

# 606150000—UC Cooperative Extension

## Education

Brent A. Holtz, Cooperative Extension Director

General Fund	2017-2018 Actual	2018-2019 Adjusted	2019-2020 Requested	2019-2020 Recommended	Increase/ (Decrease)
<b>Expenditures</b>					
Salaries & Benefits	\$318,027	\$329,976	\$334,411	\$334,411	\$4,435
Services & Supplies	78,094	99,544	99,544	99,544	0
Centrally-Budgeted Expenses	12,555	14,013	383,624	383,624	369,611
<b>Total Expenditures</b>	<b>\$408,676</b>	<b>\$443,533</b>	<b>\$817,579</b>	<b>\$817,579</b>	<b>\$374,046</b>
Expenditure Reimbursements	(35,505)	(34,502)	0	0	34,502
<b>Total Appropriations</b>	<b>\$373,171</b>	<b>\$409,031</b>	<b>\$817,579</b>	<b>\$817,579</b>	<b>\$408,548</b>
<b>Earned Revenues By Source</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Net County Cost</b>	<b>\$373,171</b>	<b>\$409,031</b>	<b>\$817,579</b>	<b>\$817,579</b>	<b>\$408,548</b>
<i>Allocated Positions</i>	4.0	4.0	4.0	4.0	0.0

## Purpose

Cooperative Extension (CE) is a nationwide system for non-formal education established by Congress in 1914 to improve America's agriculture and natural resources, youth development, and family nutrition education. CE's mission is to help all segments of the community benefit from the scientific advances made locally and at the nation's land grant universities.

The University of California Cooperative Extension (UCCE) in San Joaquin County brings research, educational programs and innovative solutions to growers, families, and communities in the County. Programs are carried out by university professionals and highly trained and dedicated community volunteers. Although not mandated, County support is governed by Education Code Section 32330 and a 1960 Memorandum of Understanding (MOU) between the Regents of the University of California (UC) and the County of San Joaquin.

## Board Strategic Priorities 2019-2020 through 2021-2022

The 2019-2020 recommended budget for the UCCE focuses on the implementation of the Board Strategic Priorities as adopted by the Board on April 9, 2019. The Board Strategic Priorities for fiscal years 2019-2020 through 2021-2022 are a continuation of the Board's original five key priorities established in 2015. The Board has updated and augmented

the goals associated with these strategic priorities to reflect the Board's direction related to water issues, health, collaboration, and homelessness.

These priorities are combined with the UC's Division of Agriculture and Natural Resources (UC ANR) strategic vision, which will be in effect until 2025. The following highlights provide an overview of several projects, programs, and activities administered by the UCCE.

### Promote Economic Development

UC ANR is currently implementing its strategic vision to guide the UCCE. The following UC ANR initiatives have been adopted by the CE:

- Improve water quality, quantity, and security.
- Enhance competitive and sustainable food systems.
- Increase science literacy in natural resources, agriculture, and nutrition.
- Develop sustainable natural ecosystems.
- Enhance California's agricultural economy.
- Promote the health of Californians and their families and communities.
- Ensure safe and secure food supplies.
- Manage endemic and invasive pests and diseases.
- Improve energy security and green technologies through innovative science.

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In addition to agricultural programs, the 4-H Youth Development Program provides non-formal educational programs and activities across a diverse culture of youth in the County, with over 200 enthusiastic adult volunteers supporting youth who are learning, achieving, and giving back to their communities. The nearly 150 Master Gardeners (MGs) have provided homeowners and schools educational programs on composting green waste, safer ways of pest control in the home garden, and improved water conservation techniques in garden and urban landscapes. The Master Food Preserver (MFP) Program is a public service community outreach program providing up-to-date information on food safety and preservation for the home gardener with 20 program participants. The Environmental Horticulture (EH) Advisor trains landscape professionals, parks and recreation workers, golf course superintendents, school grounds personnel, nursery professionals, and landscape architects and designers on sustainable landscape practices. These practices include those that conserve water and reduce irrigation runoff and associated pollutants. The Nutrition, Family, and Consumer Science programs are designed to prevent childhood obesity, prevent chronic disease, reduce health disparities, improve consumer food safety practices, and reduce hunger and food insecurity.

## Major Budget Changes

### Salaries & Employee Benefits

- \$4,435 Salary and benefits adjustments.

### Centrally-Budgeted Expenses

- (\$2,099) Decrease in Casualty insurance costs.
- \$371,525 Addition of Countywide Cost Allocation Plan charges.

## Program Discussion

The 2019-2020 recommended budget for the UCCE program totals \$817,579, which is an increase of \$374,046 from the 2018-2019 adjusted budget. The increase is primarily due to salary and benefits adjustments and the addition of Countywide Cost Allocation Plan charges.

The County provides funding for UCCE by providing clerical and technical staff, operational support, transportation, and office facilities as established in the MOU between UC and the County. Through its partnership with the County, UCCE is able to leverage nearly \$6.0 million in State and Federal funding for competitive research grants into the County to support its agricultural research mission. CE Advisors are

renowned locally, Statewide, nationally, and internationally as leaders and are invited to speak on research that is generated in the County.

In addition, individual grower co-operators, agricultural organizations, allied agricultural industries, and commodity boards provide in-kind support in the form of commodity research grants, land, labor, equipment, and materials necessary for conducting research in the County. UCCE also receives Federal funding for research from the National Institute for Water Resources, the United States Department of Agriculture (USDA), and the California Department of Food and Agriculture (CDFA).

### Agricultural Programs

CE Advisors are actively engaged in sustaining the County's \$2.5 billion agriculture industry. The major agricultural commodities produced are assigned to Advisors who coordinate problem-solving research and educational programs that address major issues in order to improve production, economic viability, and environmental sustainability. In 2018-2019, Advisors conducted 74 research projects on 33 different commodities in the County.

The following are the 2018-2019 UCCE program highlights:

- Demonstrated success and expansion of commercial walnut acreage using pheromone mating disruption for codling moth and early-stage testing of mating disruption for navel orangeworm. Less insecticide applications have reduced environmental impacts and worker exposure to pesticides while improving farm profits.
- Evaluated whole orchard recycling as an alternative to open field or co-generation burning, which has improved soil organic matter, yield, and soil health.
- Evaluated tomatoes grafted onto vigorous, disease-resistant rootstocks to increase yields and reduce losses due to soil-borne disease. In local field trials of both fresh market and processing tomato fields, advisors have demonstrated yield increases of up to 30% with grafted tomato plants. Adoption of grafting could also lead to reductions in use of fumigant pesticides, which is a high priority for the State's Department of Pesticide Regulation (DPR). San Joaquin County is home to the largest greenhouse producer of grafted tomatoes in California.
- Improved water and fertilizer efficiency in processing tomatoes to reduce growers' costs and assist with nitrogen management planning to satisfy new California groundwater regulatory requirements.
- Worked closely with growers and their pest control advisors to improve plant disease control strategies such

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as the impact of rotational crops and chemical control programs on Fusarium wilt race 3 tomato, a devastating disease that has become more severe in San Joaquin County in recent years.

- Partnered with the San Joaquin County Water Coalition to implement safer pest management practices that address water quality issues in the County watershed, as mandated by the State.
- Conducted a wine grape variety trial for long-term observations on 60 alternative varieties for sustainable yields of quality fruit.
- Compared different trellis systems under mechanized versus standard pruning practices on five wine grape varieties grown for sustainable yields and quality wine.
- Collaborated on vine mealybug control with biologicals and alternative insecticides that are sustainable with low environmental impact.
- Observed cover cropping and conservation management practices that improve soil quality and reduce greenhouse gases.
- Measured crop evapotranspiration in field corn, alfalfa, and pasture for determining crop consumptive water use in the Delta. The project was funded by the State Water Resources Control Board Office of the Delta Watermaster, and results will inform water policies on Delta agricultural water needs.
- Measured and modeled nitrogen mineralization in mineral and organic soils. As nitrogen fertilizer applications are increasingly scrutinized, research findings will help inform growers and policymakers on nitrogen fertilizer needs and management.
- Evaluated rice, wheat, and field corn varieties for the Delta. Growers receive the latest information on existing and new varieties for their local conditions. Growers can make informed decisions on agronomic practices that can result in higher yields and better economic outcomes.
- Monitored armyworm and weedy rice populations in Delta rice for effective integrated pest management, which can result in higher yields and better economic outcomes.
- Evaluated soil salinity conditions and water quality in Delta alfalfa, wine grapes, and pears for determining soil leaching fractions.
- Conducted educational workshops for ranchette owners to improve natural resources and safeguard water quality.

- Conducted a workshop to help ranchers affected by the Waverly Fire to assess forage losses and plan practices to safeguard soil resources following the fire.
- Determined Medusahead financial impact to ranches and management options for control that provide an economic incentive to control an invasive, non-palatable grass.
- Used Geographic Information System mapping in the field to improve data collection and feedback for management decisions in the Mokelumne Watershed.
- Worked with the California Dairy Quality Assurance Program to provide training for mandated water and air regulations to characterize physical and chemical properties of manure in California dairy systems to improve greenhouse gas emission estimates.
- Conducted research and outreach programs to improve silage management practices on dairies.
- Determined the value of sorghum as silage in dairy farm systems with regard to efficiency of irrigation water use and quantity and nutritional quality of the silage produced.

### 4-H Youth Development Program

The 4-H Program is an innovative, research-based youth development program designed to build confidence, learn responsibilities, develop life-long skills, enhance knowledge, social values, and promote community citizenship activities that help develop leadership skills.

In 2018-2019, the 4-H Youth Development Advisor (4-H Advisor) continued to develop relationships with community partners to better serve diverse youth, and expand programming to meet community needs. The 4-H Advisor is shared with Stanislaus County. A needs assessment revealed that a programmatic change would allow for further outreach and impact. One example is a new summer camp series developed in partnership with the San Joaquin Farm Bureau Federation to provide three agriculturally-focused day camps. More partnerships and programming developments are in process, but serving a larger population of youth with more diverse needs may also require a more robust staff presence with the cultural skills to serve the growing Latino population.

### Master Gardener (MG) Program

Since July 2007, the MG Program has volunteered over 57,298 hours of community service to the County at a UC calculated value of \$1,260,556 (57,298 hours x \$22 per hour). In 2018-2019, MGs contributed 3,811 hours of volunteer time and it is anticipated the MGs will exceed 5,000 hours of continuing education by the end of the fiscal year. Educational programs have been provided at several

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community events including: Earth Day Festivals, Asparagus Festival, County Fair, Arbor Day celebrations, farmers' markets, Senior Awareness Days, AgVenture, and at local nurseries. MGs presented at more than 40 service or garden club meetings providing free monthly gardening workshops. Events were held at the Manteca Library and at the Agricultural Center. In 2018, Tracy and Lodi Libraries were added to the workshop schedule, as well as the Stockton Emergency Food Bank. MGs are collaborating with the 4-H Program, providing gardening leaders for various clubs, as well as the MFP in co-hosting events.

Volunteers are responsible for the Learning Landscape located at the Agricultural Center and the River Friendly Landscape in downtown Lodi. The MG Program has been looking for more partnerships throughout the County. A potential project they were approached about is re-landscaping firehouses in Stockton. The Program emphasizes sustainable gardening practices such as composting, gardening for pollinators, edible gardening, drought tolerant landscaping, and many other topics.

MGs are actively educating the public on invasive pests, working closely with the Agricultural Commissioner's Office and CDFA, while also working with the Office of Emergency Services to help with water conservation tips, and vector and mosquito control options. MGs collaborated with Public Health Services teaching community garden classes to grant recipients which consist of after-school programs and churches. MGs presented a variety of gardening topics to youth with more than 1,000 hours of classroom and garden education. The MG office averaged 80 calls a week in 2018, while their quarterly newsletter was sent electronically to over 5,400 people. The MG website received over 140,000 hits while their Facebook page received over 1,024 "likes." This Program also has an active Pinterest and Twitter page (100,000 people annually). MGs continue to write articles for the weekly Stockton Record blog printed in the paper every Friday. In January 2019, a new 19-week training class began with 41 volunteers training to be master gardeners. This will be finished in June 2019.

### Master Food Preserver (MFP)

The MFP Program is a public service community outreach providing up-to-date information on food safety and preservation. An MFP is a volunteer who is formally educated in food preservation/food safety and is certified by UCCE. Volunteers are qualified to teach food preservation/safety in addition to disseminating that information via lectures and other County events. San Joaquin County trained its first MFP in 2013. There are currently 23 MFPs who have volunteered over 5,000 hours to the community. The UCCE values this at \$110,000 (5,000 x \$22 per hour). From July 1, 2018 to March 2019, the MFPs hosted 11 weekend "hands-on" workshops,

on food preservation topics; participated in the Fall and Spring Open Garden Day events, each drawing over 200 attendees; collaborated with the 4-H Program, PUENTES, and other community groups presenting workshops, demonstrations, and information tables. MFPs have a booth at local farmers' markets, and are teaching and co-teaching free classes at the Lodi Library. MFPs also have a public website, a quarterly newsletter with 369 subscribers, and a Facebook page with 544 "likes."

### Environmental Horticulture Program (EH)

The Landscape Management Outreach Partnership is between the communities of the County, UCCE, landscape and horticultural industry professionals, and CalRecycle. Through workshops and on-site trainings, the UC EH Advisor trains landscape professionals, parks and recreation workers, golf course superintendents, school grounds personnel, nursery professionals, and landscape architects and designers on sustainable landscape practices. Emphasis is placed on environmentally-responsible practices that reduce green waste and its impacts on County landfills, integrated pest management in urban areas, preservation of the urban forest, and best management practices that promote the long-term health of the public and private landscapes. This includes irrigation optimization to conserve water and reduce irrigation runoff and associated pollutants, as mandated by the State of California's Water Conservation Act and Model Water Efficient Landscape Ordinance (Assembly Bill 1881). The Advisor has a website (<http://ucantorg/sites/sjcoeh>) with easily accessible information to help professionals utilize research-based, best management practices for healthy and sustainable landscapes with new information added regularly as it becomes available. A blog addresses a range of issues important to the landscape professional and it is distributed on-line through the website and subscriber list. At the Agricultural Center, the Advisor has worked with the MG Program to develop the UCCE Learning Landscape, a sustainable landscape practices demonstration garden comprised of six separately themed sections with high-quality educational signage that serve as teaching tools even when volunteers are not present. The EH Advisor conducts an annual Green Gardener Qualification training program that educates landscape professionals in sustainable soil management, plant nutrition and fertilization, integrated pest management, irrigation management, air quality, water conservation and quality issues, composting and mulch utilization, and proper plant selection, installation, and maintenance. Graduates are qualified as "Green Gardeners" and are listed on the Green Gardener website.

### Nutrition, Education, Research, & Outreach

UCCE's Nutrition, Family, and Consumer Science (NFCS) programs are designed to prevent childhood obesity, prevent

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chronic diseases, reduce health disparities, improve consumer food safety practices, and reduce hunger and food insecurity. Improvement in one or more of these areas translates to better outcomes for County residents and a reduction in related economic costs at the County, State, and national levels. The NFCS Advisor, supervises Family Nutrition Educators from two Federally-funded Nutrition Education Programs: the UC CalFresh Nutrition Education Program, and the Expanded Food and Nutrition Education Program. These programs work closely with community-based organizations to motivate low-income children and families to make healthier choices in both food and physical activity.

In 2018-2019, UCCE programs continued to partner with a long list of community-based organizations, preschools, after-school programs, elementary and high schools, reaching 2,540 low-income adults and 7,140 youth with direct nutrition education (workshops or classroom lessons). In addition, 7,815 low-income adults and youth were reached indirectly through health fairs and AgVenture and 4,244 youth and adults benefited from UC's CalFresh Policy, System and Environmental Change activities (gardens, Smarter Lunchrooms, and Structured Physical Activity). The NFCS programs continued to be an integral component of the County Nutrition Action Plan, as well as San Joaquin County's Community Health Improvement Plan, which included active involvement in Public Health Services' Nutrition Education Obesity Prevention Fruit and Veggie Fest and coordination of the Healthy San Joaquin Collaborative; the Obesity and Chronic Disease Prevention Task Force; and the Hunger Task Force.

As part of USDA Supplemental Nutrition Assistance Program-Education (SNAP-ED) programs, UC CalFresh played a key role in meeting the goals and objectives of the San Joaquin SNAP-Ed 3-year integrated work plan, along with other SNAP-Ed partners - Public Health Services and Catholic Charities.

### Farm Advisors Research Trust Fund

UCCE maintains the Farm Advisors Research Trust Fund (#81604), established by the Board of Supervisors on September 18, 1984, to be utilized by the Farm and Home Advisor in conducting needed agricultural research within the area of responsibility of the Cooperative Extension Service. As of March 31, 2019, the Trust Fund balance totaled \$46,335. During 2019-2020, the Fund will continue to be utilized by UCCE Advisors and staff for research-related costs not reflected in the recommended UCCE budget.

### Supplemental Request

The CE Director is requesting supplemental funding of \$34,502 in order to fully-fund a Senior Office Assistant position, which is currently partially supported by a UC reimbursement to the County. This supplemental request would increase CE's County-supported positions from 3.5 to 4.0 positions freeing up UC funding obtained from the County Public Works Department for the Master Gardener and Environmental Horticulture Programs.

The recommended budget has been augmented by this amount in order to address this request.

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### Workload Data

	-----Actual-----			Est./Act. 2018-2019	Projected 2019-2020
	2015-2016	2016-2017	2017-2018		
<b>UC Advisors/Staff</b>					
<i>Number assigned to SJC</i>	21.30	21.77	20.27	19.42	20.4
<i>Research Projects</i>	73	83	75	70	74
<i>Different Commodities</i>	41	43	44	31	33
<b>Agricultural Programs</b>					
<i>Clientele Contacts</i>	13,600	17,338	16,060	14,350	14,720
<i>Meeting Attendance</i>	10,825	14,761	12,660	14,015	13,260
<i>Newsletter Circulation</i>	29,420	30,442	20,051	26,166	28,863
<i>Publication Distribution*</i>	*220,960	*278,250	*251,850	*328,000	*272,200
<b>4-H Youth Development Program</b>					
<i>4-H Youth Members</i>	700	700	763	763	1,300
<i>Volunteer Adults</i>	275	200	224	224	254
<b>Master Gardener Program</b>					
<i>Volunteers</i>	171	171	150	135	185
<i>Volunteer Hours</i>	5,300	7,590	5,000	3,811	5,500
<b>Master Food Preserver Program</b>					
<i>Volunteers</i>	N/A	28	22	23	30
<i>Volunteer Hours</i>	N/A	1,800	2,450	5,000	1,250
<b>Nutrition, Education, Research, &amp; Outreach</b>					
<i>Adults attending workshops</i>	2,400	2,900	2,900	2,540	2,475
<i>Curriculum Distribution &amp; Support to Low Income School/Teachers</i>	66 S /150 T	85 S /180 T	90 S /170 T	87 S /207 T	87S/167T

\*Reflects 100,000 to be published on Almond Industry.