

ECOLOGY ACTION'S GARDEN COMPANION

GROW BIOINTENSIVE® News from Around the World



SPRING 2025

IN THIS ISSUE:

THE JEAVONS CENTER MINI-FARM REPORT • TJC PRUNING & HARVESTING
TO INCREASE YIELDS • VICTORY GARDENS FOR PEACE MINI-FARM REPORT
• VGFP STAFF BIO • FUTURE HEIRLOOMS: SANGASTE RYE
• GOOD NUTRITION FOR EVERYONE • BUDDHIST GLOBAL RELIEF
• THE GUARDIAN: FERTILISER USE HARMS POLLINATORS • GB YEAR IN
REVIEW: A PHOTO JOURNEY • CARROT CAKE SCONES • SPRING TOUR AT
VGFP • MAKING IT—RADICAL HOME EC FOR A POST-CONSUMER WORLD
• DIY SEEDLING FLATS • EVENTS, OPPORTUNITIES...AND MORE!

The Jeavons Center Mini-Farm Report

By John Jeavons, Ecology Action Executive Director

Seeing the mini-farm waking up to sunshine and blue skies after a long, wet winter, and looking out over the Willits valley cloaked in the verdant green haze that is spring in Northern California, it's easy to feel that all is right with the world. And in many ways, in many places, there is a lot to be happy about: reports that come across my desk from GROW BIOINTENSIVE (GB) practitioners around the world show me that positive change is not only possible, but already happening in so many places, one garden at a time. But feeling joy about what's going right doesn't mean ignoring what needs to be fixed:

The IPCC's Address to COP24 (www.ipcc.ch/2024) stated: *"Climate change is no longer an abstract threat for a distant future. It has been unfolding in front of our eyes. In the 12 months since the last COP ... people across Asia and in the Sahel have endured extreme temperatures; communities in the Americas have fought against devastating wildfires; and flood defenses were put to the test in Central Europe when confronted with intense rainfall, not to mention more recent events in Valencia. These are only a few examples. Many people have lost their homes, their livelihoods—and their lives. Communities have been shaken to their core. And global warming is unequivocally caused by human activities, through emissions of greenhouse gases that arise from unsustainable energy use, land use and land-use change, and lifestyle patterns [emphasis mine]. The extremes we are witnessing have been aggravated by human-induced climate change. This is the new normal. Imagine what is in store in the coming decades, if we do not act swiftly and decisively."*

We have an ongoing challenge to the stability of our global food web. Other factors include subsidized industrial agriculture, widespread soil depletion, food exports draining local food webs, and an economic paradigm built on inequity. The result: rising prices and food access limited by income, which creates a downward spiral that can lead to poverty, hunger, despair, and conflict.

Contemplating this tangle, I am reminded of one of my favorite quotes from Abraham Lincoln:

"Ere long the most valuable of all arts will be the art of deriving a comfortable subsistence from the smallest area of soil. No community where every member possesses the art can ever be the victim of oppression in any of its forms."

This is such an apt statement for our modern world. As generations of small-scale farmers everywhere have been dispossessed by industrial agriculture, they have lost the food-growing and land-management skills of their ancestors—skills that could help build resilience, and abundance. If reawakened, these skills could literally make the difference between life and death for those living in extreme poverty. What is needed are simple, sustainable, accessible, whole-systems solutions that empower everyone, everywhere, to grow soil, food, community...and a better future.

Ecology Action's primary purpose is to address these challenges by creating a Biologically-intensive food-raising safety net, empowering people to meet their food needs locally by (re)learning the necessary farming skills before global agricultural, financial and environmental challenges become insurmountable. As the world situation intensifies, we are growing our programs to help spread GB even quicker and to more people. *Our goal is to catalyze people everywhere to be proactive in growing their own soil, food, and thriving and resilient ecosystems.* Our role is to be a source of inspiration, information, technical assistance, and quality assurance to the growing, global, GROW BIOINTENSIVE Family.

Our publications, classes, workshops, internships, apprenticeships, online training resources, and global outreach focus on fulfilling this goal. If you're struggling and need some guidance in the garden, you don't have to figure everything out alone! We've been doing this for over half a century and are happy to share what we know! I encourage you to take a workshop, or to explore our compendium of over 50 Self-Teaching Mini-series booklets. They cover a huge range of topics learned over decades of hands-on field research. Growing in a drought? Try Booklet 35, *Growing More Food with Less Water*. Wondering if it's possible to grow wheat in your back yard? Try Booklet 33: *Growing Your Own Grains*. Curious about herbs? Try Booklet 27: *Growing Medicinal Herbs in as Little as Fifty Square Feet*. Seed prices too high? Booklet 13: *Growing to Seed* has you covered. Confused about compost? Booklet

ECOLOGY ACTION'S GARDEN COMPANION

32: *Composting and Growing Compost Materials* will help you get started. All of these and many more are available in print (growbiointensive.org/publications_main.html) and electronic formats (growbiointensive.org/ePubs), with most available in both English and Spanish. My own recent contribution, published in 2024, is Booklet 45: *The Negative Tolerance Buildup Effect and a Positive Transformation*, which explores imbalances in our system, and outlines how GB provides the seeds of a solution to five major challenges we face in soil, water, energy, nutrients, and overpopulation. Our *GB Farmer's Mini-Handbook* by Mar-go Royer-Miller is so popular we've translated it into 9 other languages (French, German, Hindi, Portuguese, Russian, Spanish, Turkish, Korean, and Nicaraguan Miskitu): you can download them from growbiointensive.org/ePubs, for free.

In closing, I would like to share a bit of joy I was honored and touched to receive in the form of a note from a donor who really stated perfectly what I hope with all my heart that Ecology Action can provide in our world: *"In these uncertain times, it gladdens my heart to see people around the world learning to "grow biointensive" and prospering thereby. Keep growing!"*

Yes! Keep growing! Start small, start scared, but *start..and then keep going*. I don't have all the answers, or even most of them. But I know that if we all tend to our part of the earth—our gardens—we will be making a good start, right where we are. ●

The Jeavons Center: Pruning and Harvesting to Increase Yields

By Suraya David-Sadira,
Asst. Mini-Farm Manager TJC

Here at the Jeavons center we are always learning and evolving as we try to improve on the GB method, and we always strive to balance the rigor of scientific research with the natural flow of nature. Going into this year's warm growing season we thought we would share something cool we have observed over the years.

We all know pruning does wonders for perennials, but what if we told you the more you prune and harvest your crops throughout the year, the longer you can extend your harvesting season? This has been very evident with our rose bushes over the last couple years: if you prune roses at the point where there are 5 leaves on a shoot, while leaving the leaf shoot remaining, your plants will produce lots of blooms. We have found this to be true with all our flowers if you know where and when to prune them. Pruning tomatoes by removing half of the flower shoots does not increase the yield in terms of number of fruits produced, but can double the size of the tomatoes.

At TJC we found that picking beans when they are large, but before they are fully mature, doubled the yields: we grew pole Pinto Beans to the point when a small reddish pattern appears on the leaves, and then we harvested a batch of beans and were able to shuck the hulls off, and either eat them fresh or dry them and store them, the same as if we had waited until the end of the season. And then more beans developed on the plant, so we got higher yields, too! When you consider the biology, it totally makes sense. Plants want to make seeds and reproduce, so when you prune (making the plant think it's being eaten) or harvest the flower, fruit, or vegetable before it fully matures, a signal is sent to the plant that it needs to keep trying to make fully developed seeds. Continual harvesting means continual production as long as the season lasts, and the correct growing conditions are maintained.

We suspect we would find similar results for other vegetables. Testing a pruning and/or early harvesting approach with peppers, cucumbers and dahlias would be a fun possible future test topic. Feel free to write to us if you want to conduct an experiment of your own on this: we'd love to hear about your test design and results! ●

John Jeavons and Matt Drewno Present: A "4-Saturdays" Introductory Workshop on Backyard Biointensive Gardening



On Zoom:
Nov 15, 22 & Dec 6, 13, 2025

Learn to grow healthy food and fertile soil from
the author of "How to Grow More Vegetables"

growbiointensive.org/workshop.html

Victory Gardens for Peace Mini-Farm Report

By Matt Drewno, VGFP Mini-Farm/Seedbank Manager

The cool ground is rustles beneath our feet as the energy of spring pulsates, moving upwards into the warming air. The birds zip through the air celebrating the increased sunlight, the deer and wild turkeys are up at dawn. The garden is coming alive, growing by inches daily, soaking up the rains and growing strong with the warming soil. Longer days means more work, good work. And when the sun rests on the horizon the frogs sing us to sleep. Spring is here.

I was born and raised in the Midwest, and although at VGFP we are about the same distance from the equator, it's a very different climate. Our proximity to the ocean keeps our climate warmer throughout the winter. On the coast, winter is green, while in the Midwest it is brown. In the summer, it is green in the Midwest, but summers here are brown and dry. A drought in the Midwest is no rain for two weeks. Here on the coast in Northern California it is dry from May to October.

However, even with the differences, the seasons still carry their same energy. With spring comes a quick and progressive celebration of life, a crescendo of vitality bursting in green. The levity of summer drives us to keep up and exhausts us to siesta, long days and short nights manifesting outward in work and play. Autumn comes with hastening again, this time towards a resting and inward experience. And the gravity of winter, a great and crystallizing pause to reflect and dream forward.

I am so grateful for this energy. Spring is renewal. It is vibrant. It is green and rich and so alive.

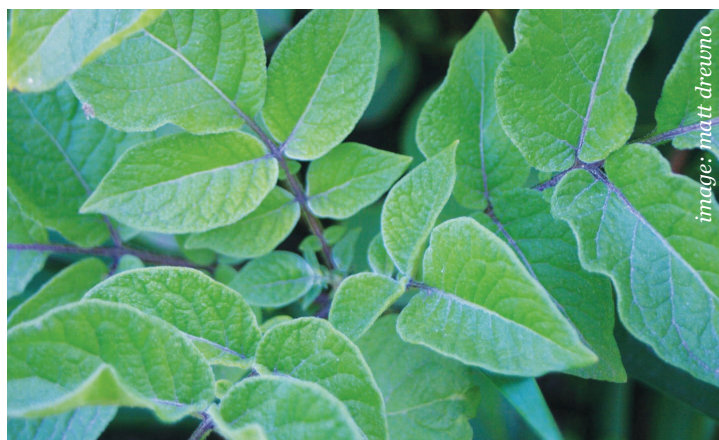
This change is not just qualitative but quantitative. It's special and temporal. It's metamorphosis. Time feels like it is speeding up. The tropics is a different story, growing seasons marked by wet and dry seasons swaying through a near constant temperature. But as we move towards the extremes of the poles, we feel the intensity of distinct change. Here, 40 degrees north of the equator, in the two weeks before and after the solstices, day lengths change a total of 12 minutes over a 28 day period: that's about 0:25 seconds per day at winter and summer solstice. During the equinox, in the two weeks prior and two weeks after, days change at a rate



of about 3:00 minutes per day. Time is not constant, it slows and quickens, and Nature moves without question, driven by this change. Our rotation around the sun is not a circle, it is an ellipse and through it we experience the slingshot of the seasons—the acceleration of the equinoxes and the slowing, pause and directional switch of the solstices.

So here we are.

As we rotate the sun, the Sun is rotating around the center of the Milky Way Galaxy. Our rotation is not a two-dimensional ellipse but a spiral if you really think about it. We spin around the sun, corkscrewing through space and time. It may be spring again, but we are never in the same place as we move through space. This renewal is not a cycle, it is an evolution! Alan Chadwick brought the French Intensive Biodynamic system of agriculture to the United States in the 1960's and inspired the work of Ecology Action over 50 years ago. He gave several lectures on the topic of reverence and obedience which can be listened to at the Alan Chadwick Archive (chadwickarchive.org). Reverence and obedience to Nature is the goal of the gardener. If we can approach what we need to do to sow, nurture, and harvest with reverence and obedience to the totality of Nature, we will move closer and closer to that



ECOLOGY ACTION'S GARDEN COMPANION

vital force. We may even realize that we are that vital force. As I plant the seeds to nurture and bloom this growing season, I hope that I my connection to those vital currents grows, and my experience of the living world around me takes over, leaving behind the mundane world of politics and struggle.

The day is fading into night and the high wispy clouds hint at a storm front moving in. The warmth of today makes me wonder if there is an equally strong coolness on the other end of this front: a polarity rich in the potential for heavy wind and rain. The solstice has passed, but I don't believe we are in the clear yet, so I am waiting to plant. What a gift it is to work with the Earth, and the sun, and the vital force of spring. I feel the radiant warmth of the sun and smile with gratitude. I stand in awe beneath the infinity of the starry heavens. I feel grateful to be alive. ●

VGFP: Meet Our Newest Staff Person!

By Lama Nasser-Gammett

Hello! My name is Lama Nasser-Gammett and I am excited to be on the Ecology Action team at Victory Gardens for Peace in Mendocino, California. My husband, Matthew Gammett, has been working with Ecology Action for almost two years and we have been practicing GROW BIOINTENSIVE methods in our home garden for many years. I have intimate knowledge of what EA has been doing locally and around the world and truly feel that I am contributing to important work.

Before coming to work for Ecology Action I was a mushroom farmer. Matthew and I built a small business called *The Forest People* and we supplied local grocery stores and restaurants with fresh oyster mushrooms. I also sold our mushrooms at farmers' markets, which gave me an opportunity to get to know our farming community. I managed the Boonville Farmers' Market for 2 years and was the vendor representative for the Mendocino County Farmers' Market Association. I currently serve on the Board of the Mendocino County Organic Network which oversees the Mendocino Renegade Program: a local, affordable alternative to organic certification. Since 2016, I have been on the organizing team of Mendocino's largest seed and scion exchange, the Winter Abundance Gathering. While it is not related to farming, I would like to add that I am one of the main organizers for Mendocino for Palestine, a group working through education and action to end the current suffering and also to support Palestinian self-determination.

Last year, Matthew and I, along with our 12-year-old

daughter Leela, moved to the coast from Boonville, which is about an hour inland. The climate is very different here, and we are experiencing new gardening challenges. In Boonville, we lived in a redwood forest and leased a small piece of land in the valley where it was flat and sunny. We had a garden where it would freeze in winter and become dangerously hot in summer.

There we grew leeks, parsnips, rutabaga, kale and collards, cabbage, parsley, favas, salsify, potatoes, flour corn, carrots, garlic, Jerusalem artichokes, turnips, onions, sorghum, millet, lettuce, zucchini and winter squash, tomatillos, basil and tomatoes and several medicinal herbs. You might recognize many of these vegetables as being high-calorie crops. I can also say that we grew our daughter in that garden, spending our days together tending the plants, eating fresh picked strawberries, playing with frogs and potato bugs, having dinner with the sunset and watching the first stars emerge before heading home to our cabin in the forest. The abundance on our dinner table was wonderful and the memories and experiences are precious.

Since moving to the cooler, moister coast we have established eight GB beds in our yard and are working towards establishing several more. Our biggest challenge in our new garden is the flooding that accompanies heavy rain. When it rains for several days, the creek bordering the property breaks its banks and floods the whole yard. Luckily, Matthew anticipated this, and made sure to establish cover crops to hold the soil before the flooding started. We plan to build several terraces on the hill behind our house to be able to grow winter crops away from the flooding: we have one with garlic in it now.

Since I am a part-time employee at Ecology Action, I have the space to re-build our mushroom business and once again provide our local community with fresh mushrooms. I hope to also offer mushroom cultivation classes! Teaching and sharing knowledge has always been important to me. I look forward to deepening my knowledge and understanding of GB and continuing to spend my days in a vegetable garden! ●



image: lama nasser-gammett

Future Heirlooms: Sangaste Rye

By James Christie-Fougere

Director – Future Heirlooms Garden Society

We are happy to report James and Sharon's Future Heirlooms Garden Society formerly Kootenay Society for Sustainable Living) is back! They are offering a backyard mini-farm full workshop series (see poster below or futureheirlooms.ca/events) and relaunching their seed bank, which includes excellent Sangaste Rye seeds from their meticulous GB variety trials. We are so glad this Canadian GB project is growing again!

At Future Heirlooms research, education and demonstration mini-farm, we grow a lot of grain! Over 45 varieties to be exact - it's one of the few crops we know we can rely on in our very cold, very short growing season here in Kimberley BC.

In our hunt for as many rare, heirloom and landrace varieties as possible, we received a ½ ounce donation of a very rare Rye from John Sherk in Indiana; Sangaste Rye. This landrace (meaning an original cultivar with a high degree of genetic diversity) heirloom Rye was developed in Estonia during the 1800's, and is currently the oldest cultivated rye variety in the world! Known for extreme winter hardiness and exceptionally large kernels, we were beyond thrilled to have the opportunity to grow and preserve this Rye.

Germination was 100% and so we were able to plant a respectable 50 sqft plot for a winter crop. In our climate, winter grains establish themselves through September to the end of October, and then freeze up under an average of 4' of snow until April. Sangaste withstood our bitter winter cold with flying colors, and quickly established itself as the fastest growing winter grain crop we've ever seen. Sangaste surprised us again by reaching an incredible 91" tall and reached maturity much faster than any other grain: we harvested at the end of July.

With seed heads more than 6" long yielding 4lbs of very large seed (3x normal rye seed) we knew we had something very special with Sangaste Rye. We selected seed from the tallest plants with the most tillers, and transplanted a large 200sqft bed to better test our first-generation seed.

In the second year, the plants grew over 100" tall, and yielded an astounding 20 lbs—a 10% increase in height and 25% increase in yield. Seed heads also grew to 7" long and tillering increased approximately 50%. Again, we selected seed from the tallest plants with the highest number of tillers, and planted another 200 sqft bed that fall.

In the third year, Sangaste truly astounded us – height increased an additional 10% reaching over 9' tall, and yield increased 33% more for a very respectable 15 lbs per 100 sqft bed. The average tillering was 10-12 per plant but standout plants had 50 tillers!

Working with open-pollinated genetically diverse crops grants us a big advantage, in that we can select our best plants (that is, the plants that responded best in our unique micro-climate) and acclimatize the crop each year—with higher yields as the reward. In 3 years and with only 2 selections, Sangaste Rye increased 20% in height, over 700% in tillering, 100% in biomass production and an incredible 87.5% in edible grain yield. What a shining example for the potential of acclimatizing crops through careful hand selections!

It may come as no surprise to learn that Sangaste has become a crucial staple in our garden design – providing excellent yields of calorie and nutrient dense rye, and the biomass needed to produce enough of our own compost to keep our mini-farm sustainable and closed-loop. Want to grown your own? Our Sangaste Rye is now available from the Future Heirlooms Seed Bank: growsustainability.org/seedbank •

FREE GARDEN WORKSHOP SERIES

HOW TO CREATE A BACKYARD MINI-FARM

A 4-PART WORKSHOP SERIES DEMONSTRATING THE STEP BY STEP CREATION OF A NEW URBAN MINI-FARM IN KIMBERLEY'S CHAPMAN CAMP

Workshops cover:

- Garden Design
- Soil Testing
- Seed Starting
- Diet Design
- Double Digging
- Transplanting
- Composting
- Grain threshing

and lots more!

All ages and experience levels welcome!

For more information and to register, visit:
FutureHeirlooms.ca/events or scan here -->

ECOLOGY ACTION'S GARDEN COMPANION

Good Nutrition For Everyone's Journey in Partnership with EA

By Boaz Odour, Director, GNE

*Boaz Odour, 2008 Ecology Action Intern and Director of Kenyan NGO Good Nutrition for Everyone (GNE) teaches GB in Kenya, with staff members Dauglas Kinaibei Makhoha and Francis Ohuru. Last year, GNE reached over **10,000 people** with GB in their "Farmer Field School" 5-day workshops. We share this extraordinary and touching report to show how your donations make a world of difference.*

Since the formation of Good Nutrition for Everyone, we have made many strides in putting smiles on the faces of the struggling communities we serve in Africa, by doing 5-day workshops on GROW BIOINTENSIVE gardening in four regions of Kenya: Mt Elgon (an extinct volcano on the Ugandan border), Kisumu (the 3rd largest city in Kenya), Homaabay (on the shore of Lake Victoria), and Trans-Nzoia. These areas are our main focus but we will teach anywhere we are invited. "Building soils" is a phrase that we are using to communicate instead "feeding the soil"—it excites people on how we are looking at a soil's health: in the same way that we love ourselves by providing shelter, food and clothing is how we should build our soils by giving it *compost, compost, compost*, a diet that our soils need.

Our focus is on food security, nutrition, disease prevention, and income creation. We do our trainings in orphanages, primary and secondary schools, churches, and prisons. We believe that God wants us to teach people living with a disability; a door opened while doing this, when I was training 57 students, male and female, at the Veve ACK Church under the Sikri School for the Deaf. The interpreter learned new ideas in GB during the training, and asked if we could take the knowledge to her community primary and secondary school, which we accepted with all our heart.

We also visit hospitals on weekends, and the wisdom we got from EA has gone as far as healing the sick! I came across a man named Samuel, who because of poverty in their home decided to go without food in his hospital bed; doctors and nurses decided not to treat him because he refused to talk to them. When I walked in, I went to him because he was alone (other patients told me he doesn't even talk to his own mother) and I told him if he talked to me I would settle his hospital bills—that's when the conversation started. In three days, he was discharged from hos-

SPRING 2025

pital after being there for 2 weeks. I gave him a ride home, it was a joy to his mother who used to walk 6km to see her son, covering 12km (7.5 miles) a day; she had lost hope because of his refusal to talk. We did a training with his community where his small farm was converted into a GB farmer field learning school, where he is the immediate beneficiary.

We are three staffs who are running GNE in Kenya, each of us giving forty-five 5-day workshops per year. We depend entirely on donations from Ecology Action to keep us going. Because of you, we can pay staff salaries and provide stability for our families. Because of you, our transport system was improved: we secured two Suzuki motorbikes from the funding, which has extended out training hours from 6 to 8 hours a day.

Personally, I have a lot of things to say about how Ecology Action has impacted my life positively since 2008. I don't know who I would be today without the knowledge of GROW BIOINTENSIVE, maybe I would be a cart pusher in one of the towns in Kenya. Thank you, John Jeavons, for coming up with this noble idea that has made us look like PhD holders. I'm not the only one whose life is better: my first-born daughter Margaret graduated from nursing school in December, and is now working for a pharmaceutical firm in Nairobi. My second daughter, Rose, is taking a diploma in Holistic Nutrition in Nairobi, a course that will benefit the communities we are training in GB. God willing, she will be done by late 2026. Linda, my third born, is in her third year in high school, interested in studying agriculture, and like me, loves to relate to plants. I am excited about her direction and am praying that her heart's desire will come to pass as mine has. The youngest girls, Julie and Precious, are still in primary school, they also have their visions, which are more tied to helping communities. Ecology Action is making our dreams come true.

The biggest car I drive in Africa is to see people going to bed after eating and having some more for tomorrow. All of this energy that we have to help others is because of the generosity from Ecology Action that funds all our training activities. We are forever grateful. God bless John, and God bless the Ecology Action team, and all of your donors. ●



A Visit to Victory Gardens for Peace

From *Buddhist Global Relief*, by Daniel Blake

Full article at: buddhistglobalrelief.org/victory-garden-of-peace



(Matt Drewno discusses benefits of growing quinoa with FTT Matthew Gammatt and interns Teresiah Nyambura Njai and Philomena Njeri)

In a world where almost one in eight people suffers from acute malnutrition, Buddhist Global Relief and its project partners provide an oasis in a desert of hopelessness. In one branch of its anti-hunger work, BGR supports projects that help communities become food independent over the long term in a way that is resilient to the cascading challenges posed by climate change. In my recent visit to Victory Gardens for Peace in Mendocino, California, I learned about a truly inspiring vision for accomplishing these critical goals through a method called GROW BIOINTENSIVE (GB). The GB method was pioneered over 50 years of research by John Jeavons, the founder of BGR project partner Ecology Action. As one of the main education and demonstration farms for Ecology Action, Victory Gardens for Peace offers residential internships to small-scale farmers and community leaders from around the world who come to Mendocino to learn an effective way to sustainably grow their own food over the long term. Through this internship program, Victory Gardens founder and lead educator Matt Drewno extends Ecology Action's tradition of research and practical skill-building at a time when the need for scalable sustainable agriculture methods is more urgent than ever. During my visit I met two interns, Teresiah

Nyambura Njai and Philomena Njeri Njoroge, both skilled farmers from Kenya who plan to bring Grow Biointensive back to their communities after their internship concludes in December. I got an introduction into the ambitious goal they are working towards: planning a ten-bed design with rotating crops in a space the size of a typical backyard plot of land. This is referred to as "microscaling," in which the objective is to grow a complete diet for an entire household within a minimum of space. Matt Drewno is a masterful spokesman for this method, possessing not only an intimate knowledge of the research but also an expansive vision for how it could benefit humanity if practiced widely. He posed to me a hypothetical: "What if everybody did this? Almost 900 million people are on the brink of starvation. We need to find solutions where we are decreasing that gap." The name "Victory Gardens" invokes a WWII-era government program that promoted kitchen gardens as a weapon in winning the war. Given the realities of climate change and the appallingly high rate of hunger and poverty in the world, the need for solutions surely must be as urgent as the epochal war effort for which the organization was named. I felt convinced and ready to learn more. My first question was how Teresiah and Philomena

planned to transfer the skills they learned in the humid and cool climate of Northern California to the hotter, drier climate of their home country. Teresiah, who directs a project called “Garden of Hope,” described a technique of digging sunken beds, in contrast to the raised beds used at Victory Gardens. Matt observed that this could potentially be a beneficial practice to adopt at Victory Gardens, because sunken beds help desalinate soil by encouraging greater water retention and leaching than the raised beds. This led to a fascinating conversation around the internship program as a model for the kind of cultural exchange that is helping to continue to refine the GROW BIOINTENSIVE system.

By emphasizing a set of interrelated sustainable farming techniques that can be practiced by virtually anyone anywhere in the world, Grow Biointensive has the potential to revolutionize how people get their food; Matt told me that “after your third year, you can parachute in anywhere on the planet and start growing food.” Through microscaling, GB practitioners are able to overcome expensive barriers to entry such as fertilizers, irrigation systems, and heavy machinery. Following the “60-30-10 ratio,” 60 percent of the crops grown by GB farmers are protein-rich grains such as quinoa, which is nutritious and filling to eat as well as being beneficial to the soil as compost. The practice of seed banking is another powerful tool for extending one’s food supply beyond a single growing season, as well as being a great way for farmers to earn income from their garden. Finally, GB gardening hinges on a carefully drawn out plan with month-by-month descriptions of the crops to be grown in each planting bed. Taken together, these practices can help communities become truly food independent while simultaneously having a restorative impact on the local soil quality while also returning carbon to the Earth, where it belongs. As I also learned when I visited the BGR partner Grow Biointensive Agricultural Center of Kenya (G-BIACK), systems like GB farming are especially important given the pernicious influence of profit-seeking multinational companies like Monsanto. These companies seek to control the food supply by selling impoverished farmers proprietary fertilizers and genetically engineered seeds, which yield poor outcomes and contribute to perpetuating the cycle of poverty.

... {continued at buddhistglobalrelief.org/victory-garden-of-peace/}

The Guardian: High Fertiliser Use Halves Numbers of Pollinators, World’s Longest Study Finds

The following is excerpted from an article by Phoebe Weston, published in The Guardian in January 2025 at theguardian.com/environment/2025/jan/20/uk-agriculture-farming-fertilisers-yields-biodiversity-study-park-grass-pollinators-bees-wildflowers-aoe. This article emphasizes what we already know: conventional agriculture that relies on intensive use of chemical fertilizers reduces biodiversity, and harms beneficial insects. The GROW BIOINTENSIVE method provides a low-cost method for almost everyone to grow an abundance of food with little or no imported fertilizers. Download our free GB Farmer’s Handbook from growbiointensive.org/ePubs to start growing!

Using high levels of common fertilisers on grassland halves pollinator numbers and drastically reduces the number of flowers, research from the world’s longest-running ecological experiment has found. Increasing the amount of nitrogen, potassium and phosphorus doused on agricultural grassland reduced flower numbers fivefold and halved the number of pollinating insects, according to the paper by the University of Sussex and Rothamsted Research.

Bees were most affected – there were over nine times more of them in chemical-free plots compared with those with the highest levels of fertiliser, according to the paper, published in the journal npj Biodiversity. The lead researcher, Sussex University’s Dr Nicholas Balfour, said: “As you increase fertilisers, pollinator numbers decrease – that’s the direct link that to our knowledge has never been shown before ... It’s having a drastic effect on flowers and insects. The knock-on effect goes right up the food chain.”

This is primarily because fertilisers create conditions that allow fast-growing grasses to dominate, crowding out other grasses and flowers. It is generally assumed that having a greater diversity of flowers leads to a greater diversity of pollinators. The research was done in Rothamsted, Hertfordshire, on strips of grassland called Park Grass, which have been studied since 1856.

The average use of fertiliser on grassland in the UK is about 100kg/ha. ...[which] had 42% fewer pollinators and five-fold fewer flowers than land with none. The results were most pronounced on plots treated with nitrogen, the most widely used type of fertiliser ...{full article online}

GROW BIOINTENSIVE Year in Review: A Photographic Journey

By María del Pilar Eloisa Cline Moreno
EA 8-Month Intern Graduate

Pilar was awarded an EA Sponsorship after she completed her 8-Month Online Internship. She sent us an extraordinary report in the form of a photo-journal encompassing the first year establishing her GB mini-farm project, "Rancho El Perihuate" in Tecate, located on the Baja peninsula in northwestern Mexico. This area has few water resources and is one of the most arid areas in the Mexico. Pilar's beautiful garden is a testament to the hard work and focus she and her family put into it, as well as an excellent demonstration of what is possible with the GROW BIOINTENSIVE method, even in a rugged and dry environment. This excerpt gives a glimpse of the journey from dusty ground to abundant harvest; find the complete report at growbiointensive.org/Enewsletter.

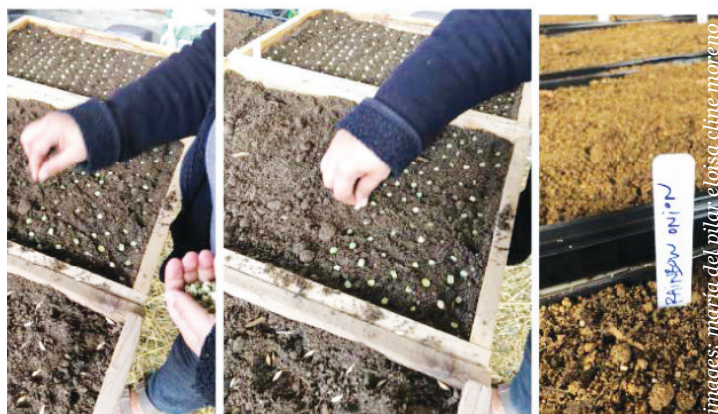
JANUARY 2024: Site Design and GB Certification from ECOPOL/El Mezquite



FEBRUARY: Bare Ground and Planning



MARCH: Sowing Seeds



images: maria del pilar eloisa cline moreno

APRIL: Water Source and Digging



JUNE: Planting



JULY: GROWING!



AUGUST: Ripening



SEPTEMBER: Harvesting



OCTOBER: Getting Ready for Winter



NOVEMBER: Biomass for Next Season's Garden



Carrot Cake Scones (GF/DF, ~Vegan)

By Shannon Joyner, Garden Companion Editor

These delightful, not-too-sweet scones are a combination of Bojon Gourmet's basic gluten free recipe (bojongourmet.com/gluten-free-scones-almond-flour) with her vegan options, and Crowded Kitchen's standard ingredients recipe (crowdedkitchen.com/easy-carrot-cake-scones-with-cream-cheese-glaze) and a few tweaks of my own. The result is a gluten free, dairy free, vegan (with flax egg) pastry that tastes like something from your favorite bakery. Moist, tender, warmly spiced with a tangy glaze, they're perfect for celebrating spring in your garden! (For best results, use a digital scale to weigh ingredients, and don't forget to freeze the butter!)

Carrot Cake Scones with Creamy Glaze

Dry Ingredients

- 2/3 cup (110 g) sweet white rice flour
- 2/3 cup (75 g) blanched almond flour
- 2/3 cup (69 g) GF oat flour
- 3 T (22 g) tapioca flour
- 1/4 cup (50 g) brown sugar
- 2 1/2 tsp (7 g) baking powder
- 1/2 tsp fine sea salt
- 1 T pumpkin pie spice
- 1/2 cup (55 g) chopped walnuts
- 1/2 cup (25 g) long-strand shredded coconut
- 3 T (25 g) crystallized ginger finely chopped
- 1/2 cup (50 g) dried cranberries

Wet Ingredients

- 6 T (85 g) vegan butter, frozen, then grated
- 7 T (120ml) full-fat canned coconut milk, more as needed
- 1 large egg (for vegan option mix 1 T ground flax + 3 T hot water, thicken ~20 minutes, then chill before use)
- 1 t vanilla extract
- 1/2 t almond extract
- 1 cup packed (142g) grated carrot, cold

Creamy Glaze (optional):

- 2 T full fat coconut milk
- 1 tsp lemon juice
- 1 T salted vegan butter, melted
- 1/2 cup powdered sugar
- 1 tsp vanilla
- pinch of salt

Make the dough

1. In a large bowl, whisk together the flours with sugar, baking powder, salt, and pumpkin spice.

2. Add the grated butter, nuts, shredded coconut, dried ginger, and cranberries to the dry mix. Toss to combine.
3. Pop the flour mixture in the fridge for 10 minutes or longer to cool the butter back down.
4. Whisk together the coconut milk, egg or flax egg, and vanilla and almond extracts in a measuring pitcher. Chill until needed.
5. Remove the flour mixture from the refrigerator. Add the grated carrots and toss to combine. Gradually add the coconut/egg mixture, working with a flexible silicone spatula until the dough holds together when you give it a squeeze. If the dough is too dry, add a few drops of coconut milk directly to the floury bits until they start to come together. The dough should be moist, but not wet.

Shape the scones

1. Shape the dough into a rough ball with your hands. Place on a piece baking parchment and form it into a disk that measures 6 inches across and 1 1/4 inches high. Don't worry about overworking the dough: there isn't any gluten to toughen here!
2. Wrap and chill the dough disk until firm, at least 30 minutes and up to overnight.

Bake the scones and glaze

1. When ready to bake, position a rack in the uppermost spot of your oven and preheat to 425°F. Stack two rimmed baking sheets on top of each other and line with parchment paper, to keep the scones' bottoms from over-browning.
2. Remove the dough from the refrigerator, unwrap and place on a cutting board lightly dusted with oat flour. Brush the top of the dough with coconut milk and sprinkle with granulated sugar. Cut into 8 wedges and place them on the prepared baking sheet, spaced well apart.
3. Bake the until golden on top and cooked through, 20–25 minutes, rotating the pan after 15 minutes.
4. Remove from the oven and transfer scones to a wire rack. Let cool until warm, 10-20 minutes; they are still baking from residual heat. Whisk glaze ingredients until smooth, and drizzle over scones. Serve warm or at room temperature. ●



Victory Gardens for Peace GROW BIOINTENSIVE Garden Tour!



After a long winter dreaming over seed catalogs and sketching garden plans, it's finally time to start growing! Need inspiration for the coming season? We have a full-day tour at Victory Gardens for Peace (VGFP, victorygardensforpeace.com) in Mendocino on **Saturday, May 3.**

On the bluffs overlooking the Pacific Ocean, VGFP is a working sustainability research and demonstration garden, production farm, and community seed bank located at the Stanford Inn. This coastal garden has a mild climate with lots of fog, few freezes, and a lot of salt.

What's special about VGFP? We have used only the unique GROW BIOINTENSIVE (GB) Sustainable Mini-Farming method at this site for over a decade.

- GB is simple, affordable, and accessible, and is already being used by millions of people worldwide to grow lots of food in a small area while improving soil fertility at the same time.
- GB can grow rich topsoil up to 60 times faster than in nature, and uses up to 66% less water, 50% or less purchased fertilizers, and only 6% the energy per pound of food produced, compared with conventional farming.
- GB can grow up to 2 times as much food in the same area as other methods, making it a fun way to get some real relief from rising food prices, even if you only have a back yard to grow in.

Why take a tour? It's an opportunity to see GB in action! We used it to improve the severely depleted topsoil at the site, and now we have one of the most productive and sustainable garden spaces in the state. It's beautiful, inspiring, and educational. The tour is led by Master Farmer Matt Drewno and the VGFP staff and **SPRING 2025**

volunteers. It has a strong group element—enthusiastic participation is encouraged! Our time together includes discussions of world challenges in the areas of soil, food, and nutrition; sustainable home garden crops; and thinking globally while growing locally. It also includes practical mini-classes on double-digging, composting, and seed propagation. Come see what we're doing: we love to share our work with our community!

Details: the tour begins at 9AM and ends around 4PM. Bring your lunch to enjoy in the garden, along with a hat and water bottle. Children 10 years and older are welcome, but please consider whether they will enjoy the experience (which includes short lectures and discussions) in your decision to bring them. Please leave pets at home.

Accessibility: While VGFP is fairly flat and accessible to most visitors who can participate in gentle exercise, the tour does require sustained walking and standing. Please wear hiking boots or shoes with good tread.

Registration is \$25 per person (\$15 for Ecology Action members or those who join at registration). Space is limited: preregistration at growbiointensive.org/tour is encouraged, but walk-ins are welcome if space is available on the day of the tour. ●



ECOLOGY ACTION PRESENTS:

A TOUR OF VICTORY GARDENS FOR PEACE SUSTAINABLE BIOINTENSIVE MINI-FARM!

Did you know that Biointensive gardening can grow up to 2 times as much food in the same area as other methods? Come see how it works!

Full-day tour includes a discussion on soil, food, and nutrition; mini-classes on double-digging, composting and seed propagation, information on key sustainable home garden crops, and Q&A, all led by our expert staff and volunteers. Bring your lunch to enjoy in the garden!

**\$25/
person**

We teach people all around the world how to grow more food in less space, using less water, less purchased fertilizer, and less energy, while building fertile soil up to 60x faster than in nature. Come see our garden!



**Saturday May 3, 9AM-4PM
Mendocino, CA. Register at
growbiointensive.org/tour**

Book Review *Making It: Radical Home Ec for a Post-Consumer World*

By Kelly Coyne and Erik Knutzen

This book, written by a husband-and-wife team of die-hard DIYers, will leave you thinking you can take on the world and win. —Milwaukee Journal Sentinel

From the authors:

Our goal in this book was to provide really stripped down, simple projects that use only inexpensive, easy to source materials. We also tried to use the same materials and ingredients over and over again, to save you time, money and storage space. The moral of this book is that it doesn't take much more than creativity to live well.



toward a vibrant and very active counter-movement that has been thriving on the outskirts for quite some time — do-it-yourself-ers who make frugal, homemade living hip are challenging the notion that true wealth has anything to do with money. In *Making It*, Coyne and Knutzen (rootsimple.com), who are at the forefront of this movement, provide readers with all the tools they need for this radical shift in home economics.

The projects range from simple to ambitious and include activities done in the home, in the garden, and out in the streets. With step-by-step instructions for a wide range of projects—from growing food in an apartment and building a ninety-nine-cent solar oven to creating safe, effective laundry soap for pennies a gallon and fishing in urban waterways, *Making It* will be the go-to source for post-consumer living activities that are fun, inexpensive, and eminently doable. Within hours of buying this book, readers will be able to start transitioning into a creative, sustainable mode of living that is not just a temporary fad but a cultural revolution. ●

DIY: Seedling Flats

Adapted from previous articles
and the Bountiful Gardens Archives

At EA, we start most crops in seedling flats and then transplant them into growing beds once established. Advantages of wooden flats include:

- More efficient use of water and space
- Better soil temp maintained than with plastic
- Durable: with proper care will last many seasons
- Biodegradable: no forever waste!

Using the specifications on page 15, opposite ---> cut lumber to the correct length and pre-drill all holes. If available, cedar or redwood are the best choice, as they resist rot. Assemble as follows:



1. Align bottom boards with one of the end pieces.



2. Line up the pre-drilled holes and nail the outer bottom boards to the end board. Then, add the middle bottom boards, positioning them to provide drainage gaps as indicated on page 15. Repeat on the other end.



3. Attach the side pieces, and you're done! Now, you're ready to get started growing your seedlings! For information on how to do that, see the articles at growbiointensive.org/Enewsletter/Spring2017/Seedlings.html and growbiointensive.org/FAQ/FAQ_FlatSoil.html

REDWOOD SEED FLATS

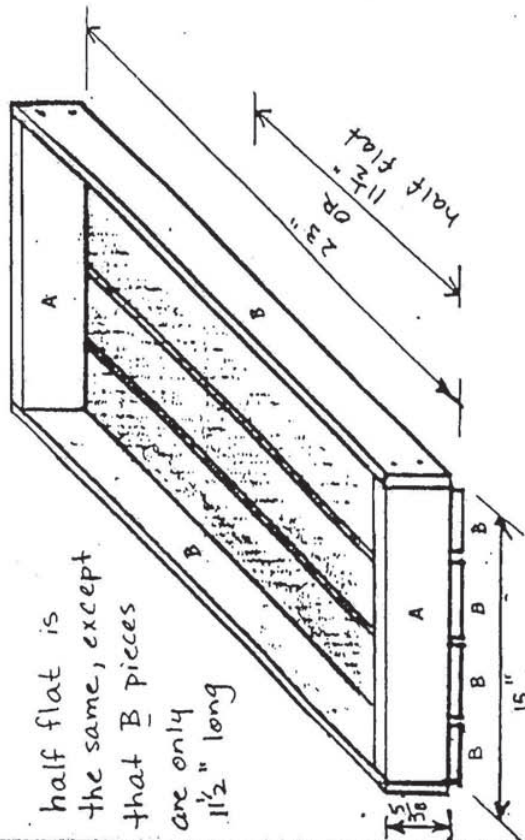
BOUNTIFUL
GARDENS

REGULAR OR HALF FLAT

A $3\frac{5}{8}" \times 15" \times \frac{3}{4}"$

B $3\frac{5}{8}" \times 23" \times \frac{1}{4}" \rightarrow (\text{OR } 3\frac{5}{8}" \times 11\frac{1}{2}" \times \frac{1}{4}" \text{ for half flat})$

half flat is the same, except that B pieces are only $11\frac{1}{2}"$ long

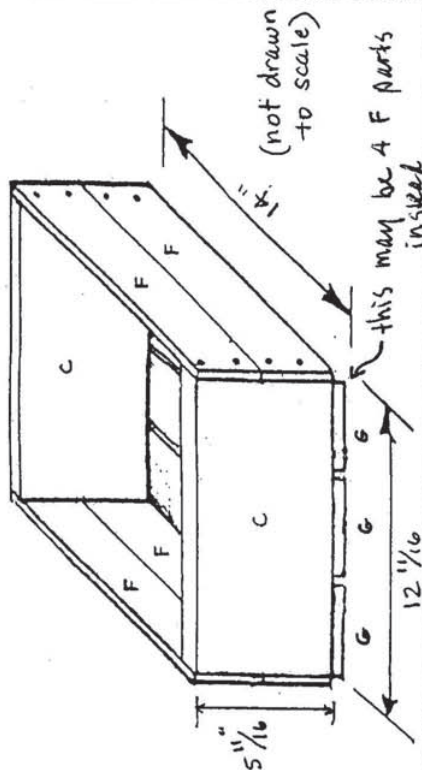


DEEP FLAT

C $5\frac{11}{16}" \times 12\frac{11}{16}" \times \frac{7}{8}"$

G $3\frac{7}{8}" \times 13\frac{1}{4}" \times \frac{1}{4}"$

F $2\frac{15}{16}" \times 13\frac{1}{4}" \times \frac{1}{4}"$



*ALL FLATS are pre-drilled to avoid splitting.

*ALL FLATS to be assembled according to the diagrams.

*ALL FLATS are designed to have approx. $\frac{1}{16}-\frac{1}{8}"$ drainage cracks between the bottom boards.

STANDARD FLAT

DEEP FLAT

ECOLOGY ACTION'S GARDEN COMPANION

WRITER/EDITOR AND ART DIRECTOR: Shannon Joyner

CONTRIBUTORS: John Jeavons, Suraya David-Sadira, Matt Drewno, Lama Nasser-Gammett, James Christie-Fougere, Boaz Odour, *Buddhist Global Relief*/Daniel Blake, *The Guardian*/Phoebe Weston, María del Pilar Eloisa Cline Moreno, Bountiful Gardens Archive, EA Staff, and GROW BIOINTENSIVE® friends from around the world.

Ecology Action
5798 Ridgewood Road Willits, CA 95490-9730
Phone: (707) 459-0150

Ecology Action newsletters and full-length articles
are available online at
growbiointensive.org/Enewsletter/Archive.html

Printed with soy ink on 40% post-consumer paper

© 2025 Ecology Action. All rights reserved.

ECOLOGY ACTION EVENTS: 2025

Dear GROW BIOINTENSIVE Family,
Our schedule (subject to change) of public events
is as follows.

Onsite Garden Tours:

VGFP on May 3 and Oct 11 • TJC on Oct 12
<http://growbiointensive.org/tour>

Online Fall 4-Saturdays Introductory Workshop:

Nov. 15, 22, + Dec. 6, 13, 2025
growbiointensive.org/workshop.html

Our full 2025 schedule of events:

growbiointensive.org/events_main.html
or call 707-459-0150

Ecology Action

5798 Ridgewood Road
Willits, CA 95490-9730



53 years.

152 countries.

Millions of people educated.
Millions of garden beds created.
Billions of pounds of
fertile soil grown...
And we're just getting started.

Grow Hope. Grow Abundance.
GROW BIOINTENSIVE®!

Your donations and memberships
keep *all of us* growing!
growbiointensive.org/giving

Non-Profit Org.
U.S. Postage
PAID
Willits, CA
Permit No. 2

Address Service Requested