

The Victory Gardens for Peace Challenge

A solution for you and your community



By Victor E. Gardener



Victory Gardens for Peace is a project of Ecology Action a 501C3 non-profit based in Mendocino County, California

Hello Gardener!

Did you know that less than 1% of our population knows how to grow a significant portion of their own diets?

There will again come a time where gardening is no longer a hobby, but a way of life. The focus of this booklet is to provide a methodology for gardening which is low-input, high-yielding and sustainable. With resource scarcity already occurring and another 2 billion people projected to be on the planet in the next 30 years it is essential that we move away from high input, energy intensive agriculture. A renaissance of the gardening culture means a transition from the paradigm of doing less with more, to achieving more with less and a transformation of our own selves as we draw closer to the art of gardening through the hand work and love we experience as we participate directly in the give and take of nature- nurturing that which nurtures us- and rediscovering a sense of wholeness in ourselves and the world around us.

We hope that you find inspiration in this booklet and share the abundance with friends and family!

The Victory Gardens for Peace Movement

During World War I and World War II, the United States Government enacted a series of policies aimed at reducing our resource consumption while increasing production to meet the demands of war. Many of our farmers were sent overseas to fight, and our citizens and troops needed to be fed. "Victory Gardens" were promoted as a way to meet the demands of war and increase food security during arduous times.

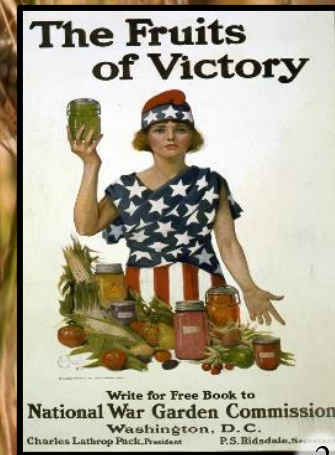
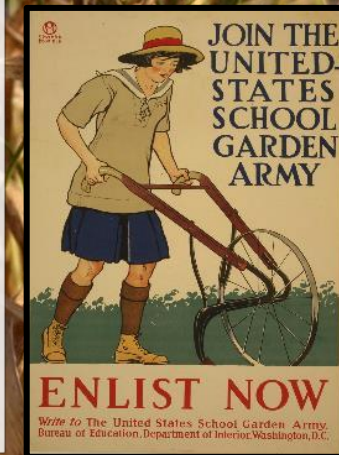
Mobilization for the war engaged all industries and communities in the war effort. Trains and buses used for transporting food were shipped abroad to move soldiers and so Victory Gardens became an important component of localization. Public parks were opened to community gardens and people began growing food everywhere- on rooftops, window boxes and backyards. School gardens sprang up to provide food for lunch programs, government agencies printed recipe booklets, food preservation pamphlets and encouraged people to eat less meat.

Victory Gardens not only increased our food security during this time, but also gave citizens a sense of contributing to the war effort. People were proud of their gardens and knew that they were doing their part. When Victory Gardens were at their peak, there were over 20 million Victory Gardens accounting for 44% of the food produced in the US.

We live in times of great change, and this change threatens the stability of our societies. Pandemics, natural disasters, economic collapse, climate change- these are all showing us the importance of becoming locally resilient and ready. The stronger we can become and the more we work together, the better equipped we will be. We must keep peace, equality and sustainability as our goals.

Together we stand, divided we fall.

Today the Victory Gardens movement remains relevant and important to overcoming the challenges of our time. The lessons learned from the Victory Gardens Movement demonstrate that when people are given the opportunity and are equipped with the knowledge and tools, individuals and their communities mobilize to share and create abundance even during times of great difficulty. As we move into the future together, let's start gardens, get to know our neighbors and celebrate the shared effort in creating a peaceful more resilient future for everyone! *We can do it, Si se puede!*



GROW BIOINTENSIVE®

Sustainable home and community gardening is a powerful remedy to a great many of the challenges we are facing today. Gardening is by far the most ecological and resource conserving form of food production and is the ultimate expression of localization- *if it is done sustainably*. It gets us outside and brings people together. Gardening addresses our most basic needs while bringing us towards a greater sense of wholeness as we work with the rhythms of the cosmos and connect to the greater wheel of life.

The majority of us in the “developed” world have become dependent on consumerism and no longer understand how to take care of most basic needs. A confident sense of *the self within the organism of nature* and a healthy diet are the basis for a productive, harmonious and sustainable culture. We must remember that Nature isn't just a source of raw materials for us to transform into wealth- its the basis of our well-being, our mother.

This booklet is here to serve you as a guide to help you rediscover the joy of creating the health, nutrition and happiness that only a garden can bring. This is about growing healthy and delicious food, conserving resources, and healing the rifts we have created in our society, with nature and within ourselves. It is also about working together and sharing the great responsibility of taking back our collective power and owning our creative capacity to change the world. Without being able to care for our most basic needs locally and sustainably, we are reliant on the abuses of consumerism.

We will cover *8 basic principles* that you can use in your home or community garden to grow more food without needing much in the form of resources, time or even a green thumb. We will introduce each of these principles in the following pages to help you get started and will include further resources to guide you on your way. In the appendix of this booklet will be planting calendars, community information and a few sample garden plans including a complete diet garden plan we developed on the coast in Northern California. With a beginners skill, this plan would use 4% of the land area- an advanced level of skill will only require 1% of the land area as a conventional American Diet and requires an average of only 35 minutes per day to grow. This reduction in land area results in a reduction in water use from 22% at beginner skill level and 2% at an advanced skill level.

Food for thought...

- 200 years ago, around 90% of the US population gardened or farmed. Today less than 1% know how to grow a significant amount of their food.

As more and more people inhabit the Earth, we navigate an ever-evolving and dangerous perfect storm. This perfect storm can be transmuted into creative energy. The *force-multiplier* of climate change necessitates that we act swiftly and with great sensitivity. In this moment, we can either come together to create a better future, or be torn apart fighting over what is left.

This is, in fact, the opportunity many of us have been waiting for. There are cracks in the old paradigm and the light is entering in. At Ecology Action, we have seen how restoring hope through home and community gardening can change the world.

“You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.”

R. Buckminster Fuller

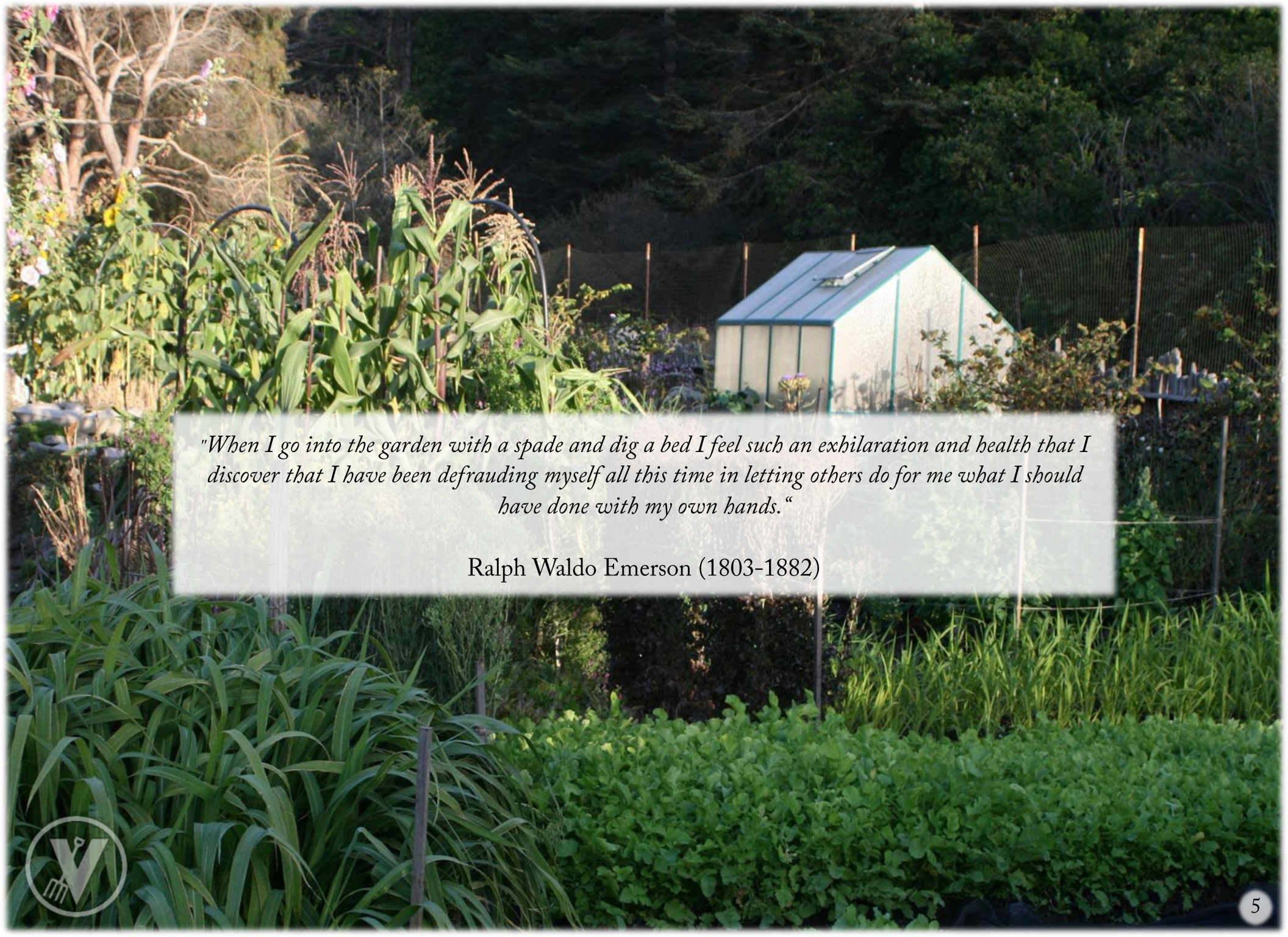
The methods outlined in this booklet have been developed over almost 50 years of research, education and demonstration by Ecology Action. The biointensive approach is the result of working with people in over 150 countries, in virtually every soil and climate where food can be grown. We’ve seen it work in the slums of Nairobi, in Mexico City, 12,000 feet up in the Andes, in tropical jungles and high deserts with almost no rainfall. We share this booklet with you because this work gives us hope and we know you can do it too. We can create a more peaceful, abundant future! Grow a Victory Garden for Peace!

“Another world is possible. It is a call to return to manual work in dialogue with the mountains, the harvests, the weeds, the animals, the sound of the stream and the whisper of the wind among the pines, the full moon and the waning, the constellations and brother sun. That is to say, it is the manual work of the gardener or farmer with spirituality, a call to the alchemical language of the gardener... to live in harmony with neighbor and nature.”

Mario Mejia Gutierrez, National University of Colombia, Palmira

Food for thought...

- In Russia, gardens produce 53% of the food using 3% of the land. 47% of the food is produced on farms using 97% of the land. The gardening culture in Russia is 38x more efficient at producing food than farming

A lush garden scene with various plants, a greenhouse, and a trellis structure. The garden is filled with green foliage, including tall corn stalks and leafy plants. A small greenhouse with a blue roof and white walls is visible in the background. A trellis structure with a net covering it is also present. The overall atmosphere is vibrant and natural.

"When I go into the garden with a spade and dig a bed I feel such an exhilaration and health that I discover that I have been defrauding myself all this time in letting others do for me what I should have done with my own hands."

Ralph Waldo Emerson (1803-1882)



Microscaling Agriculture: The Key to Sustainability

Agriculture is a relationship to the land. It is a story of moving from hunting and foraging, to cultivation, domestication of crops and animals, the invention of the plough, the discovery of fossil fuel energy, the development of chemistry, synthetic fertilizers, biocides and GMOs. And now artificial intelligence piloting driverless tractors and drones. The health and well-being of humanity is intimately tied to healthy soils and ecosystems- why would we outsource that relationship to artificial intelligence? We need to restore the notion that farmers and gardeners are stewards of the land responsible for the health of our environments and families. What does the agriculture of today say about us as a species? There is a fine line between the idioms *working smarter not harder* and *too smart for ones own good*. Growing soil, food and community is an honorable task.

Agriculture is about adapting to conditions to provide for our basic needs. The way people farmed and gardened for the last thousand years might not work today- or, it might work better! What are the current global conditions and how might the agriculture of today adapt for tomorrow?

Here are a few facts:

- Currently over 875 million people (around 1 out of 10 people) go to bed hungry each night.
- By 2050, the UN states there will be another 2-3 billion people on the planet.
- In less than 10 years, the UN states that 2/3rds of the global population will not have adequate water to grow their own food.
- In the US, 80-90% of our water use is for agriculture.
- The UN stated in 2015 we had less than 60 years of soil remaining and that by 2050 we need to increase farm production 70%.¹
- Each year we need an additional 12 million acres of farmable soil. Each year we lose 30 million acres of soil to wind and water erosion.
- It takes between 500-2000 years to build an inch of soil in nature.
- Climate change will continue to destabilize cultures and contribute to mass migrations which put stress on global systems.

We may have reached the limits of our technological, resource extractive and globalized agriculture. The agriculture of the future will at once microscale our footprint, reduce water and resource consumption, stabilize and regenerate soils, feed our expanding population and increase the health and diversity of our ecosystems. This new model must empower people around the world to be able to feed themselves sustainably and inspire new generations to meet the challenges that we will increasingly encounter into the future. We must understand sustainability to not just be about our soil, our farm or garden- but about our community, ecosystems and biosphere as a whole. *This new model is right in your backyard and you are the solution.*

The latest results of this work have led to sustainable agriculture models which demonstrate that there is enough for everyone, including our ecosystems. The designs and garden plans provided in the appendix of this booklet and will be elaborated upon in a future Ecology Action publication.

¹Note that the UN figures on 60 years of soil remaining are considered at current rates of soil loss- it is highly probable that there is less than 25 years of soil remaining due to the fact that as soils begin to erode, the rate of erosion increases and the demands on those soils by populations experiencing yield loss will cause further increased degradation.

3 Keys: Experimentation, Observation and Reflection

There are many ways to grow a sunflower. What drives the research of Ecology Action is a whole systems approach to understanding how to grow a sunflower using less resources and in a way that actually enhances the health of soil, people and the biosphere. Through experimentation, observation and reflection we can determine what methods accomplish these goals and how we can incorporate them most effectively across cultures, climates and soil types around the world.

The Blind Men and the Elephant

John Godfrey Saxe, 1887I

It was six men of Indostan to learning much inclined,
Who went to see the Elephant though all of them were blind
That each by observation might satisfy his mind.

The *First* approached the Elephant
And happening to fall against his broad and sturdy side
At once began to bawl: "God bless me! but the Elephant is very
like a WALL!"

The *Second*, feeling of the tusk,
Cried, "Ho, what have we here, so very round and smooth and
sharp to me 'tis mighty clear
This wonder of an Elephant is very like a SPEAR!"

The *Third* approached the animal,
And happening to take the squirming trunk within his hands,
thus boldly up and spake:
"I see," quoth he, "the Elephant is very like a SNAKE!"

The *Fourth* reached out an eager hand,
And felt about the knee
"What most this wondrous beast is like Is mighty plain," quoth
he: "'Tis clear enough the Elephant is very like a TREE!"

The *Fifth*, who chanced to touch the ear, said:
"E'en the blindest man can tell what this resembles most;
Deny the fact who can, This marvel of an Elephant
Is very like a FAN!"

The *Sixth* no sooner had begun about the beast to grope,
Than seizing on the swinging tail that fell within his scope,
"I see," quoth he, "the Elephant is very like a ROPE!"

There are many ways to interpret this allegory in the context of learning how to garden sustainably. In one way, the elephant is the garden and we are blindly prodding around nature trying to understand how it works. In another way, this allegory reminds us that by working together and sharing observation and reflections, we can work with others to engage their perspectives and better understand how to garden sustainably.

Experimenting can be an important part of the gardening experience. Experimenting helps us validate if something works for us, or doesn't. *An experiment tests a hypothesis and provides a control which helps us measure the value of an approach.* The garden can be a place full of experiments! However, try to keep things simple and keep records of your experiments or you may lose track of key learning opportunities.

Experimenting can help us grow in many direct and indirect ways. Following up experiments with regular observations, we can notice how a companion plant not only affects the insect-life around the plants, but also the structure of the soil or the presence or lack thereof certain weed species. Creating a framework for recording these observations can help accelerate the process of learning and bring us closer to the garden. This can be a notebook or garden journal. Oftentimes, we learn as much if not more from our failures. An expert is only someone who has made more mistakes!

Most of our experiments in the garden focus around the following:

1. Variety trials for soils and climates/microclimates
2. Spacing trials to see optimum centers for various crops and varieties
3. Companion planting and interplanting combinations
4. Composting approaches, in particular *cold composting*
5. Timing, crop rotations and seasonal plantings
6. Cultivation timing and techniques

A Few Simple Tools

The following tools are all you need to get started. Consider starting simple so you can focus your learning qualitatively before scaling up. Check out the self-teaching section at www.growbiointensive.org for our free resources and videos to refine your technique!

Starting a garden doesn't have to require huge amounts of time or money. All you need is a garden bed or two and few good tools. It is a good idea to invest in quality tools. Keep them clean and use them correctly and they will last a lifetime.

D-handled tools are more ergonomic and easier to use. A **flat spade** enables you to double-dig more effectively than a pointed shovel. A **spading fork** with a good shoulder helps you stay on the tool without slipping off as you work the soil. Stainless steel tools slide through the soil easier than forged steel but are not as strong and more expensive.

It is also very important that the handles are made of a durable quality hardwood such as ash or hickory. Plastic or fiberglass handles are lighter weight but do not have the same feel as a natural wooden handle.



A good **bow rake** has a long wooden handle and a metal rake with slight flex. This tool can be used to level beds after they have been dug and also to cultivate soil or chop in amendments.

A **digging board** is important as you are working across the bed. To make your own use a 1/2-5/8" thick plywood board cut 2-3' long by 3-5' wide. Size this board appropriately to your bed. You want to be able to sit on it, with your tools

and a flat by your side, and also be able to maneuver comfortably as you dig and rake the bed.

If you do not have a wheelbarrow, a few 5-gallon buckets will suffice. You can run a small section of an old garden hose around the handle for comfort.

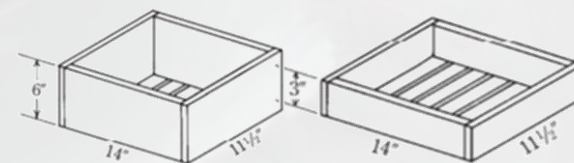


A good **hand-fork** is useful for removing plants from flats prior to transplanting. Be sure to choose a hand-fork which has a nice bend in the neck. The importance of this will become apparent as you work with flats—especially if you have a straight hand-

transplanting trowels come in various shapes and sizes. One that is about 2-4" wide and 6-8" long is fine.



It is important to have the correct size **flats** in the garden. There must be at least 3" of root zone. The information provided in most horticultural books (including How to Grow) follows standard dimensions. We like to build ours of recycled redwood or cedar—they are rot resistant and hold up well over the years. The flats below are 6" and 3" deep half-flats.



7 Tips for Grounding and Growing in the Garden

A few tips to get you out of the house, into the garden and growing strong:

1. *Don't be afraid to start, and don't be afraid to make mistakes.* An expert is only someone who has made more mistakes and it's these mistakes we learn from. You will have failures- it is life! Don't lose yourself in the frustration of things not working out the way you planned- in fact, our plans are only so good as to get us organized and started. You have to leave room for improvisation, for magic and serendipity. And of course, for weather!
2. *Start small, keep it simple.* Going big from the get-go actually slows you down. It slows down your ability to relate to the small things, to those finer and more subtle things which are your greatest teachers. Starting small means you need less to start, and if you screw up, it is easy to get going again. I recommend starting with 1 bed, or maybe 3- but wait until you feel ready to take on that 4th or 5th. By your 3rd year, you may be ready for 10 growing beds. The growing beds we refer to in this booklet are 100 sqft beds.
3. *Have fun and experiment.* Give different plants, planting combinations and crop rotations a try. Try new varieties, different timing and procedures. Whenever you experiment, experiment small but not too small. Our experience shows that you don't want to go under 25 sqft blocks for your trials and you want to run them for several years before coming to any conclusions. There are so many things which influence growth in the garden and replicating experiments helps narrow the variables to better determine the results. And keep data because it is easy to forget what happens!
4. *Observe.* The more you observe, the more you experience. Plants are sensitive and they appreciate the attention. I enjoy hand-watering. It slows me down and affords me time to observe- it's when I notice the aphids, or the weeds. It is also when I tend to notice how beautiful that flower is, or how wonderful that breeze feels. Observation is also a time for reflection and meditation- it is the act of taking in sense perception, digesting its sensations and creating the mental images, the imaginations which marry our consciousness to our work. It brings us closer to the garden and ultimately, closer to ourselves. It allows us to enjoy the work of the garden.
5. *There are always at least 5 reasons.* Don't jump to conclusions in the garden. It's easy to assume something is happening, and natural to look for the reasons. But challenge yourself to look for at least 5 causes to any situation. Often the aphid is there because of the conditions of the soil, the atmosphere, the life-stage of the plant, the amount of water we have been applying to the soil or not...flexing your mind to see more, hear more and feel more will help you and your garden grow together.
6. *Practice "hard-focus" and "soft-focus".* When we zoom in on something to look more closely at the details we are practicing hard focus. Soft-focus is a process of relaxing ones' self, to get a sense of the periphery and surrounding environment or the bigger picture. With the soft focus you are able to see more of the interconnections in the greater garden organism. It is also good for the spirit- it relaxes us and allows our mind to be more limber and alert. The hard-focus is equally important for addressing the moment. Use them both and see if you can increase the dimensionality of your experience.
7. *Be patient.* The garden will only grow as fast as it wants and forcing things can complicate things and doesn't always end well. Have patience for our own growth as well. For me, the greatest increase in fertility, yields and understanding has come with time- the more of the rhythms and cycles that I am blessed to experience in the garden, the more I see and learn. Patience truly is a virtue.

8 Principles: A Simple Approach to Sustainability

With 8 simple principles you can start your garden, increase your yields, conserve water and grow soil! We will move through each of the 8 Principles of Biointensive Food Production with a brief description of each principle, why it is important and what to expect as a result.

8 Basic Principles of Biointensive

1. *Deep Soil Preparation*: Establish good soil structure and increase nutrient cycling
2. *Close Plant Spacing*: Encourage good growth, high yields and a microclimate
3. *Companion Planting*: Understand and work with the relationships in nature
4. *Composting*: Maximize microbial diversity and the quantity and quality of compost
5. *Carbon Farming*: Sequester carbon, compost and grow your soil
6. *Calorie Farming*: Grow more food while microscaling your footprint
7. *Seed Saving*: Growing and adapting your own seeds
8. *Whole Systems Perspective*: Understanding the garden as an organism and integrating the 8 principles

Advantages of Biointensive vs. Conventional Forms of Food Production*

- Uses 67-88% less water
- Uses 50-100% less purchased fertilizer
- 94-99% less energy with a fraction of resources used
- Produces 2-6x the food of conventional
- Builds soil 60x faster than naturally occurs
- Microscales the human footprint of agriculture

*Jeavons, J. Biointensive sustainable mini-farming. Journal of Sustainable Agriculture, Vol. 19(2) 2001.



A Challenge to You- *Tag You Are It!*

The great task of the present is to organize and stabilize our communities in preparation for the approaching challenges ahead. In times of great change there is opportunity to reset the paradigm and recreate the world in a new light. The social and environmental stresses ahead will, bring us near the breaking point. We must work together or risk being torn apart by those who wish to exploit our differences. It is time to re-localize our economies, regenerate our ecologies, celebrate our diversity and create opportunities for all members of society to play a role in creating a peaceful and sustainable future. This shared investment must grow into a community-wide commitment to maintaining equality, security and resilience. We must protect our natural resources and hold true the vision of peace and sustainability. Healthy communities rely upon healthy ecologies, healthy food and healthy soil.

The approach shared with you in this booklet has been developed and proven over decades of committed and inspired work by people from around the world sharing the belief that the solution is within each of us and that we can create a better future together. The results have been documented- from AIDS communities in Kenya, refugee camps in Columbia, in war torn districts in Sierra Leon, impoverished communities in the Andean region of Ecuador and Peru and in communities like yours and mine. Where biointensive gardens are established, the situation is more likely to stabilize and hope takes root. As the basic needs of people are met through sustainable home and community gardening violence, disease and malnutrition decrease while peace, health and happiness increase.

We hope that you find inspiration to start your own Victory Garden for Peace and that you understand that in this simple act you are joining a global movement of people who are not waiting for an answer, or permission- but are working in their communities to celebrate the work of today and the creation of a better tomorrow. Your Victory Garden is more than just a garden- it is a powerful statement-in-action of your values and your dreams. Thank you for your garden and may your harvests be bountiful and delicious!

“You enter the garden because you love creation. You just want to grow fruits, vegetables and flowers as an expression of your soul. You love the smell of soil, the mystery of life, culture, and all the exquisite things that God gives us to live upon, look at, listen to, and enjoy. Great enchantment and productivity grow with each year of the garden. True vision, the necessary permit for this growth, expresses the enormous possibility of what can be achieved. Imagination is required right from the start. The era in which we live is a little frightening when you look at it very plainly and don't endeavor to escape the truth of what we are doing to the world. The vision of which I am talking is one of the greatest things we can possibly conceive of. It is a recovery from all the destruction going on. It is possible.”

Alan Chadwick (1909-1980)

Additional Resources: Focused Biointensive Research and Publications

Below are a some of Ecology Action's helpful resources focused on sustainable small scale home and community garden food production.

Website:

- www.growbiointensive.org - online portal for information, publications and programs

Books:

- *How to Grow More Vegetables...*, John Jeavons, 2017. 10-Speed Press
- *The Sustainable Vegetable Garden*, Carol Cox, John Jeavons, 1999. 10-Speed Press
- *Test Your Soil With Plants*, John Beeby, 2013. Ecology Action

Booklets, downloadable at <http://www.growbiointensive.org/ePubs/index.html> :

- *Growing to Seed*, Peter Donelan. EA Booklet 13
- *The Complete 21-Bed Biointensive Mini-Farm*, John Jeavons. EA Booklet 14
- *One Basic Mexican Diet*, J Mogador Griffin. EA Booklet 15
- *Ecology Action's Comprehensive Definition of Sustainability*, John Jeavons and Steve Rioch. EA Booklet 24
- *One Basic Kenyan Diet: Diet, Income and Compost Crop Designs in Three Beds*, Patrick Wasike. EA Booklet 25
- *Grow All Your Own Food: One Bed Model for Compost, Diet and Income Crops*, Carol Cox and Staff. EA Booklet 26
- *Designing a GROW BIOINTENSIVE® Sustainable Mini-Farm*, EA Staff. EA Booklet 31
- *GROW BIOINTENSIVE® Composting and Growing Compost Materials*, EA Staff. Booklet 32
- *Grow Your Own Grains*, Carol Cox. EA Booklet 33
- *Food for the Future, Now! A Survival Garden Plan*, Miller, Cox and Mankey. EA Booklet 34
- *Growing More Food With Less Water*, EA Staff. EA Booklet 35
- *An Experimental 33-Bed GROW BIOINTENSIVE® Mini-Farm Growing Complete Fertility, Nutrition and Income*, John Jeavons. EA Booklet 36
- *Energy Use in Biointensive Food Production*, Steve Moore. EA Booklet 37

Peer Reviewed Work:

- John C. Jeavons BA (2001) Biointensive Sustainable Mini-Farming: I. The Challenge, *Journal of Sustainable Agriculture*, 19:2, 49-63
- M. K. Bomford (2009) Do Tomatoes Love Basil but Hate Brussels Sprouts? Competition and Land-Use Efficiency of Popularly Recommended and Discouraged Crop Mixtures in Biointensive Agriculture Systems, *Journal of Sustainable Agriculture*, 33:4, 396-417
- Moore, Stephen R. "Energy Efficiency in Small-Scale Biointensive Organic Onion Production in Pennsylvania, USA." *Renewable Agriculture and Food Systems*, vol. 25, no. 3, 2010, pp. 181-188
- Simon, X.; Montero, M.; Bermudez, Ó. Advancing Food Security through Agroecological Technologies: The Implementation of the Biointensive Method in the Dry Corridor of Nicaragua. *Sustainability* 2020, 12, 844.
- Omondi, Emmanuel & Norton, Jay & Ashilenje, Dennis. (2014). Performance of a local open pollinated maize variety and a common hybrid variety under intensive small-scale farming practices. *African Journal of Agricultural Research*. 9. 950-955. 10.5897/AJAR2013.7359.

Learn With Us!


Ecology Action hosts several programs to train individuals in the biointensive technique of sustainable food production!

We host:

- 2, 4, 6 and 8-Month Internships
- Teacher Training Workshops and Certification Programs
- 1 and 3-Year Apprenticeships
- Online webinars and programs

In addition, our free self-teaching manuals and videos are found at:

http://www.growbiointensive.org/Self_Teaching.html



"To forget how to dig is to forget ones self."

Gandhi (1869-1948)

