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INTRODUCTION FROM OUR

County Director

Dear Readers,

Thank you all for reading the San Diego UCCE Extension Connection newsletter. As the holiday season is in full swing, we are thankful for all the wonderful people who work with or for Cooperative Extension to help improve our communities in San Diego County. I am also thankful for the hundreds of volunteers improving our quality of lives through horticulture, positive youth development, food and nutrition, and food preservation. Through our Master Gardener, 4-H, Expanded Food and Nutrition Program, and Master Food Preservers, these volunteers reached hundreds of thousands of San Diegans this past fiscal year. I am also grateful for our strong academic programs run by local UCCE scientists. Through their workshops, seminars, meetings, field site visits, you tube vides, and so much more, people have learned how to reduce pests, reduce wasteful irrigation, and reduce pollution, whether in their yard, garden, landscape or farm.

Last fiscal year, UCCE San Diego programs reached over 600,000 San Diegans. Cooperative Extension is truly a cooperative partnership, we receive funding from federal, state and county sources. On top of that, we rely on a wide variety of partners to help bring UC powered research and education to help empower your community. We worked with dozens of partner organizations to deliver the science-based research and education to empower you. For example, our team of over 350 Master Gardeners, volunteered over 30,000 hours in the community last fiscal year. Our Master Gardeners complete a 19-week training course to learn science-based principles of horticulture, irrigation, gardening, pest management and more. To complete their certification, they must complete 25 hours of community service and 12 hours of continuing education to keep their knowledge up to date each year. This year they’ve partnered with community gardens, school districts, correctional facilities, assisted living facilities, developed inclusive accessible gardens, and done so much more. Our Master Gardeners worked with over 860 school gardens in the county! And we’ve not even discussed the activities of our 4-H/youth program, our new Master Food Preserver program, our food and nutrition program or our climate smart agriculture, or the dozen other UCCE programs that have worked equally as hard to better themselves and their community.

In this issue, you will learn from our production horticulture advisor Gerry Spinelli on how to reduce over irrigation in nurseries, a crucial problem in San Diego. Our second story discusses some of the projects our entomology IPM advisor, Eric Middleton is working on and about all the obstacles he overcomes in his life, literal obstacles. We also have a an article about our new Master Food Preserver program, which is another cooperation between the county and UCCE. We highlight two of our new staff, Liliana Vega our new 4-H positive youth development advisor, and Darlene Ruiz our new small farms staff research associate. And last, if you are a Hispanic or Latino grower, we would be grateful if you could complete a research survey on challenges to viability for growers, or pass the information on to them.

If you think any of our programs sound interesting and want to learn more, our contact info and webpage is on the back page of this newsletter. We are truly grateful for all the wonderful people who work together to help make San Diego a special place to live, work and visit.

Sincerely,

Dr Chris McDonald and Ramiro E. Lobo
UC Cooperative Extension San Diego County - Interim County Directors

How to Estimate Whether you are Over-Irrigating in Nurseries: a quick and dirty method

In San Diego County most nurseries irrigate with municipal water that costs between $2000 and $2500 per AcFt. In the Central Coast, one AcFt of water costs about $250, while in Imperial County it costs about $50. San Diego growers pay amongst the highest price of water in the state. Over-irrigating is not only a bad idea because water is expensive, but it also produces runoff, which creates another (larger) headache with compliance with water quality regulations. The question that we are asked most often is: Am I over-irrigating? This question is challenging to answer without accurate measurements in the field, but in this article, we propose a simple way to make an educated guess. First and foremost, this method is only an approximation and is based on numerous assumptions but we are big fans of generalizations and rules of thumb. Voltaire said that perfect is the enemy of good; though this method is not perfect, we hope that it is good enough for you to gain insight on your irrigation management as a first-pass method.

The equation below shows the method that we use to calculate the depth of irrigation water needed by a crop. ETo is reference evapotranspiration, expressed in inches as a depth of water; this can be thought of as the "evaporative demand of the atmosphere". ETo varies with location and time of year. Reference evapotranspiration values can be found online **(https://cimis.water.ca.gov/)** and tell you how much water a uniform, well-watered surface of grass would have used under the meteorological conditions at a given site. This reference is used as a standard that accounts for the effects of location and environment. While not exact, think of ETo as the depth of water that would evaporate from a bucket left outdoor for a period of time. To adjust ETo for your crop, you need to multiply it by a crop coefficient called Kc, which varies with your crop and its developmental stage. The rationale behind this model is that ETo accounts for location and weather, while Kc accounts for the crop type and growth stage, and by multiplying the two you get the quantity of water used by that crop in that environment. Unfortunately, there are no Kc values available for nurseries. Below you can see a table with Kc values reported in the legendary FAO 56 manual for almost any crop you can think of. Note that the highest Kc value for any crop in the table is 1.2 and for open water is 1.25.

$$\text{Recommended irrigation water} = \frac{ETo\ Kc}{DU\ (1 - LF)}$$

We just described how the numerator of the Recommended Irrigation Water equation above (ETo x Kc) tells you how much water your plants need based on their developmental stage, your location and environment.

Crop	K_{cini}[1]	$K_{c\ mid}$	$K_{c\ end}$
a. Small Vegetables	**0.7**	**1.05**	**0.95**
Broccoli		1.05	0.95
Brussel Sprouts		1.05	0.95
Cabbage		1.05	0.95
Carrots		1.05	0.95
Cauliflower		1.05	0.95
Celery		1.05	1.00
Garlic		1.00	0.70
Lettuce		1.00	0.95
Onions			
- dry		1.05	0.75
- green		1.00	1.00
- seed		1.05	0.80
Spinach		1.00	0.95
Radish		0.90	0.85
b. Vegetables - Solanum Family *(Solanaceae)*	**0.6**	**1.15**	**0.80**
Egg Plant		1.05	0.90
Sweet Peppers (bell)		1.05[2]	0.90
Tomato		1.15[2]	0.70-0.90
c. Vegetables - Cucumber Family *(Cucurbitaceae)*	**0.5**	**1.00**	**0.80**
Cantaloupe	0.5	0.85	0.60
Cucumber			
- Fresh Market	0.6	1.00[2]	0.75
- Machine harvest	0.5	1.00	0.90
Pumpkin, Winter Squash		1.00	0.80
Squash, Zucchini		0.95	0.75
Sweet Melons		1.05	0.75
Watermelon	0.4	1.00	0.75
d. Roots and Tubers	**0.5**	**1.10**	**0.95**
Beets, table		1.05	0.95
Cassava			
- year 1	0.3	0.80[3]	0.30
- year 2	0.3	1.10	0.50
Parsnip	0.5	1.05	0.95
Potato		1.15	0.75[4]
Sweet Potato		1.15	0.65
Turnip (and Rutabaga)		1.10	0.95
Sugar Beet	0.35	1.20	0.70[5]
e. Legumes *(Leguminosae)*	**0.4**	**1.15**	**0.55**
Beans, green	0.5	1.05[2]	0.90
Beans, dry and Pulses	0.4	1.15[2]	0.35
Chick pea		1.00	0.35
Fababean (broad bean)			
- Fresh	0.5	1.15[2]	1.10
- Dry/Seed	0.5	1.15[2]	0.30
Grabanzo	0.4	1.15	0.35
Green Gram and Cowpeas		1.05	0.60-0.35[6]
Groundnut (Peanut)		1.15	0.60
Lentil		1.10	0.30
Peas			
- Fresh	0.5	1.15[2]	1.10
- Dry/Seed		1.15	0.30
Soybeans		1.15	0.50
f. Perennial Vegetables (with winter dormancy and initially bare or mulched soil)	**0.5**	**1.00**	**0.80**
Artichokes	0.5	1.00	0.95
Asparagus	0.5	0.95[7]	0.30
Mint	0.60	1.15	1.10
Strawberries	0.40	0.85	0.75
g. Fibre Crops	**0.35**		
Cotton		1.15-1.20	0.70-0.50
Flax		1.10	0.25
Sisal[8]		0.4-0.7	0.4-0.7
h. Oil Crops	**0.35**	**1.15**	**0.35**
Castorbean *(Ricinus)*		1.15	0.55
Rapeseed, Canola		1.0-1.15[9]	0.35
Safflower		1.0-1.15[9]	0.25
Sesame		1.10	0.25
Sunflower		1.0-1.15[9]	0.35
i. Cereals	**0.3**	**1.15**	**0.4**
Barley		1.15	0.25
Oats		1.15	0.25
Spring Wheat		1.15	0.25-0.4[10]
Winter Wheat			
- with frozen soils	0.4	1.15	0.25-0.4[10]
- with non-frozen soils	0.7	1.15	0.25-0.4[10]
Maize, Field (grain) *(field corn)*		1.20	0.60-0.35[11]
Maize, Sweet *(sweet corn)*		1.15	1.05[12]
Millet		1.00	0.30
Sorghum			
- grain		1.00-1.10	0.55
- sweet		1.20	1.05
Rice	1.05	1.20	0.90-0.60
j. Forages			
Alfalfa Hay			
- averaged cutting effects	0.40	0.95[13]	0.90
- individual cutting periods	0.40[14]	1.20[14]	1.15[14]
- for seed	0.40	0.50	0.50
Bermuda hay			
- averaged cutting effects	0.55	1.00[13]	0.85
- Spring crop for seed	0.35	0.90	0.65
Clover hay, Berseem			
- averaged cutting effects	0.40	0.90[13]	0.85
- individual cutting periods	0.40[14]	1.15[14]	1.10[14]
Rye Grass hay			
- averaged cutting effects	0.95	1.05	1.00
Sudan Grass hay (annual)			
- averaged cutting effects	0.50	0.90[14]	0.85
- individual cutting periods	0.50[14]	1.15[14]	1.10[14]
Grazing Pasture			
- Rotated Grazing	0.40	0.85-1.05	0.85
- Extensive Grazing	0.30	0.75	0.75
Turf grass			
- cool season[15]	0.90	0.95	0.95
- warm season[15]	0.80	0.85	0.85
k. Sugar Cane	**0.40**	**1.25**	**0.75**
l. Tropical Fruits and Trees			
Banana			
- 1st year	0.50	1.10	1.00
- 2nd year	1.00	1.20	1.10
Cacao	1.00	1.05	1.05
Coffee			
- bare ground cover	0.90	0.95	0.95
- with weeds	1.05	1.10	1.10
Date Palms	0.90	0.95	0.95
Palm Trees	0.95	1.00	1.00
Pineapple[16]			
- bare soil	0.50	0.30	0.30
- with grass cover	0.50	0.50	0.50
Rubber Trees	0.95	1.00	1.00
Tea			
- non-shaded	0.95	1.00	1.00
- shaded[17]	1.10	1.15	1.15
m. Grapes and Berries			
Berries (bushes)	0.30	1.05	0.50
Grapes			
- Table or Raisin	0.30	0.85	0.45
- Wine	0.30	0.70	0.45
Hops	0.3	1.05	0.85
n. Fruit Trees			
Almonds, no ground cover	0.40	0.90	0.65[18]
Apples, Cherries, Pears[19]			
- no ground cover, killing frost	0.45	0.95	0.70[18]
- no ground cover, no frosts	0.60	0.95	0.75[18]
- active ground cover, killing frost	0.50	1.20	0.95[18]
- active ground cover, no frosts	0.80	1.20	0.85[18]
Apricots, Peaches, Stone Fruit[19, 20]			
- no ground cover, killing frost	0.45	0.90	0.65[18]
- no ground cover, no frosts	0.55	0.90	0.65[18]
- active ground cover, killing frost	0.50	1.15	0.90[18]
- active ground cover, no frosts	0.80	1.15	0.85[18]
Avocado, no ground cover	0.60	0.85	0.75
Citrus, no ground cover[21]			
- 70% canopy	0.70	0.65	0.70
- 50% canopy	0.65	0.60	0.65
- 20% canopy	0.50	0.45	0.55
Citrus, with active ground cover or weeds[22]			
- 70% canopy	0.75	0.70	0.75
- 50% canopy	0.80	0.80	0.80
- 20% canopy	0.85	0.85	0.85
Conifer Trees[23]	1.00	1.00	1.00
Kiwi	0.40	1.05	1.05
Olives (40 to 60% ground coverage by canopy)[24]	0.65	0.70	0.70
Pistachios, no ground cover	0.40	1.10	0.45
Walnut Orchard[19]	0.50	1.10	0.6518
o. Wetlands - temperate climate			
Cattails, Bulrushes, killing frost	0.30	1.20	0.30
Cattails, Bulrushes, no frost	0.60	1.20	0.60
Short Veg., no frost	1.05	1.10	1.10
Reed Swamp, standing water	1.00	1.20	1.00
Reed Swamp, moist soil	0.90	1.20	0.70
p. Special			
Open Water, < 2 m depth or in subhumid climates or tropics		1.05	1.05
Open Water, > 5 m depth, clear of turbidity, temperate climate		0.6525	1.2525

Figure 1. *Table of crop coefficients for agricultural crops. From:* ***https://www.fao.org/3/X0490E/x0490e00.htm***

EC applied (dS/m)	EC leached (dS/m)			
	3	6	9	12
0.50	0.17	0.08	0.06	0.04
0.75	0.26	0.12	0.09	0.06
1.00	0.33	0.17	0.11	0.08
1.25	0.43	0.20	0.15	0.10
1.50	0.50	0.25	0.17	0.12
1.75	0.60	0.28	0.21	0.14
2.00	0.67	0.33	0.22	0.17
2.25	—	0.36	0.27	0.18
2.50	—	0.42	0.28	0.21
3.00	—	0.50	0.33	0.25
5.00	—	—	0.56	0.42

Figure 2. *Table to estimate the required leaching fraction. From: Container Nursery Production and Business Management Manual* ***https://anrcatalog.ucanr.edu/Details.aspx?itemNo=3540***

The denominator [DU (1-LF)] has two factors that increase the quantity of irrigation water that you need to apply; these factors are distribution uniformity (DU) and leaching fraction (LF). Both DU and 1-LF are smaller than one, so dividing the numerator by them makes the result larger. In other words, we need to apply more water than our plants use, for two reasons: one is that irrigation systems do not apply water uniformly and, in order to ensure all plants receive sufficient water, we need to irrigate a little more. The second reason is to leach some salts that have been applied with the irrigation water, or over time the salts will accumulate in the soil media and kill the plant. You can learn about leaching fraction by watching the following videos:

https://youtube.com/playlist?list=PLzSpUZOE1aiPigJqI0jUoH49ThvLc1I_n.

Distribution uniformity is generally around 0.7 for sprinklers and around 0.9 for drip. You can learn about it by watching this seminar:

https://www.youtube.com/watch?v=66H5cOA8dgQ.

The leaching fraction you need to apply depends on the salinity of your irrigation water for which you can reference the table below: the "EC applied" reported in the rows refers to your irrigation water (after you added liquid fertilizer) and the "EC leached" in the columns is the salinity that you want to obtain in the leachate; this typically is kept at 6 or 9 dS/m. Consequently, if the EC of your irrigation water is around 2 dS/m like I measured in the picture below, your leaching fraction will be 0.33 or 0.22. If you picked a value of 0.25, (1-LF) will be 0.75.

Let's consider a worst-case-scenario, if we plug these values into the equation, using a week in April in Escondido, when ETo was 1 inch, a Kc of 1.2 (highest reported for any crop1), our sprinkler DU was 0.75 and our leaching fraction was 0.25, we get:

$$Irrigation\ depth = \frac{1 \ 1.2}{0.75 \ (1-0.25)} = 2.13$$

Consequently, we have good reason to believe that even if you grow plants that need a lot of water, or you have less than ideal DU, or you need to leach a lot of salts, you should not be using much more than twice ETo.

Based on this worst-case-scenario example, you can use this method to estimate whether you over-irrigate or not. Take the water use per week or per month reported by your flowmeter or your utility company (commonly shown in gallons). Convert it into acre-inches, by dividing gallons by 27,154. If it comes in acre-foot, divide by 12 to convert to acre-inch. If it comes in another unit, you may call your local Cooperative Extension advisor for help. To convert this volume of water into depth of irrigation applied, divide it by the acres of planted area that you irrigate. This planted area is sometimes difficult to obtain; take your best guess. By dividing a volume of water in acre-inch by a surface in acres, you will obtain a value in inches that represents the depth of water applied in that time period. Typical values for San Diego County are 2 to 7 inches per month or 0.5 to 1.6 inches per week, depending on the season. If your numbers are not in this range, your calculations may be off and you should give us a call. If your numbers are in this range, go to the CIMIS website and download ETo data for the station closest to you for the same period that your water bill or flowmeter data refers to. Now divide the depth of applied irrigation water by the ETo you got from CIMIS.

If the number you obtain is between 0.5 and 2, you probably are okay. If you are using drip, you probably shouldn't be above 1, since you apply water only to the containers, and not in the space in between like if you use overhead sprinklers. If you use sprinklers, and you use about 1.5 times ETo, you are probably doing an okay job. If you are close to 2, you may be over-irrigating, but it just could be that you are using salty water (it is likely if you are in San Diego) or that your irrigation system has a less than ideal distribution uniformity. If you are between 2 and 4 you are most likely over-irrigating and you should give us a call, so we can come to your nursery and help you improve your irrigation management. If the number you obtain is larger than 4, you may have made a mistake in the math somewhere and you also should call us.

In conclusion, there are four main factors that influence how much water you need to apply. One is obtainable from CIMIS and for the other three we can use worst-case-scenario values. This way you can estimate quickly whether or not there is potential for large improvements in your irrigation system and management. If you have any questions, contact **Gerry Spinelli, gspinelli@ucdavis.edu**

[1] Note that here we are using a Kc based on the area that each container occupies in the field based on spacing, i.e. the total field area divided by the number of plants. We are not using the area of the container mouth or the projected canopy area like other researchers have in the literature (e.g. D. W. Burger et al., 1987; R. C. Beeson, 2010). This makes the Kc smaller than if it was calculated on the container area and more suited for this exercise. It is also easier to measure the whole planted area than the container area.


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"Ninja Warrior" IPM Advisor Creates Buzz About Insects

When he's not swinging over pools of water or navigating past other obstacles on American Ninja Warrior, Eric Middleton, UC integrated pest management advisor for San Diego, Orange and Los Angeles counties, can often be found examining plants for insect pests.

Middleton, known as Bug Ninja on the TV competition, studies biological control in ornamental plant production. Insects chew on nursery plants, robbing them of their beauty so they can't be sold. He is comparing the efficacy and cost of using beneficial arthropods and pathogens in place of chemical pesticides and conventional management practices so he can share the findings with the growers and communities he serves.

Many people supported him on his road to success as a well-rounded scientist, Middleton said.

The path to entomology

Middleton was born in Salt Lake City, Utah, to scientist parents whom he considers the biggest influence on his career. More so than teachers, his parents were the ones who molded his interest in academics and science. At a young age, Middleton became interested in the scientific process and was intrigued by questions that nobody knew the answers to.

However, his path to a career in entomology was not always clear. “For quite a while I thought I would be a herpetologist because I liked snakes, but I didn’t have a specific goal in mind for what I wanted to do.” In late high school and early college, Middleton dreamed about being a stuntman, but never seriously considered it as a career.

Middleton came to a crossroads with the trajectory of his career at his undergraduate college orientation at the University of Utah. He knew he wanted to be a scientist of some kind and that he enjoyed several different scientific disciplines, but the pressure was on to choose a major when orientation staff were dividing people into groups based on the major they wanted to pursue.

“Biology majors this way, psychology majors that way,” they directed students. Interested in both biology and psychology, Middleton momentarily froze, mentally contemplating the gravity of his next decision. It was a very literal “choose which direction you want your life to go” moment, Middleton said. As the two groups began walking in different directions, he was forced to make his choice, and ultimately walked away with the biology group.

Looking back at this moment which many young scholars experience, Middleton knows that he could have been happy in several different areas of study as long as he was still practicing science. Of course, Middleton is very content with where he ended up. “I’m glad I went with the biology group which ultimately led to entomology.”

Getting the teaching bug

After graduating with a B.S. in biology from the University of Utah, Middleton was accepted into the University of Minnesota where he earned his Ph.D. in entomology. In his doctoral program, Middleton got the opportunity to create and teach an entirely new undergraduate course.

“For a semester, I designed and taught a course on “Insect Warriors,” which consisted of the various ways insects fight each other and how they have been used in human warfare,” Middleton said, noting that fleas were infected to carry bubonic plague and flies to spread cholera during World War II and that the Romans launched beehives from catapults to disrupt enemy troop formations.

Middleton also had the students run and jump, then compared their results first to the world records for humans and for insects. “Of course, the insects always perform much better given their weight and size,” he said. “That was a great and unique experience and was a ton of fun.”

The support of his parents, teachers and other mentors along the way helped to develop Middleton into a leader passionate about understanding the natural world. “While I think bugs and agriculture are very interesting and important, the thing I am most passionate about is how we come to understand things and how to rigorously test to make sure we actually understand them.”

Collaborating with growers on research

Today, Middleton collaborates on integrated pest management research and helps Southern California growers establish IPM practices in their crops.

Middleton is currently working on four main projects. The first project is a study on agave mites and how best to manage them in ornamental agave production. The second project is a

community-participation science project with the UC Master Gardeners to determine if African tulip trees have a negative impact on native pollinators in Southern California.

His biggest and third project is a USDA National Institute of Food and Agriculture grant-funded study on small-scale urban agriculture. The goals of this project are to determine if small-scale, urban production is economically feasible for people trying to make money, and to figure out scale-appropriate pest, water and nutrient management.

Middleton’s latest project is studying the ability of predatory Amblyseius mites to control agave mites.

While the impacts of his service at UC Cooperative Extension have been invaluable, there is always more work to be done, according to Middleton. “There is simply too much need for me to meet. Lots of people need help with pest management, and there are so many different areas that I could devote huge amounts of time to. It’s pretty hard to say ‘no’ and to prioritize only the most important things or the things I think I can help the most with.”

Outside of work, Middleton’s main hobby is running obstacle courses. “I’ve always loved climbing on things and running amok, so it was a great fit for me. I’ve been lucky enough to get to compete on the TV show American Ninja Warrior every year since I started getting into obstacle courses back in grad school. That has been a crazy experience, both very fun and very stressful. But one of the most fun parts has been getting to share my love of entomology on a national stage and getting the two hosts, Matt and Akbar, to eat cooked insects if I complete the obstacle courses. Getting to compete and do so well on American Ninja Warrior is a very big source of pride. It was something I never would have thought was possible growing up, and also fits well with my pipe dream of being a stuntman.”

Middleton, a recent addition to UC Cooperative Extension since 2022, is already aiding Southern California growers in agave and aloe mite management due to his fervor for entomology. Stay informed about his research on thrips, mealybugs, and spider mites in ornamental production by subscribing to his YouTube channel **(https://www.youtube.com/@emiddleton_ucce)** or following him on Instagram **(https://www.instagram.com/dungbeetlestrong)**. Discover his seminars on best management practices for invasive pests on the UCCE San Diego events calendar **(https://cesandiego.ucanr.edu)**. Also, catch him conquering obstacle courses on NBC's American Ninja Warrior in 2024.

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Workshops Empower San Diego County Families to Self-sufficiency

Beginning February this year, UCCE San Diego County began offering a program instructed by UC ANR volunteer Master Gardeners and Master Food Preservers. These volunteers were trained with an accelerated program and utilized scientifically accurate research. The principles of this training were implemented in the Basic Gardening and Beginning Food Preservation workshops and tailored to under-served members of the community. The Basic Gardening and Beginning Food Preservation workshops are intended to be an opportunity for families to develop food self-reliance.

In a new collaboration between the County of San Diego via HHSA funds and UC Cooperative Extension, administrators worked to establish a program coordinator in preparation to train volunteers to lead Basic Gardening and Beginning Food Preservation workshops. UC Cooperative Extension successfully trained 20 people to become UC Master Food Preservers to lead these workshops for the first time in San Diego County. The extensive and accelerated training was unique to UC and practiced the mission to keep California safe as well as use culturally appropriate, researched-based practices to safely preserve food in the home, **reduce food waste, increase food security**, and provide engaging ways for Californians to explore healthy food.

Our no-cost, hands-on, Basic Gardening and Beginning Food Preservation workshops have been demonstrated to assist families in becoming more knowledgeable and gaining practical skills to reduce food insecurity. These workshops lend attendees the opportunity to learn how to be food-secure through hands-on experiences include growing and preserving foods for one's families, to increase connection to one's local community gardens and promote a better quality of life.

This program has been an important milestone for San Diego County. An immense amount of effort was put forth to initiate this program in collaboration with the UC Master Gardeners and was an important opportunity to utilize a cross-over of UC programs. As a result of this programming, newly established Master Food Preservers said they are committed to continue to work with the community to impart life skills and knowledge acquired through their training.

Initiation of this program was a two-year process in which administrators worked to establish funding as well as the program framework. Once funding was received, administrators were given 7 months to complete the contract's deliverables where many successes and additional needs have since been identified. Currently, with growing popularity, additional funding as well as a coordinator is needed to sustain this program. Statewide, the Master Food Preservers program is continually growing, and San Diego County now holds a decent number of UC trained volunteers to continue its mission.

The strong positive response from the community is the best indication that we need to establish more funding to present skills-based content and workshops to the community. In the meantime, our UC trained Master Gardeners and 20 UC Master Food Preservers plan and hope to have more workshops soon! It has been shown that the public is hungry for this knowledge and simultaneously deserves and requires more training and help to sustain and stretch their limited food dollars for feeding their families. Empowering the community to grow and preserve their own food leads to better options in life and the development of a strong, positive mindset of self-worth and accomplishment.

We find it very important to continue working with the County of San Diego to receive funding so UC Cooperative Extension can maximize our program collaboration to continue serving the community of San Diego County with these very important workshops.

ABOUT THE AUTHORS

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Dear Friends and Colleagues,

The University of California Cooperative Extension and Western Extension Center for Risk Management Education invite you to participate in a survey aimed at identifying challenges impacting the viability of Agricultural operations run by Hispanic or Latino/a farmers in California.

Survey Details:

Purpose: Understand current practices and needs to develop relevant and culturally appropriate information, risk management tools, and increase access to resources for Latino/a farmers and ranchers.

Your Participation Matters: Your insights are crucial in shaping the future of agricultural support. As a token of our appreciation, participants will receive a $25 gift card upon survey completion.

Confidentiality Assured: Rest assured, your responses will be kept confidential, and results will be shared in an aggregate form through reports, peer-reviewed publications, and conference presentations.

Access to Results: The final results will be made available free of charge in an electronic format on our website once the data has been compiled and analyzed.

Click on the link below to take the survey and share your valuable insights.

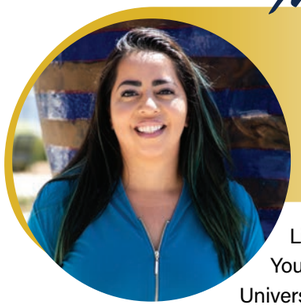
http://bit.ly/LatinoFarmerSurvey

Thank you for your time and commitment to strengthening the agricultural community in California.

Meet the Team

Get to know the people behind Cooperative Extension San Diego!
Each issue we like to highlight some members of our amazing team.

Meet our Advisor



Liliana Vega
4-H Youth Development Advisor

Liliana Vega serves as the 4-H Youth Development Advisor at the University of California Cooperative Extension (UCCE) in San Diego and Orange County. With a background in Multi-Ethnic and Mexican American Studies and a master's degree in Adult/Organizational Learning and Leadership, she boasts over 15 years of 4-H expertise. Liliana's work revolves around Positive Youth Development (PYD) with a focus on justice, equity, diversity, and inclusion (JEDI), as well as STEAM, Leadership, and College/Career Readiness Programs, particularly for BIPOC youth and families.

Her experience spans across counties in California and Idaho, where she honed her skills in tailoring programs for underserved communities. She is a dedicated advocate for the Latinx community and JEDI initiatives and holds qualifications in the Intercultural Development Inventory.

Liliana actively participates in various 4-H groups and chairs the 4-H Statewide JEDI Advisory Committee, the California 4-H True Leaders in Equity Youth Taskforce, and the UC ANR Career/College Readiness & Workforce Development Workgroup. Her goal is to offer professional development to youth-serving professionals and enhance youth programs by providing evidence-based resources.

Committed to youth development, Liliana aims to build partnerships, strengthen youth-adult relationships, and promote personal growth among youth in San Diego and Orange Counties. She is eager to collaborate and support the thriving development of young individuals in her community.

Meet our Staff

Darlene Ruiz
Small Farms - Research Associate II

Darlene is the Small Farms Staff Research Associate at UC Cooperative Extension Small Farms Program in San Diego County. In her new role, she is excited about fostering collaborations between disadvantaged farmers and researchers to identify and address the most pressing concerns, provide technical assistance, and support to aspiring farmers by creating pathways and resources.

Darlene completed a Master's in Agricultural Education at California Polytechnic State University, San Luis Obispo. Her focus and interests include small farm diversification strategies, sustainability, agritourism, soil health and food access/ equity.

She is a first- generation Mexican American born and raised in small towns near Modesto, CA (Patterson, Westley, Vernalis). Her family has farmed and sold produce at local markets/ farmers markets in the Central Valley for over 15 years. After being involved with her family's small farm and working in roles such as Administrative clerk for USDA ARS, Administrative Assistant for CA Statewide 4-H office, 4-H Latino Initiative Community Education Specialist, Resource Recovery Technician for Salinas Valley Recycles (waste reduction and composting education), and Clinical Research Coordinator for the UC Davis Health: Center for Reducing Health Disparities; she decided to combine her passions and unique skillset by joining the UC Small Farms Network. She looks forward to building partnerships and advocating for the needs of those who operate small farms.

Extension Connection

We hope you have enjoyed this issue of the Extension Connection!

We will continue bringing you the latest news from UC Cooperative Extension San Diego, and we would also like to hear from you.

What Do You Think?

TAKE OUR SURVEY

Please consider subscribing to this quarterly newsletter and following us on social media!

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