



News & Notes of the UCSC Farm & Garden

Issue 170, Fall 2021

Growing and Saving Garden Seed with Kellee Matsushita-Tseng of the UCSC Farm

As a home gardener, you have probably seen your plants “go to seed.” Maybe the lettuces bolt during a heat wave, or the zucchini grow to the size of baseball bats when you can’t eat them (or give them away) fast enough. Perhaps, though, you’ve deliberately left some particularly delicious or fruitful cucumbers, tomatoes, or broccoli in the garden so that you could collect the seeds at harvest time and enjoy a new crop of that particular variety next year.

The UC Santa Cruz Center for Agroecology is fortunate to have a farm manager who is knowledgeable about seed saving. Kellee Matsushita-Tseng, assistant manager of the Farm Garden, is passionate about growing, collecting, and sharing seed as a way to maintain the genetic diversity of food plants, support cultural preservation, and adapt crops to a changing climate. Kellee’s recent online public workshop on seed saving and seed sovereignty, hosted by the Friends of the UCSC Farm & Garden, emphasized the value of seed saving and included practical tips for successfully planning, growing, and harvesting seed.

Says Kellee, “Food growing is at the heart of community wellness and liberation and at the root of that is seed. Seed is a platform for creating community health and self-determination.”

Seed saving is an ancient practice. “In traditional farming,” Kellee says, “you have to know about seeds: how to grow them, save them, share them... In the past, it would be impossible to be a farmer without saving seed.” In order to survive, traditional farmers collect the seeds from the most productive, nutritious, or delicious plants to sow in the next season. Over time, the plant will change as farmers select for these attributes. Thus, the corn or maize we eat today looks very little like the small, hard ancestor of corn.

Seed saving is also a cultural practice, a way of maintaining traditions across time and space. Says Kellee, “Seeds are carried through migration and forced migration. Seeds are a sign of hope.”

Speaking of the forced relocation and internment of Japanese Americans during World War II, Kellee noted that many of the people who were displaced were farmers. “They were forced to leave their homes at the beginning of spring. They didn’t know how long they would be away or where they would be sent. Many people brought seeds, cuttings, plants from home. The first thing they did when they arrived at the camps was to plant the seeds.”

It may surprise you to learn that the majority of world food production comes not from industrial agriculture but from seed that people have grown themselves on a small scale. Many of these farmers are women and many are elders, according to Kellee. Seed sovereignty—the right to select and grow seeds that are diverse and culturally appropriate—is critical for the health of farming communities everywhere. Seed sovereignty is under threat from big seed companies that have commercial patents on seed types and can control who uses their seeds.

In addition, seed saving is an important part of adapting to climate change. Saving seed from plants that can survive extreme heat, drought, or floods is key to protecting food crops for the future. As Kellee notes, “Often it is the diverse genes of varieties that are closer to their wild crop ancestors that have traits that are adaptable to climate variability.”

Finally, seed saving is a way to maintain biodiversity. Much of the world’s commercially-grown seed is limited to a few varieties that are dependable in a very select environment, with uniform conditions and high inputs, common in conventional farm systems. Big seed companies have narrowed the range of food crop varieties available to farmers; this in turn threatens the health of plant species, because the lack of diversity makes crops more vulnerable to pests and diseases. On a broader level, it hurts ecosystems, which rely on diversity for sustainability.



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Seed saving and seed sovereignty are basic human rights, according to Kellee. “For me,” Kellee notes, “seed sovereignty work is a platform for justice work and a tool to build community power and work toward collective liberation. And it’s a way to reclaim agency and protect community knowledge and wisdom. It’s our right to have access to healthy, biodiverse seeds.”

So, are you ready to grow and harvest your own seeds? In order to successfully harvest seed, keep the following tips in mind.

When to Plant

You may have to start the crop earlier in the season to ensure that the plant can go through its life cycle, from germination to flowers to seed, before the first frost.

Where to Plant

Plants that stay in the soil longer than typical harvest time will get larger and therefore will need more space. Plan for the extra space when you start the garden.

What to Plant

Select seeds from varieties that are especially tasty, culturally significant, or hard to obtain. Collect seeds from open-pollinated varieties of plants rather than hybrids. Open-pollinated seeds will produce plants that are genetically similar to their parent plants. Hybrid varieties are crosses of two open-pollinated varieties and will not necessarily produce the same variety when sown. If the seed is cheaper to purchase than to grow yourself, consider growing other, rarer varieties. Are you planting annuals—which will go to seed in a single season—or biennials—which will take two years to produce seed? Plan accordingly.

How to Plant

Think about the crop’s pollinators and the amount of irrigation it will need. How many plants should you have? You may want to grow some for the fruit and some to grow to seed.

How to Save the Seed

What kind of processing will the seeds require? Do you have the tools and the space to thresh and store seeds?

Want to learn more about seed sovereignty and seed saving? Visit Second Generation Seeds (www.secondgenerationseeds.com) to learn how this group is working to preserve and improve heirloom Asian herbs and vegetables. You can watch Kellee’s recent webinar on seed saving and seed sovereignty, available online at <https://youtu.be/hm82VTzNvdI>.

—Cathy Murphy

Kellee’s Recommended Resources

Crop specific seed saving guide with isolation distances / population size by Seed Savers Exchange, seedsavers.org/site/pdf/crop_chart.pdf

The Seed Garden, from Seed Savers Exchange

The Organic Seed Grower, by John Navazio

Cultural/Political Histories of Seeds:

Vandana Shiva, all of her work

Indigenous Food Sovereignty in the United States by Devon A Mihesuah, Elizabeth Hoover and Winona LaDuke

Black Women Seed Keepers with an African Diaspora Focus:

Ira Wallace at Southern Seed Exposure, southernfoodways.org/ira-wallace-writer-seed-saver-educator

Amirah Mitchell at True Love Seeds, ambler.temple.edu/news/2021/05/amirah-mitchell-preserving-history-through-seeds

Melony Edwards, Heirloom Collards with Organic Seed Alliance, pccmarkets.com/sound-consumer/2021-05/the-heirloom-collard-project-is-a-surprisingly-northwest-success

Other Cultural Seed Keepers and Seed Stewardship:

Second Generation Seeds, Asian American seed collective focused on preservation and stewardship of seeds of the Asian Diaspora, secondgenerationseeds.com

Indigenous Seed Keepers Network, nativefoodalliance.org/our-programs-2/indigenous-seedkeepers-network

True Love Seeds, a farm-based seed company offering culturally important and open-pollinated vegetable, herb, and flower seeds, trueloveseeds.com



Kellee grows and saves seed from traditional Asian crops at the UCSC Farm as part of a seed conservation project led by Seed Savers Exchange and Second Generation Seeds collective, of which Kellee is a collaborator. The project will generate seed stock and potentially help reintroduce varieties back into living stewardship.

From grants for plants to gifts planned and paid: We are grateful for your support!

A \$75,000 grant from the Clarence E. Heller Charitable Foundation will fund a new project initiated by the Center for Agroecology, entitled, “Scaling-up and Integrating Undergraduate Agroecology and Organic Agriculture Education Programming Across UC Flagship Campuses and UC Agriculture and Natural Resources (ANR).” This project will connect the agroecology and organic agriculture education offerings at UCSC, UC Davis, UC Berkeley, and ANR, integrating these opportunities into a single agriculture research scientist training program for students with special focus on serving Black, Indigenous, people of color (BIPOC).

A Nalith Foundation grant is funding new plantings of California native plants to attract native pollinators and other beneficial insects at the UCSC Farm. The project that inspired this \$3,000 grant is based in the Farm Garden’s one acre plot at the center of the Farm. Christof Bernau, the Farm Garden manager, described the new plantings as critical habitat resources for native pollinator, predator, and parasitoid populations. The plantings will be completed this fall.

We are very grateful to the Will & Helen Webster Foundation for their \$200,000 gift, the fourth of a five-year pledge to the Center for Agroecology, matched by another \$200,000 by an anonymous foundation, and a \$100,000 allocation from the Chancellor’s discretionary fund. Other grants providing general support to the Center for Agroecology this summer have included a grant of \$7,500 from UNFI Foundation and an anonymous foundation’s grant of \$35,000.

Farm Site and Research Lands Manager Darryl Wong received a \$50,000 grant from the Ida and Robert Gordon Foundation as the final year of five years of funding pledged for research into no-till organic farming of vegetable crops at the UCSC Farm. This project was the subject of a *News & Notes* cover article in our spring 2019 issue.

November 3rd was Giving Day at UCSC, and we raised a total of \$5473 from 63 donors in one day! These funds will fund student staff who help with the growing of crops at the UCSC Farm and Alan Chadwick Garden.

Your renewed membership to the Friends is a great way to support the work and learning at the UCSC Farm and the Chadwick Garden. If you’ve already renewed your membership and want to make an additional gift, donations can be made online to the Friends or for specific projects at the Center for Agroecology described at agroecology.ucsc.edu/support.

Gifts can also be mailed to the address below and with checks made out to the UC Santa Cruz Foundation and sent to:

UC Santa Cruz Foundation, Gift Administration, 1156 High Street, Santa Cruz, CA 95064.

Should you have any questions about making donations, gifts of stock, planned giving, or other ways of supporting our work, please contact Ann Lindsey at alindsey@ucsc.edu or (831) 566-3779.

CASFS becomes the UC Santa Cruz Center for Agroecology

The Center for Agroecology and Sustainable Food Systems (CASFS) will get a new name, logo, and look and feel through a rebranding project that affirms the center’s commitment to advancing agroecology and equitable food systems.

CASFS will become the UC Santa Cruz Center for Agroecology, and future communications about the center’s work will soon begin to reflect this change. The rebranding development took place with input from a 2021 survey of stakeholders. The changes are intended to help reach new audiences as part of the center’s vision to create an equitable food system that empowers local communities, builds relationships, and nourishes all people and the environment.

“This will be a thrilling aesthetic change for us, one that was determined by deeply respecting our history, evaluating our current work, and allowing ourselves to dream big about our future,” said Stacy Philpott, director of the Center for Agroecology.

The Center for Agroecology will celebrate its 55th anniversary next year, and it remains focused on experiential education, participatory research, agricultural extension, and public service. The center manages what may be the oldest university-based organic farm in the country and supports an agroecology major, as well as an Apprenticeship in Ecological Horticulture that has trained more than 1,500 emerging leaders.

Rooted in the Social Sciences Division, the Center for Agroecology brings a social justice perspective to envision an equitable future for food systems. Food access remains a core pillar of the center’s work. Campus-grown produce supports the student Basic Needs program, a Community Supported Agriculture (CSA) program, and community produce stands.

The center also provides free organic farming guides to support the needs of farmers and has a long history of conducting and collaborating on groundbreaking research in areas like pest and pathogen management, soil health, and no-till farming strategies.

—UC Santa Cruz Public Affairs

UCSC Students Return to the Farm and Garden

If you've visited the Farm and Garden this fall, you may have noticed the sites are again bustling with student activity! After a year and a half without onsite interns, volunteers, and apprentices, the UCSC Farm and Chadwick Garden are open and hosting students for in-person educational programming.

The Center for Agroecology (the Center) is excited to build upon a new Student Leadership Development Program this year, which will see seasoned student staff taking on leadership roles such as training and mentoring junior staff and interns and participating in developing and improving Center programming. Students will learn from each other as well as from professional staff in and across sites. The goal of the new program is for students to feel empowered in their roles and knowledgeable in food systems topics from planting, growing, and harvesting, to food production and distribution, and increasing students' access to fresh, nutritious food.

The Center is once again hosting in-person interns from all academic majors at the Farm, Garden, Cowell Coffee Shop, and Produce Pop-Up to provide hands-on experiential learning opportunities. The internship will focus on land-based agricultural and horticultural production, post-harvest handling, food distribution, and nutritional and culinary preparation and services. Interns will be based at one of the Center's diverse sites, with the option to intern at different sites from quarter to quarter.

The agroecology major, an interdisciplinary program housed in the UCSC Environmental Studies Department that had been entirely remote for its first academic year due to the pandemic, sees its first in-person cohort this year. Students in the new major have the opportunity to gain credit through working onsite at the UCSC Farm, gardens, and kitchens with instruction from Center for Agroecology staff and fellow students.

For this fall quarter, 150 students are enrolled in Introduction to Agroecology and Sustainable Food Systems, the core class for the agroecology major. The Center hosts 30 agroecology students each weekday, alongside interns and with guidance from student and professional staff.

We look forward to the year ahead and are hopeful we can begin to offer additional onsite programming soon, including public workshops, short courses, and our Apprenticeship Program. In the meantime, the Farm and Garden are open to the public daily from 8am to 6pm, so please come visit and say hello!



Center for Agroecology students learn about all aspects of the food system, from planting, growing, and harvesting, to distributing and increasing food access for other students.

Friends Board Update

Members re-elected Delise Weir for Board president, Sandra Morishige as vice president, Cathy Murphy as secretary, and Patti Barnett as treasurer. We are happy to also welcome former apprentice James Nakahara to the Board.

Thank you to all who voted in the recent Friends of the UCSC Farm & Garden Board Officer Election, and to all members for your support over the years!

Apprenticeship Updates

Dennis Tamura (1979) of Blue Heron Farms in Corralitos was featured in a KQED news article entitled, "Owls, Swallows and Bluebirds: The Secret Allies of Farmers." In the article, Dennis shared how birds have become an important part of the farm's ecosystem by helping to control pests including flea beetles and gophers. Find the article online at <https://kqed.org/news/11879719/owls-swallows-and-bluebirds-the-secret-allies-of-bay-area-farmers>.

Onika Abraham (2012) is the director of Farm School NYC, an organization that trains New York City residents in urban agriculture through a certificate program as well as individual courses. Onika taught at Farm School NYC before becoming director, and also co-founded Black Urban Growers. In September, Onika was featured as one of "The Agriculture Power 50," a list of leaders in New York's agricultural landscape from *City & State New York*.

Joanna Letz (2011) runs Bluma Farm, an organic flower farm based in the East Bay Area. Joanna recently transitioned from farming on acreage in Sunol to growing flowers and culinary herbs on a rooftop in her hometown of Berkeley. At a quarter-acre, Bluma Farm is the largest rooftop farm on the West Coast. Learn more about Joanna and Bluma Farm in a recent blog post from CCOF: <https://ccof.org/blog/bluma-farm-bloomin-sky>.

Corie Pierce (2005) owns and operates Bread and Butter Farm in Shelburne, Vermont. Corie recently started a successful campaign to raise money for renovating a historic timber barn on the farm, known as "This Old Barn," that was in danger of collapsing. Over \$19,000 in donations have poured in to renovate the barn, surpassing the original goal of raising \$15,000 for the cause. The barn was originally built in the 1800s and, once renovated, will be utilized as a community gathering space. Visit <https://gofundme.com/f/breadbutterfarm-this-old-barn> to learn more.

Saskia Cornes (2010) is an assistant professor at Duke Franklin Humanities Institute and program director at the Duke Campus Farm, a one-acre working farm owned and operated by Duke University that provides Duke and its surrounding communities with sustainably-grown produce, food systems education, and opportunities for engaging and reimagining the ways we cultivate, access, value, and think about food.

Thank You Volunteers!

Without apprentices, onsite interns, or volunteers during most of 2020 and half of 2021, the Farm and Garden became overgrown with weeds and besieged by bunnies and other pests! With the reopening of the Farm and Garden in summer of 2021 and in preparation for the return of onsite interns in fall, staff faced the challenge of getting these sites ready in time for the resumption of onsite educational programming.

With the help of volunteer alumni and Friends of the UCSC Farm and Garden members at a series of Saturday Volunteer Work Parties over the last few months, the Chadwick Garden and UCSC Farm have been restored and made hospitable for our new interns and other visitors. The transformation was impressive and we are so grateful for the help of our wonderful volunteers. Thank you!

Our volunteer work parties have ended for now, but more volunteer opportunities will be available as the Center for Agroecology as the Farm and Garden gear up for another growing season this upcoming spring. Contact casfs@ucsc.edu to learn more about volunteer opportunities and how you can get involved.



Before and After - Top: An overgrown path in the Chadwick Garden. Bottom: The same path, weeded and mulched by volunteers.

Cowell Coffee Shop: Farm-to-food-security student cafe

The Cowell Coffee Shop: For the Peoples, a non-transactional cafe designed to increase student food access, managed by the Center for Agroecology, has reopened to the campus community after operating remotely during most of the 2020-2021 school year. The cafe's offerings include fresh-pressed juices using produce from the UCSC Farm and Garden and the Santa Cruz Community Farmers Markets, coffee, food recovery items from campus and community partners, and custom-made bowls from the new Chowbotics unit, a robotic vending machine that assembles meals from fresh ingredients, all offered free of charge to the campus community.



Cowell Coffee Shop Food Supervisor Brooks Schmitt selects meal ingredients grown at the Farm and Garden, prepared by student staff at the cafe, and assembled by the new Chowbotics unit.

The Chowbotics unit provides a dependable baseline of nutritionally dense offerings for students who come into the cafe. Studies and surveys from the UCSC Blum Center on Poverty, Social Enterprise, and Participatory Governance have suggested that some students, especially graduate students, experience feelings of shame, guilt, and embarrassment when accessing Basic Needs resources. A robotic vending machine helps to create an anonymous experience, providing a safe and nourishing option for students hesitant to access food security resources on campus.

In addition to offering nutritious, free meals to those on campus, the Cowell Coffee Shop serves as a community space for students to study and connect with peers. The cafe will also host Slugs in the Kitchen culinary workshops and cooking demonstrations and events for campus organi-

zations and resource centers. The Center for Agroecology employs seven students at the Cowell Coffee Shop, and starting this quarter the Center is also hosting interns at the cafe.

Located in Cowell College on the UC Santa Cruz campus, the Cowell Coffee Shop was transformed into a student-run, non-transactional cafe and choice-based pantry in 2018 by Colleges, Housing and Educational Services (CHES) and Cowell College, in partnership with the Center for Agroecology and the Dean of Students Office. Over the past three years, the Center for Agroecology has worked to direct an increasing amount of produce from the Farm and Garden to the Cowell Coffee Shop, as well as campus food pantries and the Produce Pop-Up stand, to support UC Santa Cruz's efforts to ensure students' basic needs, including access to affordable, nutritious food, are met.

Since early 2020 when the COVID-19 pandemic prompted UC Santa Cruz to shift to remote education, the Cowell Coffee Shop adapted to serve as a distribution hub for Second Harvest goods and semi-prepared meal kits made from scratch, and also offered online culinary workshops, videos, and a remote internship in collaboration with the Farm and Garden and the UCSC Food Systems Working Group (FSWG).

Now that students are returning to campus, the Cowell Coffee Shop team is excited to see how the university landscape has changed after a year and a half of remote instruction, and how the integration of the campus farm-to-student-food-security solutions can continue to grow and evolve. Over the next year, the team will activate its Mobile Food Hub, continue to welcome in interns from the new agroecology major, connect with UC-wide partners and sister programs, and continue to expand and nourish collaborations with campus and community organizations from farms and fields, through the kitchen, and onto our collective table.



Hunter Esquivel, Cowell Coffee Shop student staff

To everything there is a season...*

by Orin Martin

Hey, what's that old phrase, aphorism, expression...
"What goes 'round, comes 'round..."

Yeah, well,
that can mean that if you are friendly, kindly to others,
it all comes back to you 10-fold, nay—100-fold!
But—

It's that time of year again—
Regarding the earth going round the sun and such...
And, as we now note—
The turning of the seasons, summer to fall,
the lowering of the sun's arc on the horizon,
and yeah, the days are still warm
but the nights a bit chilly,
and the days are definitely shorter than the nights, with
sunshine on the wane...

So, it's time to "hustle up";
Perhaps you've got a prodigious pepper crop.
Perhaps, painstakingly produced with tender tending.
What's a gardener to do??

Well, eat them fresh, voraciously, of course,
but think about putting some up—
You know, stocking up the winter kitchen larder...

There is always the iconic New Mex hatch-type green
chiles,
but another class of peppers suitable for roasting includes
the Corno di Toro (bullhorn) types
and the big, elongated European 'Lamuyo' bells.
And while they can be roasted with a handheld small pro-
pane torch (watch out for seared eyebrows!! Dicey...)
Safer options include:
On a baking sheet in the oven broiler.
On a gas stovetop burner.
Or on the "barbie."

But, consider buying a small hand cranked, cylindrical,
propane-powered chile roaster
as pictured above.
(arizonachileroasters.com or azsonoranchileroasters.com)

In roasting, the aim is to blacken and blister the tough,
chewy skins and to remove them from the pods,
and to slightly cook/roast the succulent pod walls (all
kinda yummy).
Done well (what's that quote from Marge Piercy's poem
—*To be of Use*—
"...But the thing worth doing well done
has a shape that satisfies, clean and evident...")



The pods come out of the hopper skinned and seeded (by
and large) ready to top and plate up;
Marinate in a little olive oil with good sea salt, or
stuff them relleno-style!

And as for preserving,
all ya gotta do is to slide them into Ziploc freezer bags
and stick 'em in the freezer for timely, wintertime
retrieval.....
Either way—It's all good.

The roasting involves rocking and cradling the cylinder
with a quick, full rotation or two at the outset.
This blisters the skins and lifts them up off the pods.
And then some vigorous spinning (remember: "What
goes around, comes around...").
Total time = 12-18 minutes.
It's rhythmic, fun and quite a spectacle at social gather-
ings
(at night, it's a light show!)
The alluring aroma of the roasting peppers is sure to draw
a crowd...
And by preserving,
you can bring a little of summer's warmth and abundance
out of the freezer
on those seemingly endless dark, drear days of February.

* This title references lyrics from the song *Turn! Turn! Turn!*, as made fa-
mous by The Byrds in 1965, and originally composed by folk musician
Pete Seeger in the 1950s. The song lyrics were taken from the biblical
Book of Ecclesiastes.

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Fall Gardening Checklist

With the arrival of fall rain, it's time to "button down" the garden and prepare the soil for next spring! It's also time to plant bulbs and other crops for a spring harvest. Here's a handy checklist of some fall gardening tasks.

- Clear garden beds of plants and tidy the garden.
- Build compost piles using removed plants with manure, leaves, and other organic matter.
- Plant cover crops.
- Mulch garden beds. If you're planting cover crops, mulch with a light layer of straw. If you aren't planting cover crops, mulch with a layer of manure covered with wood chips.
- Plant flower bulbs (tulips, narcissus, daffodils), garlic, and strawberries.

Find free gardening resources on our website, <https://agroecology.ucsc.edu/resources>, including videos and how-to guides on making compost, growing and incorporating cover crops, and more.



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. Contact us at casfs@ucsc.edu with any questions. Thank you for your support!

News & Notes is going digital!

Members can opt out of receiving *News & Notes of the Friends of the UCSC Farm & Garden* via U.S. mail and instead receive a digital PDF file via email beginning in winter of 2022. By offering a digital alternative we will reduce printing and postage costs and enable your membership dollars to go farther in directly supporting the Center for Agroecology while reducing our carbon footprint.

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