



# News & Notes of the UCSC Farm & Garden

*Issue 172, Spring 2022*

## Community Herb Garden connects students with the land and with their heritage

*by Delise Weir*

This week I was reminded why I'm honored to be associated with the UC Santa Cruz Center for Agroecology and touched by the interdisciplinary work they do. It didn't hurt that I happened to be up on the UCSC Farm a few days after a cleansing rain, on a sunny afternoon with a warm breeze and a clear view of the Monterey Bay from a bench at the top of the Farm Garden. I spent 40 minutes learning about a project to refurbish an herb section of the garden, stewarded by Farm Garden Assistant Manager Kellee Matsushita-Tseng and four student collaborators who were selected as this year's UCSC Division of Social Sciences Global and Community Health Wellbeing Fellows.

The Community Herb Garden exemplifies the priorities laid out by the Center for Agroecology in its 2020 strategic plan, combining academic education with the hands-on connection to the land, and supporting student leadership while benefiting historically underserved communities. The project creates an opportunity for students to practice community building through direct, mutual aid with grassroots community programs off campus.

Apparently, this narrow slice of land at the heart of the farm, located between the Farm Center and the old packing shed, has been an herb garden for decades but fell into disuse and disrepair—more of a chore to be weeded than a living, well-utilized part of the farm proper. Kellee saw an opportunity to reclaim the land and transform it into a space that connects historically oppressed Black, Indigenous, and people of color (BIPOC) students to the land through their own cultural heritage with traditional plants used for food, medicine, and spiritual practices. This particular space, as the rest of the farm strives to be, is intended as a safe haven on campus, a place of healing for personal replenishment and connecting with other students of color.

As an interdisciplinary project, it checks all the boxes. The four students selected and researched plants and their uses, with each student focusing on three plants to produce details for a combined plant list. They organized the garden plots in groupings by medicinal properties and which body system they affect: lemongrass and Tulsi basil in a plot for the lungs, Epazote and Chamomile for the digestive system, etc. Beds are laid out roughly where the body part would be, with the head at the north end and feet at the south end of the garden. When I asked who came up with the novel idea to organize the plots by health systems, Kellee replied, "The students!"



*Aerial photo of the in-progress Community Herb Garden (Nick Gonzales)*

She helped the students source plant material through local herb grower Cammie Solomon of Kindred Herbs, whom you may recognize from several Friends of the UCSC Farm & Garden herb workshops, and from Strictly Medicinal, an online seed company based

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in Oregon. With Kellee's guidance, the students planted and sowed. The greenhouse is bursting with medicinal, cultural, and spiritually important plants destined to go into the garden soon.

The project offered students the opportunity to study cultural anthropology in learning about their ancestors' relationship to plants, some botany about the plants they sourced, and some horticulture through seeds and soil science. Students also gained some tools for empowerment through community organizing, completing a cross-functional full circle.

When I asked who would use the herbs grown, Kellee told me about a partnership they've developed with a grassroots aid program that sprung up during the pandemic. The Campesina Womb Justice project distributes postpartum care packages to mostly undocumented, "essential" farm workers who do not benefit from government subsidy checks. The women receive small bags with nursing supplies, basic hygiene items, and baby supplies as well as herbal salves and remedies for skin care, pain relief, and overall well-being. With the knowledge that access to land is limited and medicinal herbs are costly and hard to find, the Community Herb Garden project has partnered with Campesina Womb Justice, which will put the harvest to good use beyond the student community.

As the plants mature, this herb garden will offer a rich, experiential learning space for students to share knowledge, connect with community members, and integrate this work with their academic studies, providing hands-on research opportunities. It will also offer a space for local herbalists to share knowledge, teach workshops, and mentor students, as well as provide an engaging place for community members like you to visit on the farm. The students are currently working on a plant directory and guide accessible by QR code so that visitors can engage and learn more about the herbs in the space. The Center for Agroecology is looking to raise funds to support the herb garden effort going forward.

### **Learn more**

If you haven't been to the farm lately, I recommend you join a free guided farm tour or just take a walk on the farm to see students in action and visit the refreshed herb garden.

You can also join us virtually or in-person for upcoming public workshops (see events calendar on the next page). If you attend one or more of these events, you'll hear the UCSC land acknowledgment and when you do, remember the herb garden as a living tribute to the ancestors and how the UCSC Farm and Garden is fulfilling the promise of land stewardship.

## Center for Agroecology welcomes new executive director



The Center for Agroecology welcomes Darryl Wong as its new executive director! Wong will work alongside Faculty Director Stacy Philpott to lead the center in its work to advance agroecology and equitable food systems through experiential education, participatory research, agricultural extension, and public service.

Wong, who has been the Research Lands Manager at the Center for Agroecology since 2013, has worked across the center's production, education, and research programs, co-managing 10 acres of production fields, instructing beginning farmer and undergraduate agroecology courses, and collaborating on faculty field research. He is concurrently completing his Ph.D. in the Environmental Studies Department, focusing on soil health and organic no-till agriculture in California, and has farmed for more than 15 years, previously owning a diversified organic farm before joining the center.

As executive director, Wong will set center priorities, manage administrative activities, and plan for financial, human resources, and space needs in addition to overseeing fundraising aspects at the center. He began transitioning into the new role on May 15.

## Upcoming Events and Workshops

Visit [agroecology.ucsc.edu](https://agroecology.ucsc.edu) to learn more and register for events.

Use discount code "10-OFF" to receive 10% off listed prices for Friends workshops.

### Free Guided Tour of the UCSC Farm

*Sunday, June 5, 2:00pm–3:30pm at the UCSC Farm*

Take a free tour of the 30-acre organic UCSC Farm. Visitors can enjoy touring the organically managed greenhouses, hand-worked garden beds, orchards, row crop fields, and children's garden, while learning about the history of the site and the basic concepts of organic farming and gardening. Perched on a meadow near the campus entrance, the farm also offers spectacular views of the Monterey Bay.

### Sketching LIVE on the Farm

*Saturday, June 18, 9:00am–1:30pm at the UCSC Farm*

Santa Cruz artist Tina Somers will guide participants with composition, technique, and direction at this in-person workshop presented by the Friends of the UCSC Farm & Garden. This session will focus on sketching techniques, materials, and things you need to know to get started. All levels of experience are welcome. Students will meet at the Louise Cain Gatehouse on the campus farm.

Cost: \$30

### Center for Agroecology Farmstand

*Wednesdays from 12:00pm–5:00pm and Fridays from 11:00am–3:00pm at the Hay Barn (beginning June 22)*

Find fresh, organic produce and flowers grown, harvested and distributed by staff and students of the Center for Agroecology at the weekly Farmstand. By purchasing produce at the Farmstand you are supporting the Center's mission and programming.

### Foodways Dinner for Student Success

*Friday, July 15, 4:00pm–8:00pm at the UCSC Farm*

Save the date for a special evening with Alice Waters and Center for Agroecology leadership, staff, and students! Join a tour of the UCSC Farm, participate in a silent auction, and enjoy a seven course meal served al fresco at the farm. Proceeds benefit the Center for Agroecology Foodways Fund. Sign up for the center's e-newsletter for updates: <https://agroecology.ucsc.edu>.

### Japanese American Farming Experiences Prior to and During WWII

*Tuesday, July 19, 6:00pm–7:30pm at the Hay Barn*

This Friends of the UCSC Farm & Garden workshop will explore the rich history of Japanese American farmers in the western U.S. in the years leading up to the forced incarceration of over 100,000 Japanese American U.S. citizens for the duration of the second world war. Through a historical context, we will look at the success and challenges that they had farming before the war, and the subsequent experiences they had during incarceration. During this presentation we will examine those experiences through first-person familial histories, as well as the greater agricultural story that was playing out in the west. Our hope is to educate attendees on this often forgotten and ignored history and to avoid similar prejudice in the future. Cost: \$5 for virtual livestream; \$20 for in-person

### Through the Garden Gate Tour and Talk

*Saturday, August 6, 9:00am–11:30am at the UCSC Farm and Arboretum*

Save the date for a very special members-only event. The UCSC Arboretum and Botanic Garden and the Center for Agroecology are teaming up to offer a unique tour of the best of both renowned facilities. At the Arboretum, docents will highlight unique collections such as the Succulent Garden and the Australia Garden. We will then cross the path into the UCSC Farm to enjoy breathtaking views of the ocean and the farm fields as you learn about the Center's research, innovations, and mission. The tour will begin and end at Norrie's Gift Shop at the Arboretum. After touring the facilities, you will be treated to a brief presentation on how the Arboretum and Farm are addressing and adapting to climate change.

Coffee, tea, and pastries will be provided. Attendance is limited in order to ensure an intimate tour for all. You MUST be a member of either the Friends of the Farm & Garden, the Arboretum, or both to register for this special event. Sign up for the Center for Agroecology e-newsletter for updates: <https://agroecology.ucsc.edu>. Cost: \$45

## Farm and Garden happenings

Things are returning to “normal” at the Farm and Garden, with students learning in person across both sites daily. Staff members are excited to host the first Apprenticeship Program cohort since 2019, and with support from new Apprenticeship Coordinator Pam McLeod and Community and Residential Life Coordinator Alex Roth, they are eager to unveil the newly refined program content. We have been thrilled to resume offering in-person public workshops in addition to continuing to offer online workshops that are accessible to people near and far and across income levels. Read on for some more exciting developments happening at the Farm and Garden!

### Welcome goats!

As part of campus wildfire abatement efforts the Chadwick Garden and the Farm were the lucky hosts of hundreds of hungry goats whose only focus was eating as much vegetation as possible to reduce fire risks. Students and staff were so happy to welcome, take photos of and say hello to our four legged helpers. The goats were surrounded by a temporary electric fence to protect them from potential predators, such as mountain lions and were chaperoned by a goat herder day and night to keep them company and help them unstick their heads from the fence holes.



### Short Courses offer deep dive into growing topics

There were rave reviews for the first two in-person short courses offered by the Center for Agroecology—one on seedling production and one on growing citrus—with participants praising the course content and the great instructors. The courses, both carrying UCSC Extension credit, were piloted this spring and could become part of an ongoing series of intensives offered in the future.

The Organic Seedling Production Short Course featured three in-person sessions at the UCSC Farm’s greenhouses with instructors Kellee Matsushita-Tseng and Christof Bernau, who provided hands-on learning opportunities and filled out the syllabus with online lectures, videos, and readings.



*Matsushita-Tseng discusses seedling development with course participants who came from Northern and Central California farms and urban agriculture projects for the course.*

Participants in the Organic Citrus Short Course were treated to a juicy combination of instruction from growers at four locations. Instructor Orin Martin presented an introductory webinar, video, and readings to prepare participants for a whirlwind weekend starting at the UCSC Farm where Martin and Christof Bernau taught citrus planning and planting.



The group then traveled up to Abounding Harvest Mountain Farm to learn about Daniel Paduano’s citrus-growing operation in the Santa Cruz Mountains. Sunday they met at Four Winds Growers citrus nursery in Watsonville to learn from grower Aaron Dillon, finishing at the Chadwick Garden with Orin Martin offering tastings, tour, and lessons among the citrus trees young and old.

## Growing food during a drought

Though we've had some late April rains that almost make us forget we're in the worst drought since the Mayans built temples 1200 years ago, this year's lack of water poses a problem for our garden plans. We're also living through a time of imminent food shortage and many of us want to keep those backyard gardens going. Here are some tried and true water conservation tips for home gardeners that will help you allocate your precious summer water supplies according to the plants you're growing and at which life stage they need water the most.

### **Learn to judge your plants' water needs**

One of the best ways to conserve water is to learn how often plants need irrigation, so that water isn't wasted. In general, fast growing crops such as lettuce, spinach and carrots require consistent, steady moisture. They need to be watered more often than slower growing, deeper-rooted crops.

Soil type will also dictate how often to water. Soils with a high clay content drain slowly—they can hold water for up to two weeks; sandy soils drain quickly and may hold water for only a few days. Both types of soil will benefit from applications of compost and other organic matter. For clay soils, compost improves drainage and opens up air spaces so that roots can breathe. Adding compost to sandy soils helps the soil retain water longer—the compost acts like a sponge, absorbing and holding moisture until plants can use it.

The squeeze test can help you determine whether the soil needs water; dig down a few inches and grab a handful of soil. You need to water when: sandy soil won't retain its shape when squeezed into a ball; loamy soil looks dry and won't form a loose ball under pressure; clay soil won't form a ball unless squeezed.

When it's time to irrigate, here are some water-saving guidelines:

- Deep waterings that wet the entire root zone use water most effectively. The goal is to draw plant roots deep into the soil, where water remains available longer. If all the moisture remains in the top few inches of the bed, that's where the roots will stay, and shallow-rooted plants are especially vulnerable to drying out. Deep waterings combined with deeply dug soil will encourage roots to spread and lengthen. An exception: just-planted seed beds and young transplants shouldn't be allowed to dry out—the germinating seeds or seedling roots are near the soil surface, which needs to stay moist. As the plants mature and their roots lengthen, they can tolerate longer intervals between waterings.

- Water early in the day, when cooler temperatures and calm conditions slow evaporation (on the coast, northwest winds make it difficult to water efficiently in the afternoon). Allow enough time for plants to dry out before evening to prevent fungus and mildew problems.

- Keep an eye on the weather as you make your watering decisions. A series of cool, cloudy or foggy days will lengthen the time needed between watering sessions.

### **Mulch slows evaporation**

Anything that covers the ground and blocks light can act as a mulch. This includes inorganic material such as plastic sheeting, polypropylene or polyester landscape fabrics, and old carpet. Organic mulches range from compost, leaves, straw, and hay, to newspaper, cardboard, wood chips, bark, and sawdust.

Mulches will save water and should be used selectively. Be cautious about using mulches on certain plants because they can attract pests and promote some diseases. If you're going to mulch plants such as cucumbers or tomatoes that are prone to damping off, you should wait until they're well established and the weather has warmed up before applying mulch.

Trees and other perennial plantings are good candidates for mulching because they're less vulnerable to moisture related problems. The mulch should extend to the edge of the feeder roots (1.5 to 3 times the radius of the tree's canopy, depending on soil type).

Water can also be conserved by creating a "living mulch" in flower or vegetable beds. The goal is to minimize bare ground by placing plants close together; as they mature, the plants form a canopy that shades the soil and slows evaporation. Make sure the soil is rich enough to support a dense planting.

Here are some other mulching tips:

- Organic mulch shouldn't be layered so densely that it forms an impenetrable barrier—water should be able to pass through to the soil. Clay soils will need a thinner mulch layer than sandy soils.

- When you place mulch around plantings, keep the area near the plant stem or tree trunk uncovered to allow air to circulate.

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- Leaves, grass clippings (mixed with other material to keep them from matting), “chippy” horse manure (manure mixed with straw bedding), straw or hay make a good mulch for most plants, although they will tie up some nitrogen from the soil surface as they decompose. Be sure the soil is well fed with compost or other nitrogen sources before you mulch.
- Don’t overuse resinous materials such as redwood bark or chips, since these can eventually become toxic to the plants. Sawdust and wood chips will rob nitrogen from plants if they’re mixed into the soil —layer them on the surface or use them to mulch paths.
- Straw mulches are especially effective under well established tomato, squash, and melon plants. They cool the soil, slow evaporation, and keep the fruit from making contact with wet soil.
- Because mulch keeps the soil surface moist, roots will tend to stay closer to the surface. Make sure that you use mulch consistently throughout the summer and early fall to prevent these shallower roots from drying out. Remove mulch as the weather cools to help the soil stay warm.
- Some gardeners lay down a layer of diatomaceous earth or rock powder beneath mulch to discourage softbodied pests. If pests persist, you may have to restrict mulching efforts to less-vulnerable plants. Rather than mulching, try digging compost or decomposed leaves into the top few inches of soil to improve its waterholding capacity.

### **Drip irrigation aids conservation**

An array of water-conserving irrigation systems, often lumped under the heading of “drip irrigation,” are now available at landscape, gardening and plumbing stores. These range from porous hoses that attach to a regular garden hose, to automated systems that incorporate programmable timers to water individual beds or plants on a preset sequence. The idea behind any drip irrigation system is to conserve water by directing it to the base of the plants, where it’s most needed. By keeping the foliage dry, drip irrigation also helps control mildew and fungus problems, as well as limiting weed growth.

Although they ultimately save water, drip irrigation systems have to be used more frequently than overhead systems. Because water from a drip system doesn’t fill the entire root zone, the roots are localized around that wet zone and you have to maintain higher levels of moisture in that zone.

Drip irrigation is especially useful for plants that are sensitive to moisture-related diseases, such as cucumbers, squashes, potatoes, and many annual flowers. For densely planted beds of lettuce, carrots, beets, and other small plants, overhead watering with high-quality oscillating

sprinklers remains the best option.

One simple drip system uses a porous “soaker hose” made from shredded rubber that attaches to a regular garden hose. The leaky hose is laid along the length of the bed or wrapped around trees or other perennial plantings.

Trees and perennials can also be watered with microsprinklers, small, permanent spray heads that attach to narrow “spaghetti lines” fed by larger irrigation pipes. These systems not only save water but save the hassle of moving hoses and sprinklers every time you need to irrigate. Trees should be watered in an area that extends from just inside the tree’s dripline to about five feet beyond the widest limbs, where most of the feeder roots lie (note the shadow cast by a tree’s foliage at midday—the shadow’s outside edge marks the tree’s dripline).

### **General signs of water stress**

Plants can endure some water stress, however, extreme dehydration will cause permanent wilting and death. Some signs of water stress are:

- Greying leaves: A change in leaf color from a vibrant green to a dull grey-green or bluish color.
- Loss of sheen: Plant leaves change from glossy to dull in appearance.
- Insect damage: The presence of cabbage aphids on Brassica family crops (broccoli, cabbage, kohlrabi, etc.) will often indicate dry conditions.
- Damage to the root system: Plants that look dry even after watering often have root damage upon closer examination, e.g. from symphylans. They aren’t able to uptake sufficient water.
- Red or purple leaf color: Can indicate dry conditions, or saturated conditions (anaerobic), or root damage.
- Development of small spines on the leaf margins or increased spinyness on stems: especially in lettuce and related species such as endive.
- Wilting: Pay attention to the time of the day. If plants wilt early in the cool of the day, this can be a sign that they need water. Some wilting in the mid-day heat (e.g. zucchini) is a plant-protective strategy to reduce transpiration losses.
- Slower than expected growth: This can be detected over time with a practiced eye.

## Center Spotlight: Pam McLeod, Apprenticeship coordinator

*News and Notes* recently sat down for a conversation with Apprenticeship and Short Course Coordinator Pam McLeod. Pam, who has a Ph.D. in environmental engineering from Stanford, coaches improv, and loves to cook, joined the staff of the Center for Agroecology in January and has hit the ground running with her infectious energy.

In her new role, Pam facilitates the center's Apprenticeship Program, which trains "seasoned beginners" in an immersive course that combines hands-on experience in the field with classroom instruction, community building, and mentored learning opportunities. She will work on logistics, curriculum, and other elements that she hopes will create a "fulfilling, rich, educational experience" for the participants. The new Apprenticeship Program launches June 13 with a 10-week program that runs until August 19. The second session runs from September 12 to November 18.

Pam will also facilitate the center's Short Courses, which are part of the newly redesigned structure of the center. Short Courses offer multi-day intensive training in areas such as growing organic citrus, taught by Center for Agroecology staff and other experts.

We asked Pam what drew her to the job. "I've been interested in farming, food systems, and food justice for a number of years," she says. Working at farmer's markets during grad school prompted her interest. Subsequently, she attended Bi-Rite Farm School in Sonoma, pitched in on a friend's farm near Pescadero, and became a UC Cooperative Extension Master Gardener. The coordinator position checks a lot of boxes for her: farming, education, outreach work, and an emphasis on food equity, access, and justice. "All of those things coming together in a single position seemed perfect!" she says.

Pam relishes her time on the Farm and Garden. On a typical day she might be walking the Chadwick Garden with Orin Martin, stopping by to meet with staff at the historic Hay Barn, and taking prospective apprentices on a tour of the 30-acre UCSC Farm. It's a very different world than the one she envisioned during her school days. Although originally planning to go into academia, Pam began working as a student advisor and realized that her passion was to work with people to "help them chart their own course." Coupled with her love of food and farming, the coordinator position seems perfect for her.

Challenges await. Pam joined the center at a time of transition, as the Apprenticeship emerges from the



dormancy of the pandemic and a revamped version is launched. The Apprenticeship Program, which has been in place for over 50 years, has been reimagined during its recent hiatus. The new program has an even stronger emphasis on training apprentices with diverse backgrounds, increasing access into the program, and weaving threads of agroecology and food justice throughout the curriculum. Ten-week sessions will make it possible for individuals who might not have been able to set aside six months of their lives to successfully complete the shorter program. It increases availability to people with families as well as people who might not be able to afford to go long periods of time without paid employment.

Pam is thrilled to help bring the Apprenticeship Program back at the center. She says, "I am really excited for the energy the onsite apprentices will bring."

Interested in learning more about the Apprenticeship Program? Information, application materials, and details on scholarship support are available online at <https://agroecology.ucsc.edu/education/apprenticeship>. To learn more about Short Courses, visit <https://agroecology.ucsc.edu/education/short-courses.html>.

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### Your membership dues in action

Some recent Farm and Garden facility upgrades were made possible from the generous support of members like you!



At the UCSC Farm, the Friends of the Farm & Garden supported the purchase of replacement drip irrigation at the Field Site and replacing the roof of the storage shed in the Farm Garden.

At the Chadwick Garden, Friends' support covered the cost of an upgraded beehive to house our pollinator friends.



Thank you for supporting our much needed facility improvements!

### Friends Membership Renewals

Need to renew your Friends of the UCSC Farm & Garden membership? You can find renewal information and a secure donation link online at [connect.ucsc.edu/joinffg](https://connect.ucsc.edu/joinffg). Contact us at [agroecology@ucsc.edu](mailto:agroecology@ucsc.edu) with any questions. Thank you for your support!

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### Thank you for being a Friend!

As a member of the Friends of the UCSC Farm & Garden you get 10% off all Friends workshops. Use the discount code "10-OFF" every time you register for a class. Show your membership card when shopping for garden supplies at San Lorenzo Garden Center, The Garden Company, and Sierra Azul Nursery to receive discounts on purchases. *Note: Discount only applies to events sponsored by the Friends of the Farm & Garden.*