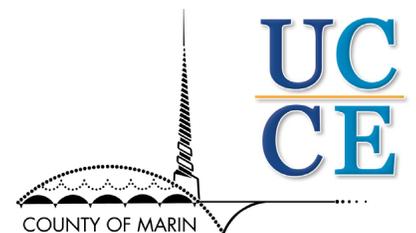


2019 Annual Report



UC Cooperative Extension Marin County



UC Cooperative Extension Marin

2019

Farm Advisor

The mission of the University of California Cooperative Extension Marin County Office is to sustain Marin's vital agriculture, environment, and communities. We do this by providing University of California research-based information in agriculture, natural resource management, healthy living, and youth development. Networked with the expertise of UC campuses, our educational programs use practically-applied research to solve community problems.



Marin 4-H leaders receive recognition from Supervisor Dennis Rodoni



552

volunteers donated
63,507
hours public service
- estimated value of
\$2,564,413



15,463

total educational
interactions with the
public



6

peer-reviewed and
audience-requested
publications



5

activities bringing
research to policy



192

academic-led
workshops, field
days, and classes



29

news media
programs/
mentions



5,970

youth in
UC 4-H Youth
Development
Program



UC Marin Master
Gardeners reached
7,802
residents



12

new certified
California
Naturalists
stewarding the
environment



UCCE Marin

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Partnering for Change

UC ANR builds partnerships based on deep and long-lasting relationships with local, state and federal governments, community-based organizations, schools, nonprofits and private industry.

UCCE Funding



\$954,374
University



\$441,295
County



\$276,830
Advisor generated
(grants, gifts,
other, etc.)



Volunteers raised
\$65,000
to support local
programs

It is estimated that for every

\$1

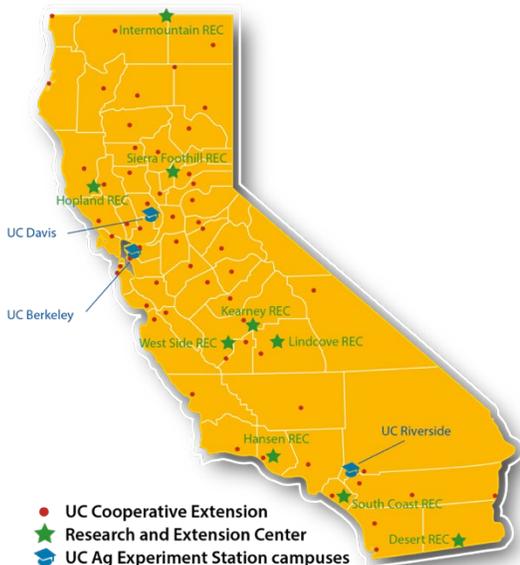
invested in agricultural
research and extension
there is a return of

\$20

to the community.

Alston, Anderson et al (2010)

Leveraging the Power of the UC System



I just wanted to compliment you for an excellently organized program yesterday. All of the speakers were excellent, the topics were interesting and complimentary, and I think everyone left with a better understanding of historical changes in the landscape, their causes, and innovative ways of better managing our land.

— Greg Zitney, consultant

Thanks for the great info! I appreciate it very much. It's so amazing to have a resource like you at the UC Cooperative Extension.

— Farmer starting a pasture poultry operation

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Reaching Marin

Educational Offerings and Consultations

In 2019, nearly 15,500 participants were served in 192 workshops, conferences, and tours organized with our community partners. These offerings were both in person and via webinar platforms. Participants included nearly 1,300 youth in attendance at Farm Day and more than 7,800 in school gardens and youth gardening programs.

In addition to education through workshops, our program teams provided technical consultations to Marin agricultural producers, tree and landscape professionals, homeowners, and educators. In 2019, we provided approximately 1,700 consultations either in our office, through our gardening help desk, or in the field on farms and properties.



Farm pond measurement and reporting field training

Online Resources

Complementing our educational offerings are the portfolio of web resources we curate to make up-to-date information available for use by Marin residents. These include:

- [UCCE Marin Home Website](#)
- [UC Marin Master Gardeners](#)
- [Grown In Marin](#)
- [Sudden Oak Death](#)
- [Marin Knotweed Action Team](#)
- [Marin Food Policy Council](#)

During 2019, these websites had more than 230,000 discreet views. Popular webpages include:

- [Oak identification](#)
- [Sudden Oak Death FAQ](#)
- [About Marin Agriculture](#)
- [Getting Started in Farming & Ranching in Marin](#)
- [Getting Started with Food Gardening](#)
- [Fire-smart Landscaping](#)
- [Plants that aren't blown away in the wind](#)
- [What is Japanese Knotweed](#)

Bringing Value through Programs

Developing a Qualified Workforce for California

UC ANR's youth and community development programs equip the next generation for college, successful careers, and to be active participants in their communities. Growers and land managers learn cutting-edge skills that increase workforce competency and advance innovation. UC ANR helps develop a qualified workforce to increase opportunities for individuals to ensure a robust and thriving state economy.

4-H youth exposed to hands-on science projects early are

5x

more likely to build a career in math or science

4-H participants are

4x

more likely to complete a 4-yr degree

Improving college readiness and access

Teens grow their environmental science teacher skills

On April 13, 2019, Steven Worker, 4-H Youth Development Advisor, led the first 4-H Environmental Science Institute. The purpose was to improve the competence and confidence of teen 4-H camp staff, and their adult coaches, to facilitate high quality outdoor environmental education during their 4-H camp. Camp teen staffers were introduced to hands-on environmental education practices and curriculum. They subsequently used these to lead environmental education sessions during their 4-H camp. Specific topics included experiential learning, North Bay ecology, wildlife movement in forest, chaparral, and riparian zones, and forests and insects.



Youth leaders learning to teach science and environmental education courses

Growing youth leaders in Marin's communities

In 2019, the 4-H Youth Development program reached 5,970 youth through 4-H Clubs, summer camps, at educational events, and in partnership with the BACR LEAP afterschool program. This partnership enables us to support youth of color to reach their fullest potential as competent, confident individuals who contribute to their communities. Youth serve in leadership roles where they set goals, develop plans, complete projects, and reflect on their experiences. Using an experiential educational model, youth develop essential skills that they will use throughout their lives, such as identifying and nurturing interests, desiring knowledge, setting goals, self-reflection, adapting to new situations, communicating, and responding to the needs of others.



After school science exploration

Promoting Economic Prosperity in California

UC ANR partners with public, nonprofit, and private groups to create and extend new knowledge about agricultural and natural resource management. Participants change practices that result in increased yield and efficiency as well as reduced inputs, thus increasing economic return. UC ANR also conducts research and education leading to improvements in individual and household financial management practices.

These changes improve individual and business financial stability, increasing the viability of California's economy and maintaining our role as a global leader.

Improved animal management, productivity, and efficiency

Improving dairy herd health

UCCE Dairy Advisor Randi Black worked collaboratively with University and state colleagues to improve the prevention and treatment of animal health disorders. This ongoing research includes looking at antimicrobial resistance and judicious use of antibiotics, potential alternative treatment methods for organic dairy producers, and prevention management to eliminate the need for disease treatment. Collectively, reducing antibiotic use and promoting improved animal health safeguards abundant and healthy food for all Californians.



Calf hutches limit exposure to disease, offering a tool for reducing antibiotic use

On-farm diversification through poultry processing

UCCE Sustainable Agriculture Coordinator Vince Trotter has been leading efforts to support agricultural diversification through on-farm poultry processing. At the 2019 California Small Farms Conference, he co-organized and lead a session that compared and contrasted the economics, logistical implications, and regulatory impact of processing on-farm versus trucking live animals to an inspected plant.



Ag diversification through pasture raised poultry

Increased agricultural and forestry efficiency and profitability

Giving organic growers options for weed control

On December 13, 2018 we conducted a webinar titled "Options for Pesticide Use in Organic Systems" devoted to chemical methods of weed control on certified organic operations. The goal was to bring attention to the classes of organic-approved materials that can be used in both annual vegetable systems as well as perennial crop systems. We reviewed the decision-making process when selecting a pesticide, the procedures for using them safely, and systems for reporting pesticide use to the state, post-application. We also compiled all learnings and resources from the webinar in a [webpage](#) for access by the community.



"Options for Pesticide Use in Organic Systems" webinar

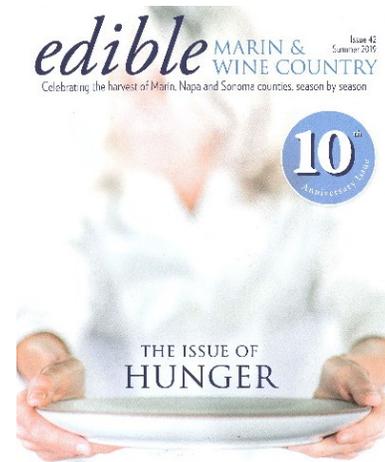
Safeguarding Sufficient, Safe, and Healthy Food for all Californians

UC ANR's research creates practical solutions leading to improvements in food production and processing practices. Given one out of every eight Californians does not know where their next meal will come from, UC ANR educational programs enable individuals and households to improve their food budgets and food management practices. As a result, Californians have increased access to abundant, affordable, safe, and healthy food.

Improved Food Security

Identifying and address Marin's food access inequities

The [Marin Food Policy Council](#) combines the leadership of Marin's agencies and organization focused on improving Marin's food system. The Council's work provided the "...the seeds of this special issue" of Edible Marin explained editor Gibson Thomas. "I was shocked to learn the extent of hunger in Marin — the numbers include seniors, the sick, isolated rural farm workers, college students, working families and victims of natural disasters" Thomas added further. The Marin Food Policy Council's success in creating this awareness and galvanizing programs and resources to address these inequities is making a difference across Marin.



Summer 2019 "Hunger" issue of Edible Marin

Growing edibles in every backyard

UC Marin Master Gardeners are supporting Marin residents to grow their own fruits and vegetables. Examples include education at the [Edible Demo Garden](#), part of our partnership with the College of Marin's Indian Valley Organic Farm and Garden. In 2019 more than 750 people recieved hands-on learning to plan and tend a vegetable garden. Important in these trainings were demonstrations of options for growing edibles to fit any yard – from small container gardeners and hay bale plantings to larger raised beds. Educational offerings like these are backed-up with additional information for food gardening [online](#).



Growing edibles training at the Indian Valley Organic Farm & Garden

Promoting Healthy People and Communities

UC ANR produces tools, programs, and policy-relevant research that result in healthy living for individuals and communities. Program participants adopt healthier lifestyles and communities gain improved access to green spaces and healthy foods. Benefits also include safe drinking water, clean air, and reduced exposure to pesticides. In this way, UC ANR promotes public health for people and the communities where they live, learn, work, and play. Collectively these efforts contribute to a healthier California, improving public health and reducing healthcare costs.

Improved access to positive and built environments

Gardens benefit Marin seniors

In collaboration with the Marin Food Policy Council, UCCE Community Garden Coordinator Lauren Klein delivered a program to increase access to healthy food, build community, and encourage physical activity through community gardening for lower-income seniors in Marin. Through a series of workshops, garden manager on-site consultations, and municipal partner collaboration the number of gardens available to seniors and the number of seniors experiencing gardens are growing. One notable outcome is the brokered partnership between the Margret Todd Center and Novato City Parks and Recreation Department on a pending community garden. Another is the ongoing supply and delivery of garden seeds through the Agricultural Institute of Marin's Rollin' Root Mobile Farmers Market.

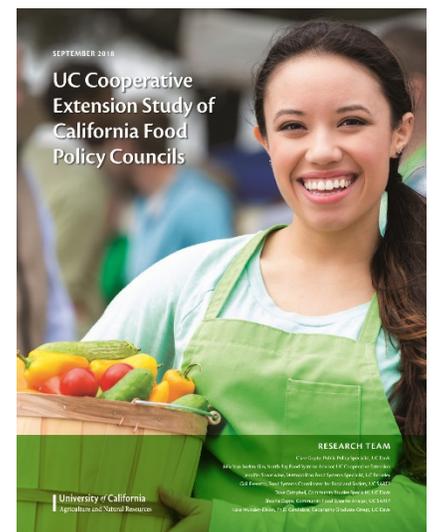


The Mackey Terrace senior garden in Novato

Improved community health and wellness

Understanding the capacity of food policy councils

A team of food supply and system experts, led by our Food System Advisor Julia Van Soelen Kim and Evaluation Specialist Clare Gupta on the Davis Campus, have completed analysis of the scope and capacity for local food policy councils to make a difference for community and individual health. Marin's own Food Policy Council figures prominently, leading the way in community representation and successful advocacy. Outcomes have included: mobile market; map of community and school gardens; support for UCCE garden coordinator position; CalFresh enrollment Application Assisters training; Marin City grocery store initiative; convening/facilitating stakeholder gatherings; Food Resource Guide; and an Equitable Access Report. Learn more about the essential roles these councils have and the specifics of Marin's Food Policy Council in the [full report](#).



Study of CA Food Policy Councils

Protecting California's Natural Resources

UC ANR translates research into actionable management strategies to protect our farming, ranching, forestry, and urban environments. Through outreach and education, participants learn to adopt recommended practices, such as grazing and rangeland management, sustainable use of forest and wildland resources, protection against fire, and water conservation. These measures contribute to improving air, soil, and water quality while also protecting wildlife and plant habitat. Increased ecological sustainability of agriculture, forestry, and urban landscapes helps California realize the many benefits of the state's rich and diverse natural resources.

Improved management and use of land

Making the most of stored water

In the wake of new statewide regulations related to how farms and ranches manage their livestock ponds, Vince Trotter, UCCE Sustainable Agriculture Coordinator, delivered program to bring Marin producers up to speed. In partnership with the Marin Agricultural Land Trust, we installed pond monitoring systems on three ranches demonstrating low, medium and high-tech options for satisfying state rules. Field visits to the demonstration sites were held, explaining the new rules as well as how to install each system. A series of seminars were held on filing annual water use reports with the state using data from ranchers' own monitoring systems. Additional resources and how-to information have been compiled on a [webpage](#), detailing all pond measurement systems, key terminology, and reporting basics including templates for capturing data.



Ranchers discussing new pond monitoring systems

Improved water quality

Making the most of nutrients on dairy farms

Nutrient management is instrumental for attaining dairy sustainability. It is a road map for farmers to optimize inputs and outputs in crop production. It also serves as a tool for regulated and regulating communities to minimize negative environmental impacts. Marin dairies are predominately pasture-based and organic, with milk from these farms supporting a growing farmstead, niche cheese and dairy product industry. We formed a technical advisory working group, iteratively consulting with the regulated dairy farmers and water resource agency representatives, to develop and implement a hybrid nutrient management approach for Marin dairies. The proposed approach accommodates the grazing and pasture use of Marin's dairy systems, targeting nitrogen applications to be protective of surface water resources.



Dairy farmers developing nutrient management plans for their farms

Increased ecological sustainability of agriculture, landscapes, and forestry

Bringing climate management resources to dairies

UCCE Dairy Advisor Randi Black assisted dairy farmers in applying to state funding opportunities to reduce their greenhouse gas emissions. The California Department of Food and Agriculture's Alternative Manure Management Program awarded \$365,157 to reduce methane emissions by 3,171 MTCO₂e through improved manure management practices, the equivalent of removing 673 passenger vehicles from the road for one year. Additionally, the California Energy Commission awarded \$349,115, through the Renewable Energy for Agriculture Program, to install solar energy and reduce greenhouse gas emissions by 2,296 MTCO₂e, the equivalent of removing 487 passenger vehicles from the road for one year. These two awards and recipient dairies are providing motivation to other neighboring producers to participate in smart agricultural practices, amplifying the overall benefit and impact.



Milk Parlor Management Meeting for local dairy farmers

Healthy plants in a world with Phytophthora

Our Forest Health Team, including Janice Alexander and Bonnie Nielsen, in partnership with the US Forest Service, organized the Seventh Sudden Oak Death Science Symposium (SOD 7), bringing together scientific and management communities from throughout the world working on Phytophthoras and related forest health concerns. This international meeting, held June 25-27, 2019 in San Francisco, provided a forum for updates on the state of our knowledge about Phytophthora ramorum, other Phytophthoras, and associated diseases in wildland, urban, nursery, restoration and landscape settings. The broad scope was designed to foster cooperation between more than 300 individuals working in various disciplines and geographic areas, and to provide current findings and management guidance for scientists, managers, regulators, and policy makers. Videos of conference presentations are available [online](#).



Seventh Sudden Oak Death Science Symposium

Increased ecological sustainability of agriculture, landscapes, and forestry (continued)

Homeowners participate in noxious weed eradication

The [Marin Knotweed Action Team](#) was formed in early 2018 to eradicate Japanese knotweed (*Fallopia japonica*) from public and private lands in the Lagunitas Creek and San Geronimo Creek watersheds. Japanese knotweed poses a serious threat to populations of endangered Coho salmon and threatened steelhead trout by reducing canopy cover with subsequent disruptions in the food chain due to reduced amounts of leaf litter. UC Cooperative Extension Program Coordinator, Anna Dirkse, led private landowner education and outreach in the San Geronimo Valley, resulting in 47 parcel owners signing on to have their property surveyed for the plant and identified patches managed. This homeowner cooperation is critical to completing the three to five years of management needed to eradicate the plant at identified patches in the watershed.



Japanese knotweed (Fallopia japonica)

Improved water-use efficiency

Home gardens use water efficiently

Marin Friendly Garden Walks, a partnership with the Marin Municipal Water District, is celebrating its eleventh successful year serving Marin residents. Trained by MMWD conservationists and UC Marin Master Gardener trainers, two of the 56 UC Master Gardener Garden Walkers visit client's garden to conduct a garden water usage audit. Supported by UC Cooperative Extension Program Coordinator Pam Polite-Fisco, walkers focus on reduced water usage and soil and plant health, suggesting irrigation improvements and plant selection to encourage sustainable landscaping. Having visited more than 1,700 gardens throughout Marin, the program's results have shown a measurable 5-7% reduction in the MMWD clients water usage.



UC Master Gardener Garden Walker client visit