts seasonal – spring, summer, fall – 4-H agricultural literacy programs for public and private school youth grades K-12. These include farm field trips, classroom outreach, after-school Student Farm and Sustainable You! Summer Camp. Hands-on STEM activities focus on Ventura County agriculture, nutrition and cooking, sustainability and give youth the opportunity to learn where their food comes from.
- 150 volunteers support all 4-H programming
- Collaborations with the City of Ventura and Ventura Unified School District help stretch resources by providing educators for summer camp and field trips as well as transportation of youth to HAREC for Student Farm and field trips for Title I schools

“My 3rd grade class loved our field trip there [HAREC] and learned an awesome amount of information. Thank you for your patience and for allowing us to ‘get our hands dirty’ and harvest some vegetables. Many students have not experienced that. It was a very valuable experience.”
– Mary Murphy, 3rd grade teacher (New Harvest Christian School in Oxnard) –

HOW HAREC PROGRAMS ARE MAKING AN IMPACT IN VENTURA COUNTY



4-H youth answers questions about his turkey VC Fair 2018



Youth observe red wiggler worms during vermiculture lesson HAREC



Sustainable You! Summer Camp group 2019



4-H youth show lambs at VC Fair 2019

Valerie Zeko, MEd – Community Education Specialist
Annabel Faris – Program Support Coordinator
Gwyn Vanoni – Community Education Specialist
Susana Bruzzone-Miller, RDN – Youth, Families and Communities Program Manager

Master Gardener-approved site—
HAREC Education Garden



Master Gardeners deliver UC science-based gardening information to Ventura County residents, are instrumental in youth and adult education activities, and assist with agricultural research projects at HAREC. Highlights for the past year include:

- 10 Hands-On Drip Irrigation Workshops in three different cities, including one class taught in Spanish
- 49 gardening-related talks attended by over 1,000 members of the public
- Maintained 9 demonstration gardens throughout Ventura County
- Trained 35 new UC Master Gardeners who graduated in May 2018
- Provided home gardening support to 453 Ventura County residents and 27 non-VC residents through the Helpline
- Conducted educational outreach at 15 externally hosted events in Ventura County
- Educated the public about the destructive Huanglongbing disease and its insect vector, the Asian Citrus Psyllid that are threatening the California citrus industry



NEW MASTER GARDENER COORDINATOR

In June 2019, we welcomed Alexa Hendricks as the new Master Gardener Program Coordinator. She is a Ventura County native and self-described “nature nerd”. We heartily thank Leah Haynes, who retired in January 2019 after 20 years of tireless service to UC Cooperative Extension!



Alexa Hendricks

“The Master Garden Program provides inspiration, creativity, knowledge and contact with like-minded individuals.”
– Rhonda Riddle, UC Master Gardener –

NEW PARTNERSHIP WITH THE AGRICULTURAL MUSEUM IN SANTA PAULA

At the request of the Museum of Ventura County—Agricultural Museum in Santa Paula, dedicated UC Master Gardeners revitalized vegetable and native plant gardens, transforming the neglected gardens into beautiful, usable space. The vegetable garden now features several raised beds that are used to educate 3,000 to 5,000 youth that visit the Museum on school field trips annually. The native garden is a showpiece of drought-tolerant, pollinator-friendly plants native to Ventura County. This garden demonstrates the beauty, diversity, and sustainability of plants that occur naturally in the region and provides habitat for native wildlife.

“By learning and then interacting with others hopefully I can make a positive impact to leave the world and those who come after me a slightly better place. The Master Gardener Program affords me this learning.”
– Bonnie Brown, UC Master Gardener –

EXPANDED PARTNERSHIP WITH THE CALLEGUAS MUNICIPAL WATER DISTRICT TO DEMONSTRATE WATER-WISE GARDENING

Since 2010, UC Master Gardeners of Ventura County have worked closely with the Calleguas Municipal Water District (MWD) to provide water conservation education to more than 100,000 residents of Ventura County through Hands-On Drip Irrigation classes in Thousand Oaks and Oxnard. To support the new training location at the Oxnard Historic Farm Park, the Calleguas MWD sponsored the construction of training facilities and interpretive signage and provided educational materials and irrigation supplies. The UC Master Gardeners have also started preparations for a drought-tolerant grass demonstration area at the Goebel Adult Community Center True Colors Garden in Thousand Oaks, supported by the Calleguas MWD and the Conejo Recreation & Park District.

Alexa Hendricks – Community Education Specialist
Leah Haynes – Community Education Specialist (retired 2019)



Community outreach at
Insect Festival, Oxnard



Harry Lee teaching an irrigation class



Leah Haynes (left) and
Master Gardener Nicole Vanole



Compost used as mulch in lemon orchards



Rye cover crop in avocado orchard



Seeding cover crop demonstration trial at HAREC



Alli Rowe

Climate-Smart Agriculture addresses how to manage agricultural systems to meet the nutritional needs of a growing population while both building resiliency to climate change and using agriculture as a solution to our climate crisis. To be effective, climate-smart agriculture must meet three main objectives: 1) Increase agricultural productivity and incomes; 2) Adapt to and build resiliency to climate change; and 3) Reduce greenhouse gas emissions.

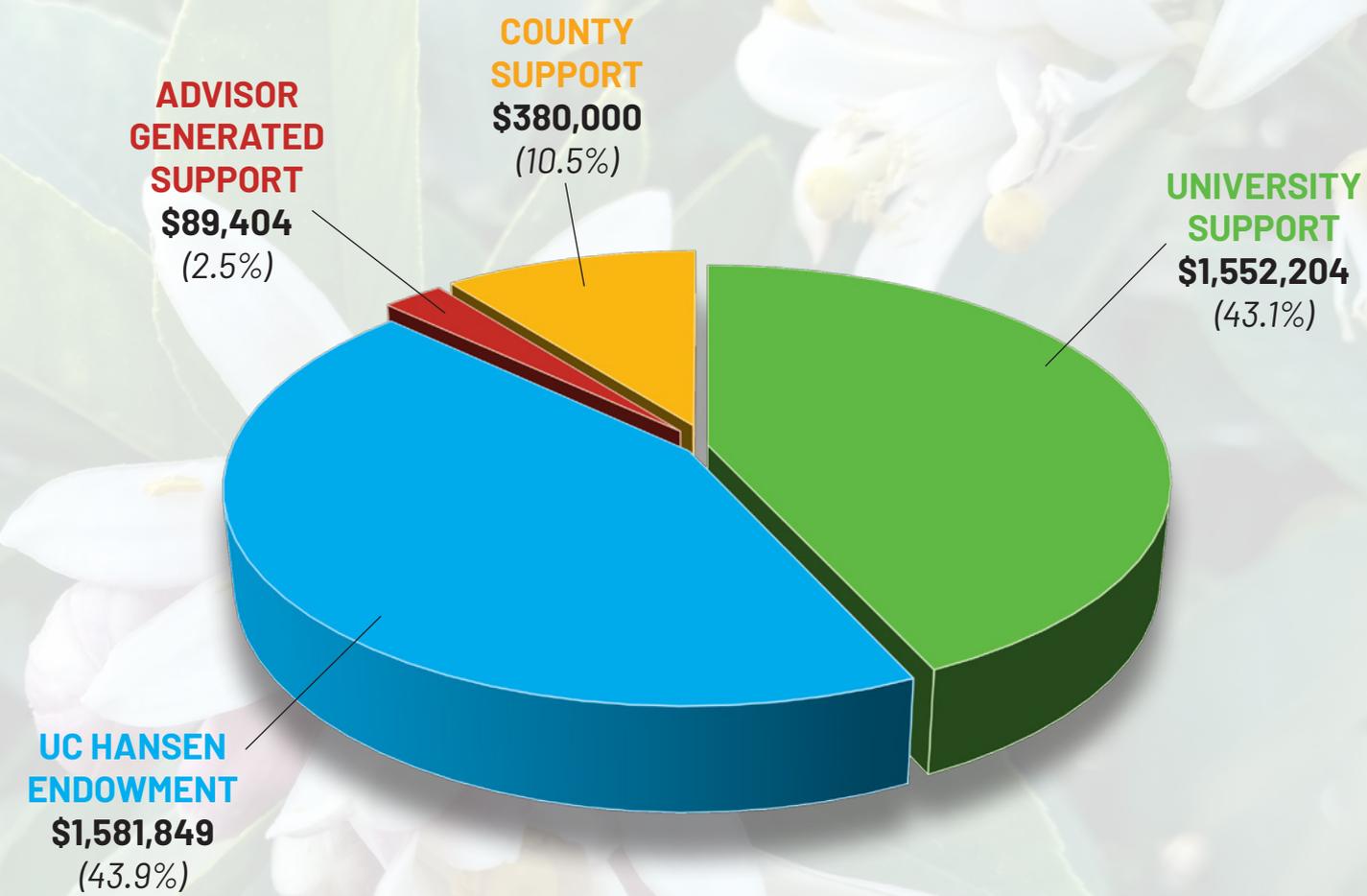
Alli Rowe is the Climate-Smart Agriculture Education Specialist for UC Cooperative Extension in Ventura County. She provides free technical assistance to farmers and ranchers in applying for CDFA grants to promote the adoption of Climate-Smart practices:

- **The State Water Efficiency and Enhancement Program (SWEEP)** encourages farmers to install more efficient irrigation systems that decrease water consumption as well as greenhouse gas emissions (up to \$100,000 per project)
- **The Alternative Manure Management Program (AMMP)** awards up to \$750,000 to livestock producers who decrease their methane emissions by changing the way that they manage manure
- **The Healthy Soils Program** encourages the implementation of conservation agriculture techniques that decrease erosion and greenhouse gas emissions, like cover cropping, compost application, crop rotation, and mulching (up to \$75,000 per project). There is also the option to coordinate with a local resource conservation district or university on a healthy soils research and demonstration project of new practices (up to \$250,000 per project)

In 2019, Alli assisted 18 growers with SWEEP and Healthy Soils grant applications. Due to time limitations, 10 applications were submitted of which 6 were awarded, bringing \$296,584 in grants to Ventura County. Additionally, Alli blogs on climate-smart agriculture and conducts adult and youth education activities on climate-smart, on-farm practices and agricultural sustainability. Awareness and interest have been generated among farmers and ranchers in the adoption of sustainable agricultural practices.

Alli Rowe, MEM – Community Education Specialist

UC Agriculture and Natural Resources – Ventura County



Ventura County advisors also participate in research projects that garner millions of dollars and contribute statewide expertise to help bring solutions to the county and to California as a whole.



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We wish to thank our volunteers as well as the many community partners and collaborators for their dedicated service and support that helps enrich the lives of Ventura County residents.

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