Preparing the Garden for El Niño
– An Interview with Christof Bernau

If El Niño-related rains arrive as predicted in the Monterey Bay region, they have the potential to not only help relieve the drought, but also to erode cleared garden beds, denuded hillsides, and other unprotected soil. Here Christof Bernau, manager of the gardens at the UCSC Farm, shares his thoughts on some steps to take in preparing your garden, orchard, and yard for what may be record-setting precipitation.

Tracking Conditions

“Paying attention to the ongoing development of El Niño is a good first step,” says Bernau. “This time last year they were also calling for a strong chance of El Niño conditions, but that probability began to slide as we got closer to winter. This year the predictions are still strong—as of September 10 we were at 95% probability, whereas by this time last year the prediction had dwindled to neutral.”

Bernau suggests signing up for El Niño/Southern Oscillation (ENSO) advisories from NOAA and checking the website to stay current (see more and sign up at www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensodisc.html).

Using Cover Crops and Mulches

Planting cover crops is one of the best ways to protect and nourish garden beds, and now is a good time to get them in the ground. “For any annual production area, make sure you have the ground cover cropped before the rains come. We shoot to have the garden beds and fields planted by mid October to mid November, but timing really depends on the arrival and extent of early rains,” says Bernau. Once your soil is saturated it becomes increasingly difficult to find the right soil moisture window during which to cultivate and cover crop without causing some level of soil compaction and degradation.

Your choice of cover crops depends in part on your goals: if erosion control is a high priority, then a perennial such as white sweet clover or perennial rye is a good option. Annual cover crops that provide good erosion protection include barley, oats, and wheat, which establish quickly. For garden beds, a mix of cereals (e.g., oat grass) and legumes such as bell beans and vetch is a popular choice, providing both a quick-growing soil cover and a source of nutrients. If disease-causing nematodes are a concern, a mustard cover crop will suppress their populations while also protecting the soil.*

Mulching your beds is also an option. “An alternative to cover crops is a ground cover such as wood chips, cocoa bean hulls, straw, or composted horse manure — something that will bear the impact of rains and slow its movement into the soil,” says Bernau.

Covering and protecting the soil around fruit trees and other perennial plantings should also be on your “to do” list. Bell beans planted as a cover crop around the base of the trees are a good option; avoid planting vetch, as it will climb into the trees and create a difficult-to-manage tangle come springtime. Mulch, such as a thick layer of wood chips or composted horse manure, also works well. A thick layer of cardboard laid down under mulch will also help limit weed growth around perennials, and puncturing the cardboard will increase water infiltration.

Protecting Fall and Winter Crops and Compost Piles

For vegetables and flowers that will be “overwintering” in the garden but don’t yet have a full canopy, Bernau recommends applying a light surface mulch of straw or other organic material that will protect the soil and absorb the impact of rains—but not so much that it will create slug and snail habitat.

And if heavy rains and winds arrive, flowers that might in a dry winter be able to stand up well on their own may need additional support, e.g., horizontal netting to support the stems of plants such as ranunculus, anemones, and freesia.

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Pay attention to your compost piles too: although they need some moisture to maintain biological activity for decomposition, they can also get so wet that the composting organisms can’t function. “You want to avoid having your compost piles turn into big, flat sponges,” says Bernau. Turn and consolidate piles now to create a pyramid-like slope, add a little water if the piles are too dry, and cover them with tarps to protect them from heavy rains.

**Planting and Caring for Fruit Trees and Berries**

If you intend to plant fruit trees this winter, plan to dig, prep, and mulch your planting holes this fall rather than trying to do it when the soil is saturated by winter rains.

To prepare a hole, choose an appropriate site, irrigate as needed, then dig the planting hole and backfill it with the soil and added compost – that way you only have to dig a hole as big as the root ball when you plant the tree, making it easier to find a workable “window” between storms.

“The same holds true for fall-planted berries; get trellis material in and prepare and mulch your rows in advance,” says Bernau.

Winter storms can also affect the timing of your winter fruit tree pruning. Bernau points out that it’s best to wait until after a storm to prune, so that pruning wounds won’t become saturated and be slow to heal over. And you may need to apply sprays more often to keep fungal diseases such as scab, peach leaf curl, and brown rot under control.

Because heavy winter rain can wash nutrients from the soil, Bernau recommends using slow release nutrient sources such as Sustane, compost, or pelleted organic fertilizers rather than liquid fertilizers for new plantings, including annual vegetables. Citrus and deciduous fruit trees should be fertilized in February, when their roots become active.

Beyond the fruit trees, Bernau also recommends checking your landscape for dead or broken tree limbs that may blow down on cars, skylights, or power lines. You can also do a water test to make sure that drains are open and flowing to their intended drainage points as well as clear French drains and gutters of debris.

Here’s hoping that El Niño brings us much-needed moisture this fall and winter. With your garden, orchard, and landscape “buttoned up” for the winter you can sit back and enjoy the sound of rainfall soaking safely into the thirsty soil.

*To learn more about selecting and using cover crops in the garden and orchard, and about how to prepare a planting hole, see casfs.ucsc.edu/about/publications. Choose the For the Gardener and For the Fruit Tree Grower links to find the articles “Choosing & Using Cover Crops in the Home Garden & Orchard,” and “Selecting & Planting Bare Root Fruit Trees.”

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**Winning Recipe**

Joanna Weill won the “Best Presentation” category for her beautiful and delicious pie at the UCSC Farm’s annual Harvest Festival Apple Pie Contest. Here’s her winning recipe.

**Crust**

1.5 cups white flour
1 cup whole wheat flour
1 tablespoon sugar
1 teaspoon salt
2 sticks of butter
ice water

**Filling**

Enough apples to fill your pie pan (she used Braeburn)
3 tablespoons flour
2 pinches of salt
½ cup brown sugar
¼ cup white sugar
¼ teaspoon nutmeg
¼ teaspoon ground cinnamon

**Crust**

Whisk together flours, sugar, and salt in large bowl. Cut butter into cubes and add to bowl. Use hand pastry cutter to cut butter into flour mixture until butter pieces are the size of peas.

Add ice water one teaspoon at a time, stirring after each teaspoon. Eventually you will need to use your hands to stir. Stop adding ice water when dough sticks together in a ball. If sticking too much to your hands and the bowl, add a little flour.

Divide dough in half, wrap in plastic wrap and refrigerate at least an hour (better overnight).

**Filling**

Peel, core, and slice the apples. Set aside in a large bowl.

Mix together flour, salt, sugars, and spices, then add to the apples. Stir until mixture is spread throughout the apples and coats them well.

Roll out one of the pie crusts. Place in pie pan and add apple mixture.

Roll out second half of pie crust. Cut into six strips. Weave lattice with strips of dough on top of pie. Squeeze together top and bottom crust around pie pan.

Bake for 25 minutes at 400°, then at 350° for 30–40 minutes. If edge of crust gets too brown when baking, cover it with foil.
Cowbell Lime Works History Fair:
Cowbell Ranch and the Lands before UCSC
Saturday, October 24, 12 pm – 4 pm
Cowbell Ranch Hay Barn
The Friends of the Cowbell Lime Works Historic District are hosting a local history fair, coinciding with the 150th anniversary of Henry Cowbell’s purchase of the land that would become UC Santa Cruz. The Center for Agroecology & Sustainable Food Systems (CASES) cosponsors the event, which will take place at the new Cowbell Ranch Hay Barn.

Featured at the fair will be a series of informal talks about archaeology, history, restoration efforts, human impacts, and native land uses, along with more than 20 campus and community groups offering information and activities.

See news.ucsc.edu/2015/09/history-fair.html for a complete schedule of talks and a list of organizations that will take part in the fair.

Annual Meeting of the Friends of the
UCSC Farm & Garden
Tuesday, October 27, 6 pm – 8 pm
Assembly, 1108 Pacific Ave., Santa Cruz
The Friends of the Farm & Garden Board of Directors is delighted to invite you to come as our guest to savor delicious hors d’oeuvres and the good company of other Friends and supporters. Music and cash bar.

Hear about Farm & Garden 2015 highlights and plans for the upcoming year. Be ready to share your ideas! Current Friends’ members may vote for the slate of Board Officer nominees (memberships may be renewed that evening; see nominee statements on page 4).

Space is limited and an RSVP is required. RSVP to Monica Larenas – mlarenas@calcentral.com – by October 23 (please put “Friends RSVP” in the email subject line and include your email address and phone). Or RSVP by phone to 831.459-3240

Grow Great Garlic! Cultivating Organic Garlic in the Home Garden
Saturday, November 7, 9:30 am – 12:30 pm  UCSC Farm
Attention garlic lovers! Join us for a special workshop led by garlic farmer Pete Rasmussen of Sandhill Farms in Eden, Utah, and Orin Martin of the Alan Chadwick Garden. Pete and Orin will discuss the ins and outs of selecting, planting, growing, harvesting, and storing organic garlic. Enjoy a taste test of roasted garlic varieties as well as seed and culinary garlic for sale. Don’t miss this workshop—it’s going to be great!

If you’re interested in pre-ordering garlic to plant this fall, contact Pete Rasmussen: pete@sandhillfarms.org. You can learn more about Sandhill Farms at www.sandhillfarms.org.

Cost: $20 for Friends of the Farm & Garden members (pre-registered) or $30 (at the door); $30 general admission (pre-registered) or $40 (at the door); $15 for UCSC students and limited-income (pre-registered) or $20 (at the door).

Learn more and sign up at: garlic2015.bpt.me. This workshop takes place rain or shine!

Last Day of 2015 Market Cart
Friday, October 16, 12 pm – 6 pm
Corner of Bay & High Streets, base of the UCSC campus
Don’t miss your last chance to shop at the Farm & Garden’s Market Cart stand for the 2015 season. Pick up an organically grown pumpkin along with some delicious fall produce and a fall bouquet.

Free Guided Tour of the UCSC Farm
Sunday, November 1, 2 pm – 3:30 pm  UCSC Farm
Join us for the final monthly tour of the 2015 season. Enjoy a post-Halloween stroll on the 30-acre organic UCSC Farm and learn about the research, education and community outreach projects taking place. No registration necessary; meet at the Louise Cain Gatehouse, just inside the Farm’s entrance. Heavy rain cancels.

If you’d like more information about these events, need directions, or have questions about access, please call 831.459-3240, email casfs@ucsc.edu, or see our web site, casfs.ucsc.edu.

Co-sponsored by the Center for Agroecology & Sustainable Food Systems at UC Santa Cruz, and the Friends of the UCSC Farm & Garden. UCSC’s Measure 43 supports UCSC student participation in workshops.
New York Times Features Article and Video on CASFS and the Farm & Garden

New York Times columnist Mark Bittman recently profiled the Center for Agroecology & Sustainable Food Systems (CASFS) and its work training new organic farmers and gardeners and developing a more sustainable campus food system. The article and video are part of the “California Matters” series about sustainable agriculture and healthy eating, an effort funded by UC’s Global Food Initiative.

Writes Bittman, “Visiting the farm at the Center for Agroecology and Sustainable Food Systems at the University of California, Santa Cruz, was a personal high point of this series, though I couldn’t say exactly why. It could well have been because there’s an experimental blueberry plot there, and when I went in the spring, it was raining, and the green leaves were sparkling and the wet berries were offset perfectly, and here was this glistening working farm on an otherwise more-or-less normal college campus, which just happened to be on a hill above the Pacific.”


Friends’ Board Candidate Statements

At the Friends of the Farm & Garden’s annual meeting, coming up on Tuesday, October 27, Friends’ members will be invited to approve a slate of Board of Directors candidates. Read more about the meeting on page 3.

Monica Larenas (candidate for co-president): “I joined the Friends Board over two years ago, and find myself even more enamored of what the Farm and Garden offer to apprentices, interns, UCSC students, community members and the broader organic food systems world. I bring a range of experiences with nonprofits, bilingual-multicultural education, UCSC, and Santa Cruz to the Board. Cristina and I worked well together as Co-Presidents this last year, orchestrating the talents of the Friend’s Board to carry out our mission. It will be an honor to continue to do so.”

Cristina McCutcheon (candidate for co-president): “I am a native of Santa Cruz who recognized the magic of the CASFS Farm and Garden 4 years ago during a 9-week Garden Cruz Workshop series, and, feeling compelled to become actively involved in supporting this extraordinary local resource, promptly joined the Friends of the Farm & Garden Board. I am the owner of the landscape and homesteading consulting company, The LocaLife, as well as a small neighborhood farm in Bonny Doon, and am also the Garden Manager/Teacher at the Santa Cruz Waldorf School.”

Marlene Bumgarner (candidate for vice president): “I joined the Friends’ Board at last year’s Annual Meeting after supporting the Farm and Garden as a Friend for many years. My primary goal for 2016 is to improve communication with the Friends, and to make the membership experience more engaging and meaningful. I will also lead the implementation of a new board member orientation process and act as Liaison for potential and new board members.”

Don Burgett (candidate for secretary): “I have a deep respect and affection for the Farm & Garden. I was a 1997 apprentice and a second-year in the Chadwick Garden. I then served as Apprenticeship Development Coordinator for a year, writing CSA, curriculum, and general support grants and collaborating with the Friends board. I also met my wife, Arlene, in the program, and we were married on the farm in 2002. I have served on the board since 2007, including 5 years as treasurer, and I am fortunate to work on the farm daily as executive director of Life Lab since 2012.”

Kevin Bell (candidate for treasurer): “I have been on the Friends Board for over three years, and am currently the Board Treasurer. I’ve been focused on sustainable resources as a policy professional and edu-

Hay Barn Reconstruction Captured in “Storify”

Melissa De Witte of UCSC’s Social Sciences Division has put together a wonderful collection of photos, video and text in a “storify” chronicling the Cowell Ranch Hay Barn’s reconstruction, including some amazing images of the Timber Framers and other volunteers at work on the day of the barn raising. See it here – storify.com/UCSCSocSci/ucschaybarn

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Fifth Annual Farm to Fork Dinner & Celebration Help Launch Newly Restored Hay Barn

The annual Farm to Fork Dinner took a delightful new twist this year. After enjoying sumptuous appetizers alongside the UCSC Farm’s row crop fields, along with music by the Farm & Garden Band and tours led by Farm staff, attendees paraded from the farm to the renovated Cowell Ranch Hay Barn, which greeted its first-ever public visitors for the fifth annual fundraising dinner.

As guests streamed into the barn and got their first look at the soaring beams and rafters assembled using traditional mortise and tenon joinery, and the 1860s redwood salvaged from the original barn and expertly woven into the new building’s design, it was clear that the Hay Barn renovation had more than fulfilled its promise of providing an awe-inspiring, yet welcoming space for campus and community members.

That impression only grew as the afternoon unfolded. Bubbling conversations filled the vast barn and course after course of wonderful, organic dishes appeared—vibrant salads and vegetable dishes along with roasted Fog Line chicken prepared by Feel Good Foods—served at long tables set with crisp black and white linens and covered in velum displaying the barn’s blueprints.

Support for Apprenticeship Participants

UCSC Chancellor George Blumenthal and Stacy Philpott, acting director of the Center for Agroecology & Sustainable Food Systems (CASFS), welcomed the guests and spoke of the importance of the work that CASFS is doing by training new organic farmers and gardeners and addressing the many issues needed to improve the current food system.

Central to the Farm to Fork dinner is the goal of raising funds for the incoming class of participants in the annual Apprenticeship in Ecological Horticulture, to provide scholarships and other support for the 39 students during their six month organic farming and gardening training program. Apprenticeship alumna Melissa Betrone, now the CASFS outreach coordinator, spoke of the importance of the program in the lives and work of the more than 1500 Apprenticeship graduates.

Finally, guest of honor Matthew Raiford—a 2011 Apprenticeship graduate, and the founder of the Farm to Fork event—described his motivation to “pay it forward” by creating the fundraising dinner, and the ongoing impact of the Apprenticeship on his work as a farmer and chef now managing his family’s sixth-generation Gilliard Farm in Brunswick, Georgia, as well as his recently opened restaurant and educational space, the Farmer and the Larder. Many were inspired to donate at the event, and donations are still being invited; see more at casfs.ucsc.edu/about/support-casfs/index.html for details on how to support the Apprenticeship.

Celebrating the Hay Barn

Following fresh Farm & Garden-grown apple galettes, dinner guests joined a growing crowd of newly arrived CASFS friends and supporters outside the barn to hear George Brown, emeritus professor and CASFS advisor, recount the history of the Cowell Ranch Hay Barn.

Brown acknowledged the region’s native peoples, the early ranchers and lime industry workers, and the many visionaries—including Sally Morgan, Jim Leap, Daniel Press, Alec and Claudia Webster, and John Barnes—who had the imagination to see what had for years been a neglected old barn and picture what it could become. Brown made special note of the unstinting generosity of the Timber Framers Guild members in contributing their time and effort to bring the barn back to life.

As the speech ended, the barn doors re-opened to welcome more than 300 guests for a pie potluck, beer, and dancing to the reggae music of Blazeen. Visitors watched a time lapse video of the Barn’s reconstruction, including the high-wire skills of the Timber Framers and volunteers who had almost magically—during a day-long barn-raising event—placed and joined the main studs, beams and rafters that anchor the new building.

With the barn’s reconstruction still underway, CASFS and other campus staff are planning for the role it will

The S. H. Cowell Foundation has generously donated $100,000 toward Phase II of the Hay Barn’s reconstruction, which will be used to help finish the building’s interior. We are grateful to the Foundation for its support.

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Renowned Woodcut Artist and UCSC Alumnus Tom Killion Creates New Friends of the Farm & Garden Logo

Born and raised in Mill Valley, California, on the slopes of Mt. Tamalpais, Tom Killion was initially inspired by the beautiful scenery of Marin County and Northern California to create landscape prints using linoleum and wood. But as Tom explained, “My printmaking really came out of a childhood love of East Asian landscape art, especially Hokusai and Hiroshige woodcut prints.”

Although he never took art classes at UC Santa Cruz (he studied history), as Tom recalled, “I was fortunate to stumble on the fine book printing possibilities that were available in the early 1970s at UCSC. I did my “28 Views of Mt. Tamalpais” as an ‘homage’ to Hokusai’s 36 Views of Mt. Fuji. I had worked on the lino-cut prints since I was in high school (never quite got to 36!) and had purposely taken Jack Stauffacher’s printing class to learn how to print on the cylinder proof press. My fellow students at the Cowell Press helped me find the Japanese handmade paper and some binding choices.”


Killion completed a doctorate on Ethiopia in 1985 at Stanford University. While staying true to his artistic calling, Tom has also worked as an administrator of a medical relief program in a camp for Ethiopian refugees in Sudan, traveled with nationalist rebels in war-torn Eritrea, taught African History at Bowdoin College, Maine and the Humanities Department at San Francisco State University, and in 1994 was a Fulbright scholar at Asmara University in Eritrea.

New Logo for the Friends

Asked to replace the old Farm & Garden logo using apple blossoms, and a spade and a fork to represent the garden, Tom explained that he “wanted fruit trees because they stand for long-term attention to gardening and agriculture.”

The spade and fork are particularly significant to the Friends of the Farm & Garden, as these iconic Bulldog tools were one of the first things the Friends purchased for Alan Chadwick when he was creating UCSC’s Student Garden Project (now the Alan Chadwick Garden).

Further explaining his motivation for designing the logo, Tom noted his “attachment to the UCSC Farm & Garden from many years ago, beginning when I was a student, then as I lived in Santa Cruz for many years and was often up there, had friends who worked in the program, lived in tepees and all, then I went backpacking with Jim Leap [former manager of the UCSC Farm]—it all adds up to a deep-founded support for the Farm & Garden and its ideals, and this is my little way of helping out.” Currently, Tom is working on landscape prints in his studio on Inverness Ridge near Point Reyes.

You can find out more about Tom Killion and see his artwork at www.tomkillion.com. Prints of the Farm & Garden logo are available on his website.

Many thanks to Jeff Arnett, former president of the Friends of the Farm & Garden, for interviewing Tom Killion for this article.

You can purchase tote bags and t-shirts featuring the new Friends of the Farm & Garden logo at the upcoming Friends’ Annual Meeting at Assembly in downtown Santa Cruz. See page 3 for meeting details and RSVP information.
Job Available at the CASFS/UCSC Farm!

The Center for Agroecology & Sustainable Food Systems (CASFS) is hiring an Assistant Manager to help manage the handworked garden beds and greenhouses at the UCSC Farm. To learn more and apply, go to the UCSC Employment website, www.ucsc.edu/about/employment.html

Click on the Staff Employment link, then click on the Search Postings link (in the upper left-hand bar) and enter the job #1505965. Note: Initial review date is October 25.

Keep Up with Farm & Garden News!

Keep up with the latest news from the UCSC Farm & Garden by becoming a Facebook friend. Type Center for Agroecology and Sustainable Food Systems into your Facebook search engine and “Like” our page. And check out the wonderful photos of the Farm & Garden on our Instagram site at: instagram.com/ucscfarm. The CASFS website also offers updates, information, and resources: casfs.ucsc.edu.

Another great way to stay current with what’s happening at the Farm & Garden is through the Field Notes newsletter. Field Notes goes out to our Community Supported Agriculture (CSA) members each week from June through October, featuring Farm news and recipes. You can access current and past issues of Field Notes on the CASFS website: casfs.ucsc.edu/community-outreach/produce-sales/community-supported-agriculture

Also online are back issue of the News & Notes newsletter. Along with other CASFS publications, you can find them at: casfs.ucsc.edu/about/publications.
Farm to Fork & Hay Barn *(from page 5)*

play in the program’s activities and in serving the campus and community for many years to come. Stay tuned for details and visit the CASFS website (casfs.ucsc.edu) for updates.

Thank You!

Many, many people contributed to the Farm to Fork dinner and Hay Barn Celebration’s success. CASFS and the Friends of the Farm & Garden would particularly like to thank Alec and Claudia Webster for their ongoing support and contributions through the Helen and Will Webster Foundation; Wiktor Kluzniak and Henry Hooker for allowing the “sneak preview” dinner and dedication events to take place as the barn’s renovation continues; Joni White, Anne Hayes, Melissa Betrone, and Audries Blake for their amazing organizational efforts; Sarah Bush for her creative input; the class of 2015 apprentices and second-year apprentices for all their work to make the evening a success; George Brown for his thoughtful words of dedication; and all the guests who joined together (and brought pie!) to create such a festive and memorable afternoon and evening.

Thanks especially to the Farm to Fork Dinner and Hay Barn Celebration supporters: Wells Fargo; Fernau & Hartman Architects; Bonny Doon Vineyard, Butler Family Cellars, Martella Wines, Woodside Vineyards, and Santa Cruz Mountain Brewing Company; Feel Good Foods, Fogline Farm, and Companion Bakeshop. We look forward to many more such celebrations!

Read more about Farm to Fork Dinner founder and Apprenticeship graduate Matthew Raiford and his contributions at news.ucsc.edu/2015/09/farm-to-fork.html and at farmerandlarder.com.

See the CASFS website for more information on the Hay Barn: casfs.ucsc.edu/about/support-casfs/haybarn.html

Candidate Statements *(from page 4)*

cator over three decades, working in the public, private, nonprofit, and academic sectors. Among other things, I am currently an instructor and program advisor at UCSC, building sustainable systems research and education initiatives here. CASFS is an extraordinary institution that has fundamentally changed our understanding of sustainable food systems. As the community face of the Farm, I believe that the Friends play a special role, integrating this unique resource with this amazing place that we call home. My goal for the Friends over the coming years is to advance that agenda.