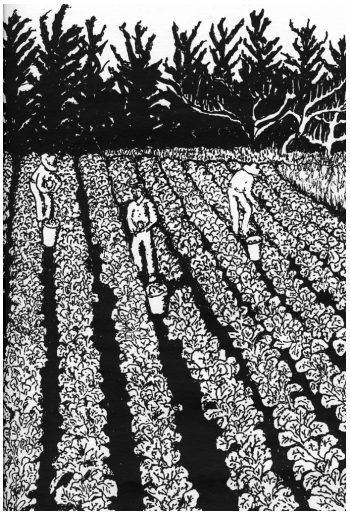

Forrest Cook

News & Notes of the UCSC Farm & Garden

Issue 169, Summer 2021

The Pepper: Then, Now, and Going Forward

—by Orin Martin

The genus *Capsicum* (from the Greek *Kapto*: to bite) is the nomenclatural home to all peppers, wild, domesticated, hot, or not. There are approximately 25 species in the genus, but only five represented in domestication:
Capsicum frutescens (= shrubby), "Tabasco" peppers.
C. pubescens (= hairy), represented by the South American "Rocotos" and the Mexican "Manzano."
C. chinense (= from China), the deadly hot habanero. The specific name *chinense* is a misnomer as it, like all peppers, originated in the Amazon Basin region.
C. annuum (= annual), again, *annuum* is a misnomer, as all peppers are perennial shrubs in their native habitats.
C. baccatum (= berry-like), the "Ajis" of South America.

While peppers originated in and around Amazonia, they now enjoy worldwide popularity. As they spread around the globe, peppers were quickly adopted and then adapted by many chile-forward cultures and cuisines. Each locality selected and subsequently bred popular pod types, shapes, sizes, colors, and tastes to their liking. And that is principally why we enjoy the plethora (some estimates say as high as 10,000) of peppers we have today.

Wild peppers are old, some say as old as 16-20 million years. We as a species are new on the scene, 200,000-300,000 years, plus or minus, and peppers have been domesticated for 4,000-6,000 years.

Origins

The screen crawl at the outset of each (and there seems to be a never ending succession…) *Star Wars* movie episode reads: *A long time ago in a galaxy far, far away…* With peppers (genus *Capiscum*) it might read something along the lines of: *A long time ago and far, far away, but definitely in this galaxy, in the remote geologic past, in a geographic area bounded by the mountains (Andes) of southern Brazil on the east, Bolivia on the west, and both Paraguay and northern Argentina on the south, the progenitors of modern day peppers "rooted down" and "sprung forth."* Lucky for us!

This is the area with the highest concentration of wild chile pepper species. It is the "nuclear center" of pepper genetic diversity. The "hearth and home" to all peppers would be their "center of origin" and "center of diversity," terms/theories developed by Nikolai Vavilov in the 1920s. Vavilov was a Russian scientist and great humanitarian. Actually, he was much more, a biologist, botanist, geneticist, adventurer, geographer, and an agronomist, too! His mission was simple but ambitious: to determine the origins of humankind's food crops. His M.O. was to gather the genetic material needed to breed crops to increase productivity. He was particularly concerned with breeding grain crops to alleviate hunger among his fellow Russians. For these efforts, he was first lauded by and awarded by

Lenin but then, tragically, he was imprisoned by Stalin, who eschewed modern genetics. Ironically, Vavilov died of malnutrition and hunger while imprisoned during the very week he was inducted into the Royal Society for Sciences in London. Truly a sad tale.

Peppers Now

There is speculation that the wild progenitors of modern day peppers date back 16-20 million years. But that was then and this is now. Here's a little visualization exercise: close your eyes for a minute or two. Now, think of all the countries, cultures and cuisines, worldwide, that feature peppers in their cooking. These are, indeed, chile-forward cultures! Quite an array! A list that includes, but is not limited to: South America, Central America, Mexico, the Caribbean, Africa, India, the Mediterranean Basin, Eastern Europe, Southeast Asia and certainly the Southwest of the United States.

And, in fact, peppers got to be so "cosmopolitan" (botanical term for worldwide distribution and not that other definition implying hip, chic, cool, etc.) within 25 to 50 years of the ill-fated "Columbian Exchange," precipitated by Columbus in 1492. It should, perhaps, be more frankly referred to as the "Columbian Extraction." The Spanish colonialist invasion of the Americas was an onslaught that featured native populations enslaved and forcibly converted to Christianity, deadly diseases, the rupturing of many ecosystems, and more…And as over 90% of the Indigenous population died, it eventually gave rise to the genocidal African slave trade; Truly a nadir of human disgrace.

Subsequently, peppers were dispersed worldwide by Portuguese and Spanish trade routes. But long before that, long before humans trekked across the Bering Strait land bridge and settled in the Americas, birds were responsible for the spread of peppers from the southern Brazil-Bolivia center of origin.

In a display of flexible intelligence and coevolution, origin peppers were small, round (bite-sized, as it turns out), brightly colored and held well above the plant's foliage. They were an easy target for birds. Additionally, at maturation, the pods were easily removed from the plant.

Pepper pods in the wild are all hot ones; containing a stable alkaloid—capsaicin. It is thought that one of the reasons for the pepper developing this metabolite was to make the pepper pod and seeds unattractive to unwanted predators, mostly mammals. Both the chewing action and the digestive gut juices of mammals destroy the seed embryo. Apparently ancient mammals were quick learners. To cut to the quick, they (mammals) eat pepper pods, plunge into a capsaicin-induced heat frenzy—an "undiluted purgatory"—and...lesson learned!

Birds, on the other hand, don't sense the burn of capsaicin. So again, in an evolutionary "nutshell":

Birds see shiny red object (fruit).

Birds eat.

Birds fly.

Birds poop and deposit seeds laced with a "guano" fertilizer tablet at a distance.

Additionally, not only do the bird's digestive juices not compromise the seed's ability to germinate, but research now indicates that passage through bird guts provides the seed with some protection, producing volatile compounds that make the seed less attractive to ground insects like ants and soilborne fungus that could rot the seed. So via "flexible intelligence" and a symbiosis of sorts, peppers spread northward to Mesoamerica, the Caribbean and southern U.S.

Peppers Going Forward

Well, with all due respect to the peppers' tropical origins, you may have noticed we don't live in such a climate. Ours is an alluring but cool mediterranean climate, but one subject to extended cool summer temperatures brought on by coastal fog. As a note, San Francisco had exactly zero days with temperatures above 70°F this July.

And so, while you might want to grow (and more importantly sweeten and ripen) the large elongated (Lamuyo type) bell peppers and similarly impressive 10-12" long Corno di Toro (Bullhorn) sweet peppers of Italian fame, there are easier-to-grow versions of these two pepper types. A good and satisfying set of alternatives include the following varieties and seed sources.

Mini Bullhorns from Johnny's Seeds: These half size options have full size flavor and sugar. They've got the requisite crunch, juice and sugar one lusts after with sweet peppers.

Corno Rosso (red), Corno Giallo (yellow): The fruits are 1 ½" x 5" and super sweet. And while the catalogues list them as maturing at the same number of days as their full size relatives, I've found them to be good 15-20 days earlier. And, as is the rule, the smaller the fruit, the greater the number per plant (>10-15).

Mini Bells: The attractive and tasty Mini Bells (from Johnny's) Glow and Aura (cutesy names) are a good coastal bet, as are Johnny's Lunch Box peppers and Renee's Seeds' Mini Snack/Salad Baby Belles and the warm yellow, sweet Yummy Belles.

My advice regarding these varieties: Get 'em. Grow 'em. Grill 'em…

And Moving "Beyond Category…"

If you fancy yourself an adventurous grower (and who doesn't?), try the rarely grown and seldom seen in markets Rocoto pepper (*Capsicum pubescens*). The species name refers to the hairs on stems and leaves. This species hails from the montane cloud forests of Bolivia at elevations from 5,000-9,000 feet! It was probably domesticated more than 6,000 years ago. It was the most grown pepper in the Inca Empire and still remains popular in Cuzco, the former capital of the Inca empire.

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Upcoming Events

UCSC Farm Volunteer Work Parties

Saturdays, August 21, September 18, and October 16, 9:00am — 12:00pm

Volunteers can join Farm Garden Manager Christof Bernau and other staff for weeding and planting. Sign in at the Gatehouse starting at 8:45 am. Parking is best at Campus Facilities lots #115 and #116. See more information on Saturday Work Parties below.

Chadwick Garden Volunteer Work Parties

Saturdays, August 28, September 25, and October 23, 9:00am — 12:00pm

Join Garden Manager Orin Martin for weeding, mulching, and planting in the Garden. Park at Merrill College and walk down driveway to gate closest to the Chalet to sign in starting at 8:45 am. See more information on Saturday Work Parties below.

The Legacy is in the Soil: An Evening with CheFarmer Matthew Raiford

Wednesday, August 25, 7:30pm — 9:00pm, Hay Barn

Matthew Raiford, CASFS Apprenticeship alumnus and CheFarmer (chef and farmer), will talk about his new cookbook, *Bress 'n' Nyam: Gullah Geechee Recipes from a Sixth-Generation Farmer*. Book signing to follow. For more information and to purchase a ticket, visit casfs.ucsc.edu. Ticket price includes a copy of the cookbook.

Seed Saving and Seed Sovereignty

Tuesday, August 31, 5:00pm — 6:30pm, Online

In this free workshop led by Kellee Matsushita-Tseng of the UCSC Farm, participants will explore foundational concepts of seed saving and sovereignty: how we build a movement towards seed sovereignty, seed saving for creating resilient farm and garden systems, seed saving principles and practices, crop planning for seed production, and introduction to mating systems. Visit casfs.ucsc.edu/news-events/events/index.html to register. Spanish interpretation available.

Top 10 Medicinal Herbs for Santa Cruz

Wednesday, September 22, 5:00pm —6:30pm, Online

Clinical herbalist Paula Grainger will share her top 10 medicinal herbs to grow in and around Santa Cruz in this free workshop. Learn how these herbs can be safely and effectively used to improve your health and wellness. With hints and tips on cultivation and harvesting, Paula will also describe how you can process and preserve your herb harvest. Visit casfs.ucsc.edu/news-events/events/index.html to register.

Walk through the Herbalist's Garden

Saturday, September 25, 10:00am — 11:30am, Paula Grainger's garden

Take a peek at the Santa Cruz medicinal herb garden of clinical herbalist Paula Grainger. Paula will introduce you to the plants and share how she uses what she grows in her herbal practice. Limit 12 current members of the Friends of the UCSC Farm & Garden! First come first serve.

Saturday Work Parties at the UCSC Farm and Chadwick Garden

We need volunteers who want to garden! Come join a Saturday morning work party at the UCSC Farm and Alan Chadwick Garden (see dates above). We welcome all levels of gardening help from weeding and harvesting to pruning and irrigation set up. Without apprentices and student interns this year due to Covid-19 restrictions, we are challenged to keep up with the maintenance of our organic crops and perennial areas.

UCSC Farm work parties: Third Saturday of the month through October, from 9 am-12 noon (August 21st, September 18th, October 16th). Park at Campus Facilities lot #115 and #116 and sign in at the Gatehouse.

Chadwick Garden work parties: Fourth Sunday of the month through October, from 9am-12 noon (August 28th, September 25th, October 23rd). Park at Merrill College Lot #119 and come through the driveway gate by the Chalet to sign in.

Find more information and sign up for Saturday work parties as well as weekday morning volunteer opportunities at casfs.ucsc.edu/get-involved/volunteer (please be sure to sign up so we know how many volunteers to expect). Please fill out the volunteer forms and Covid-19 symptom check questionnaire on the volunteer web page. You can also contact us at (831) 459-3240 or casfs@ucsc.edu. Thank you for your support!

Growing heritage and healing through Asian vegetables

A group of faculty, staff, and alumni from UC Santa Cruz are drawing upon and strengthening their cultural heritage and connection to Asian foodways to cultivate traditional vegetables, build community, and promote agroecological and socioecological diversity and representation.

Scott Chang-Fleeman first started growing organic choy sum, a leafy vegetable common in Chinese cuisine, while he was a second year apprentice at the Center for Agroecology and Sustainable Food Systems (CASFS) in 2018. Chang-Fleeman is a third-generation bi-racial Chinese American who didn't grow up with a strong connection to Chinese culture. This project was, in part, a journey of self-discovery for him.

"All of my farm and garden education up to that point had been more Eurocentric, so I wanted to be able to take the same skills and resources and apply it to Asian vegetables," he said. "It kind of tied in with me wanting to explore my own identity more. And the Asian vegetables I'm used to, you rarely find certified organic. They're pretty much always conventional and really cheap, grown with a lot of pesticides."

Chang-Fleeman wanted to offer different options through organic methods. So he sourced choy sum seeds, got the plants started in the CASFS greenhouse, then transferred the seedlings into the fields at the UCSC Farm. The crop thrived. One day, Darryl Wong, UCSC's farm site and research lands manager, asked Chang-Fleeman what he intended to do with his vegetables.

The two were out walking through the fields at the time, and Chang-Fleeman jokingly replied that he'd like to sell vegetables to Brandon Jew, the chef and owner of famed San Francisco-based Chinese American restaurant Mister Jiu's. As it happened, Wong knew Brandon Jew well, so he gave him a call. Jew agreed to connect with Chang-Fleeman to offer feedback on his vegetables, and an important partnership grew from there, Wong says.

"It was really neat to see the synchronous vision that both Brandon and Scott had of trying to bring back this embracing of Chinese culture through food," Wong said. "On Scott's side, he was really trying to highlight these crops to bring attention to how exciting new varietals of Asian vegetables can be, and Brandon expressed a similar desire to really embrace Chinatown and Chinese culture for all that it is and showcase it. As a second-generation Chinese American myself, that's exciting to me."

The partnership with Mister Jiu's grew into a business opportunity when Chang-Fleeman founded Shao Shan Farm in Marin County after completing his apprenticeship program. The farm now sells produce to restaurants and directly to consumers through a CSA program that is largely supported by Asian American customers. Chang-Fleeman also attends farmers markets in predominantly Asian American neighborhoods throughout the Bay Area and says he enjoys working directly with the community to grow the types of produce that people want to eat.

"This all started with me building deeper relations and reconnection to my Chinese American heritage and identity, but now I feel that the purpose of the farm is more to be able to hold space and hold a resource for the community," he said. "I'm just lucky enough to be able to go along for the ride and get to explore my own identity through this avenue."

Chang-Fleeman said he also feels a strong calling as an Asian American voice in sustainability and environmentalism. He previously completed his undergraduate degree in environmental studies at UC Santa Cruz and was mentored by Professor Flora Lu, who impressed on him the critical need for representation of diverse Asian American identities within the field.

"We have a long way to go to visibilize the environmental efforts of BIPOC," said Lu, a Chinese-American immigrant and the provost of Colleges Nine and Ten. "That of course includes Asian Americans and Pacific Islanders, who represent a significant and increasing segment of our campus community."

For Chang-Fleeman, farming was a way to live out his commitment to representation. He's now part of Second Generation Seeds, a collaborative of Asian American growers across the West Coast who are preserving and improving important heirloom vegetable varieties. Kellee Matsushita-Tseng, assistant manager of the UCSC farm garden, is also a member of this network and is currently breeding new varieties of celtuce and growing chile peppers from a seed bank on behalf of the project.

Kellee Matsushita-Tseng cares for chile pepper plants in the CASFS greenhouse. Photo: Nick Gonzales/UC Santa Cruz

"We are focusing on preservation of both the genetics of these plants and the knowledge and cultural legacies that come with them," Matsushita-Tseng said. "And we focus on reclaiming the ability to define the story of Asian vegetables within the community, as opposed to having it co-opted or marketed by white growers or white audiences."

Matsushita-Tseng says there's been a lot of "trending" lately around fruits and vegetables that are common in a wide variety of Asian cuisines. These foods are increasingly being appropriated by white-owned agricultural companies and marketed as "exotic" or "superfoods," which continues the industry's long history of exploiting Asian Americans.

Immigrants from China, Japan, the Philippines, and beyond played a crucial role in building the U.S. agricultural sector, but racist policies and violence historically excluded them from the industry's wealth. Today, Asian Americans make up less than 1 percent of the nation's farmers. That's why groups like Second Generation Seeds and the Asian American Farmers Alliance are working to support Asian American farmers in providing culturally relevant foods for their communities.

On campus, Anthropology Professor Nancy N. Chen—who studies the intersection of food, medicine, and culture—is also working with Matsushita-Tseng to develop a garden with traditional Chinese medicinal herbs. These efforts, in combination with a planned partnership between Matsushita-Tseng and the Basic Needs program in the fall, are important for building belonging and supporting student health, Chen says.

"Every culture has its comfort foods, and fresh produce is something that is very specific to Asian cuisines," she said. "So the opportunity to be able to have fresh and local vegetables that are unique to Asian foodways, that's a form of healing."

Healing through food can also include reclaiming lost connection to heritage. Many generations of Asian Americans have experienced loss of language, food customs, and other elements of culture due to violent assimilation forces, but Chen says some of that cultural knowledge can be restored.

"Lost food memories can be regrown similar to how you can actively make memories and grow food," she said. "With the opportunity to save and recover heritage seeds or grow specific crops that are unique to a cultural foodway, the act of planting and cultivating that in a new landscape is a grounding experience."

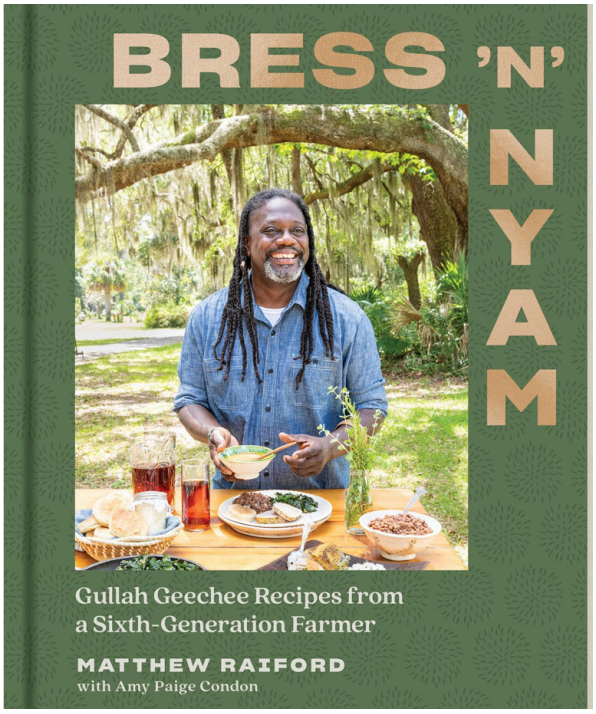
In many ways, the genetics of heirloom Asian vegetables encode a cultural history passed down over generations. Each seed has a story to tell. And for today's generation of Asian American farmers, sowing these seeds is a powerful act of remembrance.

"I feel like our seeds and our plants are as much our ancestors as our aunts and uncles," Matsushita-Tseng said. "These plants carry with them memories of what our ancestors have experienced, from the taste preferences of their community, their stories, and the landscape and climate patterns. At its root, our work to preserve culture and community is one of the strongest acts of resistance against white supremacy. The work we're doing is about honoring and uplifting our community's legacy, as well as exploring what that means for folks of the Asian diaspora."

—Allison Arteaga Soergel

Apprenticeship Updates

Matthew Raiford (2011) published a cookbook, *Bress 'n' Nyam: Gullah Geechee Recipes from a Sixth-Generation Farmer,* a collection of 100 heirloom recipes from the dynamic chef and farmer working the lands of his great-great-great grandfather at Gilliard Farms in coastal Georgia. The cookbook pays homage to the cuisine that nurtured Raiford's family for seven generations and traces a history of community and family brought together by food.



CheFarmer Matthew will be giving a talk and signing copies of the book at the Hay Barn on August 25! See the Events Calendar on page 3 for more information.

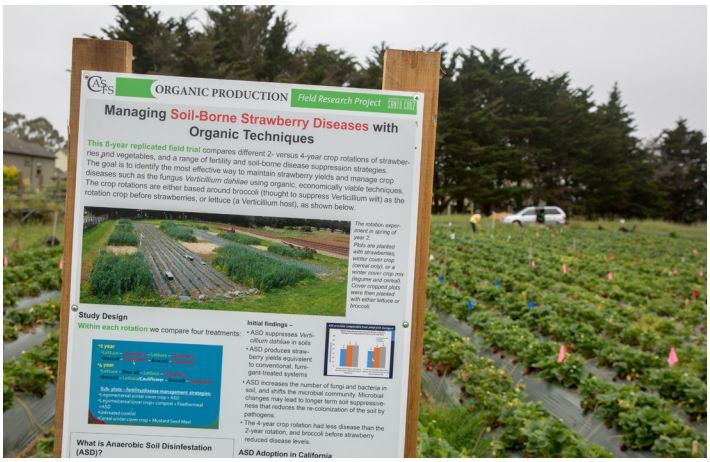
Combination of organic management techniques can minimize soilborne disease in strawberries

To identify the most effective methods to maintain strawberry yields and manage soilborne diseases using organic, economically viable techniques, UC Santa Cruz researchers studied the effects of crop rotation combined with biological alternatives to soil fumigants in strawberry fields at the UCSC Farm. The team of researchers included Carol Shennan, professor of Environmental Studies, and Joji Muramoto, UC Cooperative Extension Organic Production Specialist based at the Center for Agroecology & Sustainable Food Systems (CASFS).

Soilborne diseases, particularly those caused by pathogens *Fusarium oxysporum* f. sp. *fragariae* (Fof), *Macrophomina phaseolina* (*M. phaseolina*), and *Verticillium dahliae* (*V. dahliae*), can devastate strawberry plants and have been a major driver of heavy chemical soil fumigant use in conventional strawberry production. These diseases present a major threat to organic strawberry growers.

There are some organic techniques that have shown promise in mitigating the presence of soilborne pathogens in strawberry fields, including crop rotation and treating soil with a technique known as anaerobic soil disinfestation (ASD), a biological alternative to soil fumigants that involves incorporating rice bran into the topsoil, covering the soil with a plastic tarp to limit gas exchange, and adding water to initiate and maintain fermentation for at least three weeks.

However, these methods come with some caveats: 1. Effective crop rotation can be challenging for growers because many crops, cover crops, and weeds host the same pathogens that affect strawberries; 2. While ASD is effective in managing *M. phaseolina* and *V. dahliae* in lower fall temperatures, it requires higher summer temperatures to be effective against Fof; because summer is the prime crop growing season, performing ASD during this time period means that growers lose out on income from crop sales.



The researchers set out to find organic options for managing soilborne diseases that are not only effective, but also economically viable. They conducted an eight-year research trial at the UCSC organic farm to study the effects of crop rotation combined with either ASD or mustard seed meal, which has shown effective pest suppression when used as a soil treatment in some cropping systems but has not been extensively studied in organic strawberry systems.They assessed disease suppression and yield performance in both approaches

They compared a two-year crop rotation and a four-year crop rotation growing either broccoli, which suppresses *V. dahliae*, or lettuce, which hosts this pathogen, before planting strawberries. Within each of these rotation trials, four soil treatment methods were established: 1. a winter cover crop mixture of cereals and legumes with compost and fertilizer, plus late summer ASD preceding strawberry planting; 2. a cereal winter cover crop and incorporation of mustard seed meal; 3. a winter cover crop mixture of cereals and legumes with late summer ASD preceding strawberry planting; and, 4. bare, fallow soil followed by strawberry fertigation.

The researchers found that strawberry yields were highest when ASD was used in four-year rotations, while the two-year rotations showed higher strawberry wilt symptoms that negatively affected yield. ASD noticeably improved yields in the rotations that included lettuce, whereas mustard seed meal-treated fields resulted in higher strawberry yields when rotations included broccoli. However, the broccoli rotation-mustard seed meal combination produced equivalent strawberry yields to the broccoli rotation-ASD combination. ASD treatments in both two-year and four-year rotations resulted in strawberry yields significantly higher than mustard seed meal-treated and bare, fallow soil across all rotations.

An analysis of strawberry crown tissues showed that Fof, *M. phaseolina*, and *V. dahliae* were all present in the field, but while ASD did not eliminate the pathogens, it sufficiently suppressed disease to greatly enhance strawberry yields. Additionally, the presence of Fof was greater in the two-year rotations than the four-year rotations, demonstrating the effectiveness of a longer period between crop rotation for this host-specific, prevalent soilborne disease.

"Unlike chemically intensive conventional systems, soilborne disease management in organic systems relies upon complex ecological processes and requires integration of multiple approaches," said Muramoto. "Depending on the production goals, each grower has to develop a site-specific strategy for soilborne disease management by integrating available tools such as crop rotation, use of resistant varieties, and ASD."

Center Spotlight: Naliyah Martinez-Truso, student staff

Last year the Friends of the UCSC Farm & Garden pledged a $3,000 gift to support the Black Lives Matter Garden at the UCSC Farm. This gift helped CASFS hire a student, Naliyah Martinez-Truso, to steward the garden. Naliyah maintains the physical space, curates community events and other programming, and works to bring the purpose and spirit of the garden to life.

What brought you to CASFS and this position?

I had been taking classes on herbalism and plant medicine and also kind of just learning on my own. I knew before I came to this position that I wanted to create a space for Black and Indigenous folks to be in community and feel safe and have a garden. When I saw this position it felt really right because it combined all the things that I already knew that I had a passion for, including community organizing and just being really in touch with myself and with each other and the earth.

Tell us about your experience stewarding the Black Lives Matter Garden

It's been a really amazing position. There is the on-site work, like tending to the garden and planting and taking care of whatever plants are sown into the soil and working with the altar. And then there's also the community programming piece alongside the themes of the garden, which are sovereignty, food access and learning how to steward the land, and also drawing a deeper connection with our ancestors through the land and through the altar space. And then there's the online historian work, like interviewing alumni who have been involved in this space and organizing the archive of the BLM Garden online, sorting through pictures and looking through meeting notes and things like that. Then there is the work of looking through the archives of the garden and finding ways to incorporate the spirit of the garden that's captured in the archive into the physical space.

I've really enjoyed interviewing past alumni and being in the physical space and learning about the intentions of this space. I feel really grateful and inspired by the timeline of the space's creation and how much intention was tied into it so that there could be this space on campus where Black folks can feel seen, heard and safe and reconnect with our ancestors who have been lost to state violence and relatives who have transitioned on. Going through the archives and listening to the interviews or interviewing people was really grounding and emotional for me. Learning the history of this space and its connection to people who started it and to me now and what my intentions are moving forward and what I've been able to get out of the space feels really powerful. I think also just learning so much about myself through the position and through being with the land has really shown me so much

of myself, which was really powerful. I feel like I carried a lot of fear around failure but entering the space taught me to step into ease and not hold so much tension and follow my gut and my intuition. It's definitely strengthened my connection to myself and nature and my ancestors.

What are your plans now that you've graduated? Do you want to continue in land stewardship?

I'm figuring that out but I definitely feel like my experience here has taught me so much about land stewardship and what autonomy and sovereignty means for Black people. I would like to create a space and have a garden where Black and Indigenous folks can gather and be in community and feel safe and heard and just be autonomous and sovereign. A lot of the work I've done here prior to this position has been around program organizing. I really love curating community events and creating spaces to address some of the concerns around retention of Black students on campus, and creating spaces where people can feel safe and engaged and heard and finding creative ways to go about that.

I want to start a garden at my grandparents' house and my parents' house, which is exciting because growing up I didn't have a lot of access to these things. I really want to incorporate what I've learned here into my family, those who are alive now and future generations. Growing a garden at home and teaching my sister and teaching any family who wants to know what I know.

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The Pepper: Then, Now, and Going Forward *(from page 2)*

Today it is mostly grown on small family farms and in the mountain highlands of the Andes, from Chile to Columbia, and is also popular in the highlands of Mexico. The Rocoto has a host of names: Rocoto, Locoto, Manzano (owing to both the apple-shaped fruit and the large black seeds), Caballo (a hint at the "kick" of its heat).

A further word on Rocoto heat: "Caveat emptor"—buyer beware... It is nothing, if not very variable. Some are hot, some are not. It's a bit of a crapshoot, pepper roulette. The native plant is often bedecked with 30-50 fruit; some mild, some jalapeño hot. And a few that evoke the phrase "undiluted purgatory."

Because Rocotos come from rain cloud forest environments, they don't require heat to produce a hot pepper. In fact, they do not thrive in tropical lowland heat. They are (like all peppers in their native environments) woody shrubs and short trees living for years, sometimes even decades. And while you might think Bolivian rain cloud forests and mediterranean coastal Santa Cruz are very disparate growing environments (and they are) these two climates have some shared traits: A long, cool, but frost-free growing season and persistent mist/fog/clouds.

Orange Rocoto peppers. Photo courtesy Refining Fire Chiles.

The Rocoto seed may be hard to locate, but try Pepper Joe's, Baker Creek Seeds, or Refining Fire Chiles (a one man operation; Jim Duffy sources more than 200 varieties of hard to find hot and sweet pepper seeds).

I've grown Rocotos (red and yellow fruited varieties) off and on over the last 20 years. They are slow to germinate, often taking 25-30 days, and very slow to establish a good sized transplant. I often grow them in one gallon containers the first year and then transplant them to the garden in May of year two. Subsequently, they take off, forming a loose shrub often 4' high and 5-6' wide. And also often carrying more than 30-50 fruit, red or yellow. The plants usually live for four, five, six years before "giving up the ghost." Yes, during winter they look a bit peakid, wan, pale, emaciated and almost go dormant, pining for the warmer mountains of Bolivia, no doubt. But then they snap out of it, come warmer spring weather. I have a friend (actually several…) who has a 10 year old Rocoto. He has trained it up a wire 15-20 foot high to the second story of a Victorian house—quite a sight!

Oh, and on a closing note, I have some robust Rocoto pepper seedlings growing in 4" pots. I'll be offering them—free to good homes — to Friends of the Farm & Garden members at their annual meeting on October 24 at 4pm, at which I will give a short talk on peppers. Details to be announced soon.

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!