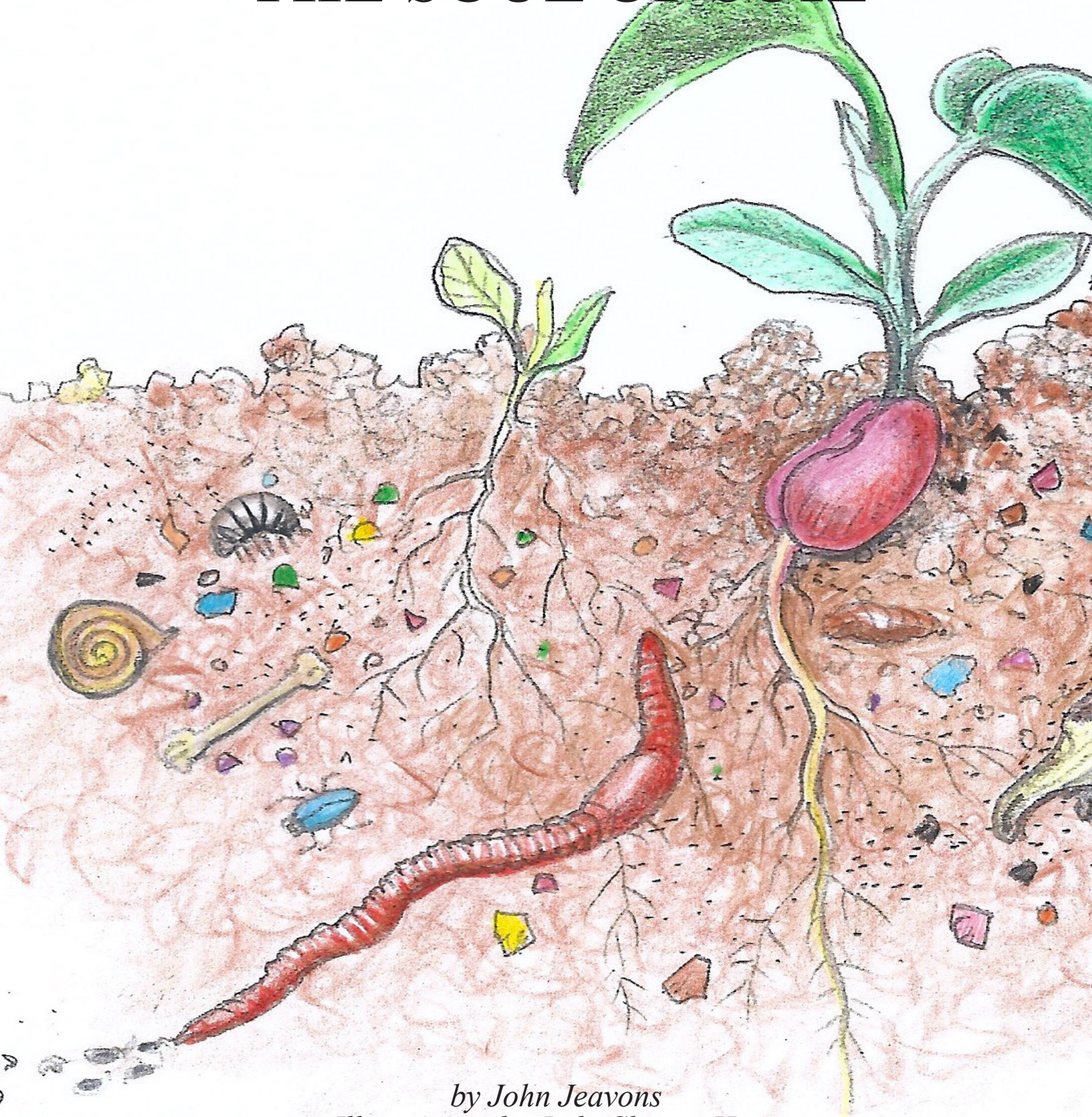
THE SOUL OF SOIL



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The Soul of Soil

I am just beginning! Awed by the soil—its life, wonderful smell, crumbly texture! The vitality that grows in and from it! Life-giving weeds that build up root organic matter and minerals from deep in the soil—concentrating nutrients in themselves with food and medicinal properties to nurture us all. What a privilege it is to nurture it.

When minerals are depleted, nettles move in—build up the soil—then move on 40 years later, after they have replenished the soils' essence.

Bushes, trees, vegetables, fruit, grains and beans thrive.

Why?

Microbes. Billions of life forms in a tablespoon full of compost—almost as many in one, as there are people on the Earth! May the Force be with us! Biologically intensive cultivation/civilization really is a dynamic thriving living Dance. Let's participate!

North Africa was the granary for Rome—until it was overfarmed. The Sahara Desert a forest until it was overcut. Who really thinks healthy life can be be grown with poisons? Gandhi, in response to being asked, "What do you think about Western civilization? replied, "It would be a good idea!"

Food-growing is too much work, you say?

10,000 years ago in northern Iran, the people in its Early Stone Age culture grew virtually all their calories with the original spelt wheat in an average of 3.7 minutes a day. The Philippine Hananoo "stone-age" culture is considered illiterate by our civilization—yet they grow all their food in a 5-year rotation comprised of 200 crops—including 40 different varieties of rice, so that no matter what the weather, too hot or cold or wet or dry, they grow sufficient calories. Looked at from this perspective, the Hananoo are simply a different kind of literate: Farming Literate!

Until the 1950's, the Chinese considered their farmers to be "Living Libraries". Truly skilled farmers, with real connection to the land, know more than 4 millennia of experience—school experience—the growing experience in their current lives. They know in their hands, hearts and senses. This is knowledge that is available to all of us if we seek it. We can become Living Libraries too.

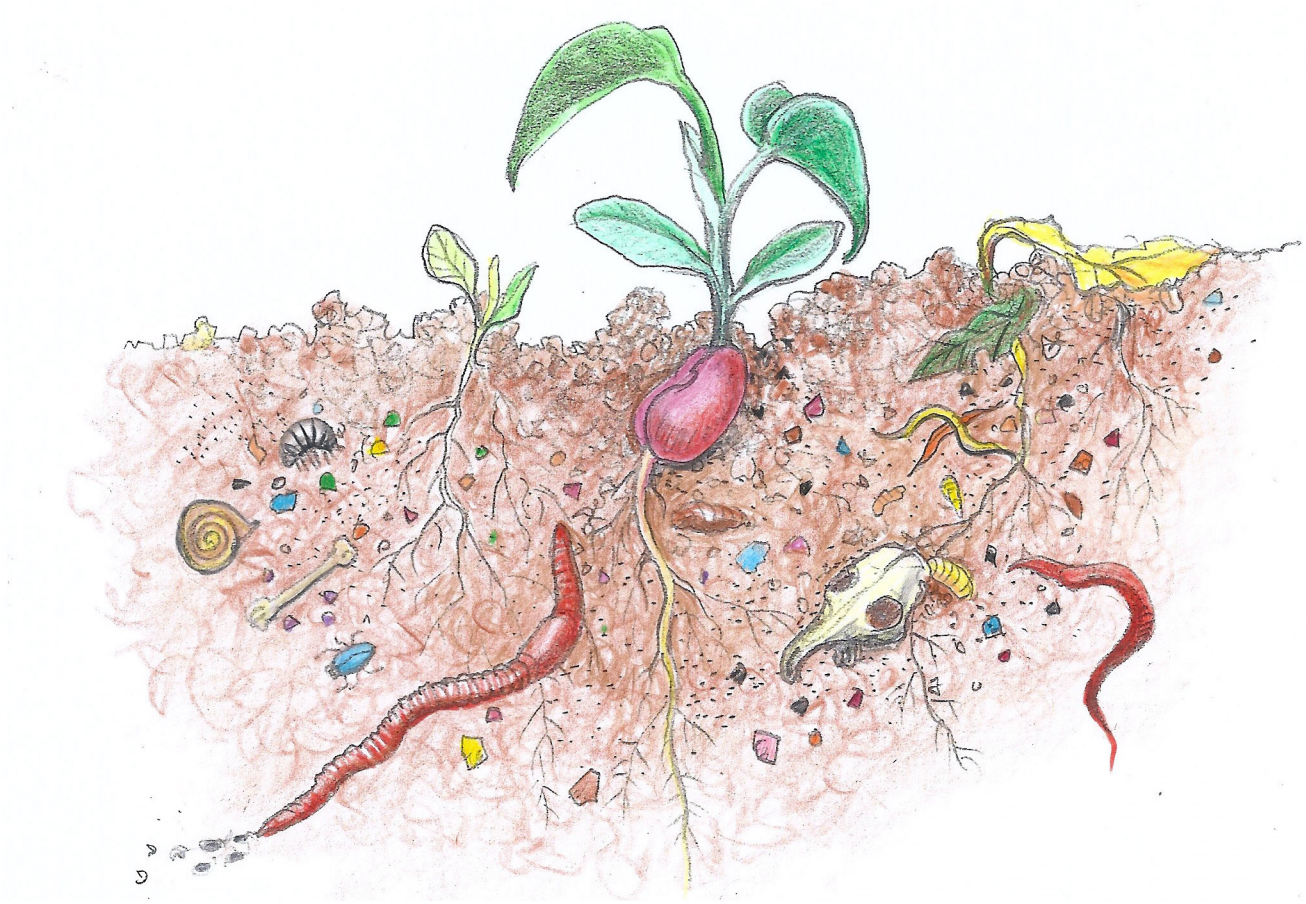
The Mayan culture, 1,000 years ago, thrived, when civilizations around it disappeared. Their civilization was based on biologically intensive neighborhood food-growing—the original food localization movement!

Soon most people will only have 4,500 square feet per person on which to grow their sustenance. Alan Chadwick, my mentor, said the most important thing to consider is the direction in which we are going—not where we are. Right now, the direction we're going is not one most of us want to take:

- 50% of Africa is already on starvation track. Since 2013, 50% of the people living in Mexico are spending 70% of their disposable income on food—only getting 1/3 of their calories each day.
- The UN-FAO indicates that in 10 years two-thirds of the world population, *~5.5 billion people,* may well not have the necessary water to grow a sufficient diet, and many of them will have no food at all.

We can change direction!

Biologically intensive food-growing can grow sufficient food for a complete diet annually, on as little as 1,000 square feet, with 33% of the water, while—if used properly—*growing soil* up to 60 times faster than in Nature—in as little as 50 years. During this build up time, food and compost materials can be produced as well.



We need to GROW SOIL *now*. It is the basis upon which we all depend. Test your soil! Adding an initial burst of 20% of your soil's needed/missing key soil nutrients may produce an 80% increase in crop yield. For example, sufficient calcium in the soil means that other major and trace minerals may be picked up more easily by the plants you grow. Making the most of your resources means working *smarter*, not harder. In another example, in a *biologically intensive* living soil system, up to 100% of all added nutrients may be utilized—in comparison with conventional practices—which generally use only 15% of the added nitrogen. Composting grows soil and recycles many of the nutrients so you don't have to keep adding them!

Why work harder, use more resources, more of the Earth when you can *think smarter*? Biologically intensive soil growing can be *skill* intensive—and does *not* need to be work intensive.

Goals—Grow oneself. Grow intuition. Grow experience.

Community—An important form of Sustainability. Grow Life!

For example, compared with 10,000 years ago, there are only 11% of the trees left on the Earth in biomass terms. When only 67% were left, this "skin of the Earth" began to die. Yet, if each person in the world plants, or causes to be planted, just 20 trees a year for 5 years for a total of 100 trees per person—and makes sure they are nourished to maturity, we will have as many trees on Earth, in biomass terms, as were here 10 millennia ago. *It is possible!*

Once we are doing the above, we can create and grow a new breadth and depth of *living, dynamic, thriving mini-ecosystems* that together make up an Entire Wonderfully Beautiful and Enhanced Living Earth. We have specific programs designed to build this vision, through grain and vegetable seed conservation, tree planting, soil building, middle school education, and university-level education and training. Each of us can be part of the solution.

For more information about these personal proactive initiatives, see www.thesustainabilityfund.org.

The industrial revolution is based on "fire"—and we are "burning up" the planet.

As you simplify your life,
the laws of the universe will be simpler;
solitude will not be solitude,
poverty will not be poverty,
nor weakness weakness.
~Henry David Thoreau

In Silence, You can Hear More.
~Henry David Thoreau

It is Time to Listen.

We *can* choose to work with the most powerful energy source on the Earth—photosynthesis.

Let's take the Green Path. It provides a balanced reasonable planetary temperature. In fact, properly applied, it can be the solution to climate change.

Our greatness lies not
so much in being able
to remake the World,
as in being able to remake ourselves.
~Gandhi

We need to *experience* this life-giving Force. As we heal ourselves, so also the planet will consist of thriving resilient sustainable mini-*ecosystems*.

Be the first neighborhood in your area to have one.

A Mini-Farming society—or any food growing civilization—requires six inches of farmable soil to thrive. Soil that deep worldwide would take 3,000 years to grow!

With *biologically intensive* practices this can be accomplished in as little as 50 years.

There may be as little as 29 years of farmable soil remaining on the Earth. Let's begin now!

A person can learn *biologically intensive* food-growing quickly using:

- *The Farmer's Handbook:* free in seven languages at growbiointensive.org/Self_Teaching.html
- *GROW BIOINTENSIVE: A Beginners Guide* videos series, at growbiointensive.org/Self_Teaching.html
- T*he Sustainable Vegetable Garden* at: growbiointensive.org/publications_main.html
- *How to Grow More Vegetables—and Fruits, Nuts, Berries, Grains and Other Crops Than You Ever Thought Possible On Less Land Than You Can Imagine at*: johnjeavons.org/video.html

Plus, over 200 Ecology Action "How-to" publications and resources:

- See Webinars at: ecologyactiontv.tumblr.com
- New GB World Education Portal coming soon at: www.biointensive.net
- Downloadable publications and booklets coming in 2018 at: www.growbiointensive.org

To become really good takes time and observation; while learning, key things to do often get missed. Keep a sense of humor and perspective. An **expert**, after all, is just a person who has made a lot of mistakes over time—and learned from them.

In the first year, we learn WHAT to do. In the second, we begin to learn WHY things work and HOW they work optimally. In the third, we begin to UNDERSTAND more deeply— the importance of "digging" more deeply, literally and figuratively, based on increasing experience.

Curiosity is the basis of learning. Stay curious.

The Greeks placed all elements into the categories of Earth, Air, Fire and Water. Biology teaches us that the most life occurs when these come together in harmonious proportions—and we can see for ourselves that such increased life occurs when these elements meet naturally, as happens along the margins of rivers, streams, lakes, ponds and oceans.

They are also brought together in biologically intensive *growing beds* which have good soil structure. Soil structure is the way sand, silt and clay "hang" together due to deep soil preparation, the growing of roots and root hairs and the sticky threads put into the soil by microbial exudates.

A WOMB— is the acronym created by placing the elements needed for a good healthy soil in order of priority:

A ir
W ater
O rganic Matter
M inerals
B iologically intensive food-growing

A womb is also the organ of women that is the home that nurtures a growing child before birth.

The soil womb is the home that nurtures us after birth.

The living "raised bed" growing soil is the home for the controlling part of the plant—its roots. Scientists have learned that a 2-4% increase in root health can produce an increase in yield of 200% to 400%.

Using Ecology Action's Booklet 31, "*Designing a GROW BIOINTENSIVE Sustainable Mini-Farm*", available from growbiointensive.org/ePubs/ in a 6-Month growing season in a temperate growing region, a thoughtful individual can create a mini-farm with forty 100-square-foot beds that can produce a complete balanced diet for one person annually. In addition, it will produce carbon and nitrogen materials for compost sufficient to build up and maintain the soil fertility for this size growing area almost indefinitely. In a 12-month growing season in a tropical growing region only 20 such growing beds may be needed.

Using Ecology Action's quick *60/30/10 Diet Design* paper (available by sending a self-addressed stamped envelope to Ecology Action, 5798 Ridgewood Rd., Willits, CA 95490), a person working "from the *heart*" choosing the crops he or she likes to eat, can produce a 20-bed design for a temperate 6-month growing season, or a 10-bed design for a tropical 12-month growing season. One of the main factors in this scenario is the feelings of the farmer. By the way, it is known that the heart contains more of a certain key type of brain cell in it than the brain does! (Also, see Body Talk Energy Medicine at: www.bodytalkcentral.com/

Using both one's *heart* and *mind* together, you can hone the concept of a mini-farm into a tiny farm! A person may well produce a functional 10-bed design to grow food and soil for a temperate region with a 6-month growing season and as little as a 5-bed design for a tropical region with a 12 month growing season.

We at Ecology Action are doing this heart and mind farming design, too. We are currently working on an 8.5 growing bed design for a temperate growing season that will enable people to grow *a complete balanced diet, plus the compost materials for this area and a reasonable income*. Currently, it appears that this design will contain: three and a quarter, 100-square-foot growing beds each of 65-day maturing potatoes and 90-day maturing flour corn, plus one bed each for the veggies that provide vitamins, minerals, essential amino acids, and income.

To determine most quickly how to grow your heart and mind Diet in the *smallest area* with a *daily weight to eat* that you can consume comfortably, choose your crops according to the following *crop types and area proportions*:

- 60% carbon and calorie crops—mainly hot and cold weather grains
- 30% special high-calorie root crops—potatoes, sweet potatoes, leeks, parsnips, Jerusalem artichoke, burdock and garlic
- 10%—vegetables and soft fruits

Other proportions can work for the two goals, but these are the easiest to work with and provide the quickest results.

Soil=Plant=You. Grow a healthy soil. That soil will grow a healthy plant. And healthy plants consumed by people result in healthy people! Again, who thought you could grow life using poisons?! May the Life Force be With You!

Horticulture is a powerful way of connecting to the world. Alan Chadwick was in the British Navy during the Second World War. Freya von Moltke, was the widow of a leader in the German resistance against Hitler. Her husband, Count Helmuth von Moltke, was arrested, accused of treason, and executed. But before Helmuth died, he sent word to his wife requesting that she make a place where young people could learn about creation in a world of destruction. Freya met Chadwick in South Africa after the war, when Alan was a gardener. Both had experienced a lot of death and destruction during the conflict. They were both were looking for a way for peace to be created on the Earth. They decided this could best be accomplished through horticulture and gardening—that as humankind breathed life back into the world's soils, this life would be breathed back into us. With von Moltke's encouragement, Chadwick made this his life's work. He arrived on the UC Santa Cruz campus with no official position. *He simply began digging*—14 hours a day, seven days a week—on a steep and unpromising hillside of brush and poison oak. Within a year, he had transformed that hillside into a lush and abundant garden of flowers, vegetables, and fruit trees. Young people were drawn to this place of healing and connection with the life force of the Earth to learn. Alan transformed his experience of pain and disconnection into one of joy by bringing the elements together in support of Life. Each of us has the power to tap into that same transforming source of healing and connection, *wherever we have access to the soil*.

The world has reached a place of Peak: Farmable Soil, Water, Farming Nutrients, Food and even Peace, as humankind has sought to dominate the natural world—the world upon which our lives depend. It is time to change the direction we are going. Living better, more simply, is the revolution we seek in our hearts.

Farming is Food is Life. Remember that the "Low Input Approach" works not only in the garden, but in our hearts and minds at all levels! Allow yourself to take up the nutrients of new knowledge at a healthy and balanced rate, growing all the time. Be patient with yourself as you grow into a Living Library. We have found that it takes just 10% of the time and effort to learn 90% of what one needs to know—and 90% of the time and effort to learn the last 10%. Why not do the first 90% easily—and then learn the last 10% slowly over time?!

You don't have to start big. A good way to learn about growing the crops you have chosen is to start with a single, 100-square-foot growing bed that is 4' wide by 25' long—divided into three sections: 60 square feet planted with four of the "60%" carbon and calorie crops, 30 square feet planted with three of the "30%" special high-calorie root crops, and 10 square feet planted in two of the "10%" vegetable and soft fruit crops. The result is a scaled-down version of the diet design *you* chose! Build your soil and the rest will follow.

Growing food was actually the original GREEN, and it can be again!