for the
ORGANIC Lifestyle
Simple Healthy Good

Grow It–Juice It!
Look Good And Feel Great
Lose The Weight.

Probiotic: Connecting The Soil To Your Life!

No Chemicals In My Food
Free Of Toxic Garden Sprays
Growing Nutrient Packed Foods
Eat Well – Live Healthy!
Why eating organic helps

Even if you are making a real effort to stick to a balanced, healthy diet, the nutrient content of many non-organic foods is known to be less in practice than it is in theory. Produce that has been grown in poor soil, picked before its ripe, and then kept in cold storage for long periods loses much of its nutritional value, as do highly processed, pre-packaged convenience foods.

It is my belief that you will increase your nutrient intake by switching to organic produce whenever possible. Fresh organic produce grown in good organic soil is likely to have higher vitamin and mineral content than its non-organic counterpart, and so it will help build healthier bodies and stronger immune systems. In the same way, there is every probability that eggs, dairy products, meat and poultry from animals reared on organic feed or pasture will be nutritionally richer. These products are also known to be free of residues from antibiotics that are routinely fed to animals as growth promoters by conventional farmers. There is considerable concern that our consumption of animal antibiotics may lead to resistant strains of bacteria in people and consequently reduce the effectiveness of our bodies own defense mechanisms. Grow as much organic fruits and vegetables as you possibly can, if you are limited on space — grow in containers, if you are lucky enough to own land — grow everything you consume, even raise your own meat if you are able. What you can't grow you can buy from a good organic market such as Whole Foods. Take care of your family and yourself, live a long healthy life free of ailments, and eat as much organic food as possible. We at Dr. Earth will help you grow everything you desire and keep your family and home free of harmful fertilizers and pesticides. Live well and remember that healthy soil produces healthy food for a healthy you!

Happy and healthy gardening.

Milo L. Shammas
Dr. Earth Founder & Formulator

Dr. Earth is made from premium environmentally sound ingredients blended with 100% pure love!
# Table of Contents

**The Dr. Earth difference**
- Introduction to Dr. Earth 2
- The Importance of Soil Microbes and Mycorrhizae 3
- The Organic Revolution 4
- From Farm to Fork 5
- ProBiotic: Connecting the Soil to Your Life! 6
- Why do we use Seaweed Extract and Humic Acid? 7
- Plant Nutrient Information 8
- Proper pH Gets Results! 9
- Home Grown Medicine 10
- The Essential Micronutrients 11
- Diversity is The Key to Abundance 12
- How Dr. Earth works 12

**The Top 10:**
**Dr. Earth Organic Fertilizers**
- Organic 1: Bulb Food 13
- Organic 2: Starter Fertilizer 13
- Organic 3: Rose & Flower Fertilizer 14
- Organic 4: Rhododendron, Azalea & Camellia Fertilizer 14
- Organic 5: Tomato, Vegetable & Herb Fertilizer 14
- Organic 6: Flower Garden Fertilizer 15
- Organic 7: All Purpose Fertilizer 15
- Organic 8: Bud & Bloom Booster 15
- Organic 9: Fruit Tree Fertilizer 16
- Organic 10: Palm, Tropical & Hibiscus Fertilizer 16

**Composting**
- Dr. Earth Compost Starter 16

**Organic Liquid Fertilizers**
- Foliar Feeding with Organic Liquid Solution! Concentrate and Organic Seaweed Concentrate 17

**Single Ingredient Fertilizers**
- Fish Bone Meal, Alfalfa Meal, Kelp Meal, Bat Guano, Cottonseed Meal, Soft Rock Phosphate, Blood Meal, Bone Meal 18-19

**Pro-Active™ Insect Sprays**
- Fruit & Vegetable Spray, Rose & Flower Spray, Home & Garden Spray 20-21

**Natural lawn care**
- Lawn Care Tips 22
- Dr. Earth Super Natural Lawn Fertilizer 23

**Build a good foundation**
- ProBiotic® soils 24
- Dr. Earth Organic Potting Soil 25
- Dr. Earth Organic Planting Mix 25

**Planting tips**
- Designer Pots 26
- How to Multiply Plants 27
- Soil coverage table 28
- Planting trees & shrubs 28
- Mulching information 28
- Planting in containers 29
- Bare root planting 29
- Open ground planting 29

**Improving Your Garden**
- Gardening Basics 30
- Improving Soil Structure 30
- Digging the Garden 31
- Preparing a Seedbed 31
- Planting with Nature 31

**Just Grow Organic!**
- How to Grow Organic Roses 34
- How to Grow Organic Tomatoes 35
- Container Vegetable Gardening 36
- How to Grow Organic Herbs 37
- Growing Organic Citrus 38
- Growing Organic Avocados 39
- Growing Organic Apples 40
- Growing Organic Apricots 41
- The Organic Method 42
- Clean Water, Clean Lakes 43

**Better Health!**
- Grow It - Juice It! 44
- Maximum Soil Health 45
- No Chemicals in My Food 46
- Growing Nutrient Packed Foods 47
- Milo’s new book 48
- Teaching Kids to Garden 49
Introduction

The Evolution of Gardening

Since 1992, Milo Shammas has single-handedly spearheaded nothing short of a revolution in our understanding of how to grow great gardens. From his early childhood interest, education and passion in gardening, he has developed a line of highly effective products to complete the Dr. Earth Family of extraordinary and innovative Probiotic organic solutions for the home gardener. The Dr. Earth Family of organic products is safe for people, pets and our planet and supports Milo’s vision that the soil is not only alive and the foundation of every garden, but also the foundation of human health. He has spent his lifetime as an advocate for growing plants and flowers the organic way... the natural and healthy way.

Milo Shammas has been an avid gardener for his entire life. The childhood experiences and education that he gained from growing fruits and vegetables in his own family garden taught him that caring for and nurturing soils was the key to growing a successful and productive garden. Even as a young boy, Milo believed in maximizing the soil’s potential to create the most fertile and healthy growing media.

Those early experiences in the family garden fueled an intense interest in Milo to pursue advanced study in plant and soil science. As a result, his research brought a renewed awareness of the detrimental effect of using harsh chemical insecticides and fertilizers to grow plants that prompted his sense of urgency to create new, organic and safe alternatives to these traditional chemicals used by home gardeners.

As both an entrepreneur and a visionary, he founded the Dr. Earth Company in 1992. It was at that time that he introduced his revolutionary Probiotic organic formulas to the lawn and garden industry. Through the Dr. Earth Company, Milo was able to make his nutrient-rich Probiotic soils and fertilizers available to gardeners throughout the United States. His highly effective Probiotic soil amendments and fertilizers ensured that the soil was nourished and that plants that were grown in such rich soil received the much needed nutrient boost that they needed for luscious, healthy plant growth. His expertly crafted Probiotic products gave traditional gardeners a new opportunity to experience unparalleled success in their organic gardens. It didn’t take long for these successful and happy gardeners to spread the word about these new and wonderful, environmentally safe, Dr. Earth Probiotic products!

It is with the formulation and introduction of the Dr. Earth Probiotic products in 1992 that Milo continued to follow his vision to revolutionize our knowledge about gardening and the organic practices necessary for robust plant health and gardening success. Today, the Dr. Earth Family of organic solutions includes insect sprays, fungicide, liquid fertilizers, and a full line of Probiotic lawn and garden fertilizers, potting soil and planting mix.

Milo continues his work to create ProBiotic gardening solutions to enhance not only the health of the garden soil, but ultimately the health of all mankind.

Gretchen Taylor
Vice President of Sales & Marketing
Dr. Earth, Inc.

Our Mission:
To support human and environmental health through the garden
The importance of Dr. Earth SOIL MICROBES & Mycorrhizae

What are Soil Microbes?
The soil is alive! Invisible to the naked eye are the great digesters of the earth, constantly breaking down organic materials into usable forms that plant roots can identify, absorb and ultimately incorporate for new growth. Below our feet lie the wonders of a variety of living organisms that are hard at work converting complex organic compounds such as, tannins, lignins, proteins, carbohydrates, cellulose, pectin, etc. into plant nutrients.

Microbes help to physically stabilize the soil by binding soil particles together. They release a by-product called glomalin that acts as a “glue” to help bind tiny mineral particles and organic materials together, contributing greatly to soil aggregation.

All of this happening in a healthy, productive soil. Healthy soil should contain no less than 10,000,000 bacteria per gram. The presence of microbes ensures that nutrients are made available to plants at a steady rate. As the plants are actively growing and require more nutrients, so do the soil microbes. As the weather warms, both the plants and the microbes respond at a similar rate. This is a self regulating cycle that has occurred for millions of years. The soil microbes become more active in warm weather, digesting organic materials and converting them into available plant nutrients. As the weather cools and plants require less nutrition, the microbial activity slows down, which means less nutrients are released into the soil. In this way, the soil is able to build nutrient reserves.

When plants are fed directly rather than the soil, all the benefits that microbes contribute are lost. “Feed the soil” means “feed the microbes in the soil” because it is the microbes that make nutrients available for plants. Microbes are fed by the addition of organic materials. Feeding with a synthetic chemical fertilizer feeds the plant, not the soil or the microbes. By adding petrochemical synthetic fertilizers to soil, the salt index in the soil is increased and the pH can be changed with adverse effects on plants. More importantly, chemical fertilizers feed only for a short period of time. Organic fertilizers supply a continual feeding because the microbes cannot digest all of the organic fertilizer overnight. Furthermore, chemical fertilizers do not contribute to soil aggregation (which leads to good tilth), water and oxygen retention, or runoff reduction- all of which can be achieved by the addition of organic materials and microbes to the soil.

The importance of microbes is immeasurable. They are essential to the health of productive soils. To elevate the microbial colony’s in your garden soil, use Dr. Earth organic fertilizers and soils, each containing ProBiotic®, a broad-spectrum soil & seed inoculant. Two things will happen when you use Dr. Earth: First, the organic fertilizer and soil will become the food source for the microbes; this provides almost immediate nutrition for your plants, which means fast results. Most importantly, Dr. Earth products, unlike most organic fertilizers and soils, actually contain high performing champion strains of beneficial microbes. This ensures that your soil will contain the proper number and types of microbes to truly benefit your plants.

Increasing biological activity and building up existing bacterial populations in the soil make plants and gardens resistant to diseases, drought, frost and insects while creating maximum growth and health potential. Remember, your soil is alive – DO NOT TREAT IT LIKE DIRT! Learn to nurture and work with the natural bio-system of your soil.

What are mycorrhizae?
The word “mycorrhizae” derives from the Greek words: mykes, meaning fungus and rhiza, meaning root. That is just what mycorrhizae are, specialized, beneficial fungi that establish symbiotic relationships with plant roots. It is estimated that as much as 90% of the worlds land plants develop some kind of symbiosis with mycorrhizae.

How do they work?
The mycorrhizal fungi penetrate growing plant root tissues, surround the root mass and extend far into the surrounding soil, encompassing a much greater volume of soil than that occupied by the plant’s own roots and root hair system. The fungi’s long thread-like hyphae are especially effective in capturing moisture and nutrients from the soil, particularly Nitrogen and Phosphorous. The fungi consume the nutrients but more importantly, they generously share them with the roots of the host plant. In return, the host plant provides the fungi with photosynthesized nutrients such as sugars.

Mycorrhizae also act as an important soil-binding agent, significantly contributing to the soil texture. Their countless long filaments called “hyphae” tend to accumulate in the soil over a period of time and may persist for months or even years. Larger soil particles, especially the sand-sized fraction, tend to be held together by these hyphae which develop sticky surfaces from sugars processed and exuded by the mycorrhizae. Additionally, the tips of developing root hairs likewise secrete a similarly sticky, plant-produced substance. Together, these sticky materials enable the filamentous hyphae to adhere firmly to the soil particles, physically binding and enmeshing them together to form tiny, semi-stable aggregates. This aggregate structure increases over time in the root zone, encouraging further root growth, which in turn attracts more mycorrhizae, leading to more aggregation and so on, perpetuating the process.

What does this process mean to the gardener?
Mycorrhizae help plant roots absorb nutrients, assist in drought tolerance and create ideal garden soil structure- soil that drains, breaths and retains optimum moisture. The near perfect “coffee-grounds’ soil texture often found in fastidiously maintained organic gardens is an example of long-term mycorrhizal soil activity.
The ORGANIC Revolution
by Milo Lou Shammas, Dr. Earth Founder & Formulator

There are proven methods worldwide that farmers can use to sustain profits, address hunger, malnutrition, and renew ecological health. To feed the world in the most effective manner, a vast movement of scientists, development experts, farming associations and environmentalists are calling for, a new emphasis on sustainable agriculture. This is an extreme opposite from current practices.

The Green Movement
New research shows that the latest ecological approaches in organic agriculture offer affordable, readily usable ways to increase yields and access to nutritional foods in third world countries. The organic method, applied to agriculture, can feed the world and may be the only way we can solve the growing problems of hunger in these developing countries.

UNEP (United Nations Ecological Program) states that its extensive research “challenges the popular myth that organic agriculture cannot increase agricultural productivity.” In an analysis of 114 farming projects in 24 African countries, the UNEP reported that organic or near-organic practices resulted in a yield increase of more than 100 percent. Just imagine what we can do as gardeners in our own backyards with the increasing prices of all consumable foods. Those of us lucky enough to own some land can also feed our livestock with more nutritional food, which in return will provide more nutrition for us. Also, nothing is wasted as the manure is returned to the soil in the form of compost, and the bones can be buried to breakdown slowly over time. This is truly thinking green. We at Dr. Earth use only the would-be wasted ingredients of fish, kelp, cotton, alfalfa, chicken feathers and other comparable ingredients, and with our infusion of ProBiotic® (For-Life), beneficial soil microbes, we truly bring life to the soil.

Organic practices are building the soil with life, reducing CO2, keeping our waterways clean, and returning greater profits to the farmer. The answer becomes simple: use the organic method. Since these practices build soil structure, they also increase drought and flood resistance as well as making plants more adaptable to climate changes. Every time we buy and grow organic foods we are helping farmers become more profitable, thus bringing down the prices of all organic foods, such as produce, meats, juices and all associated products. This is a collective effort that we as consumers, farmers and gardeners should adopt to make a real impact on the environment and especially for our health.

Millions Undernourished
Numerous independent studies claim the commodity-oriented organic revolution has not fed, and cannot feed the world sustainably. 923 million people are seriously undernourished, and 25,000 people die every day from starvation. The Rodale Institute paper cites a major 2008 study which assessed results from 286 farms in 57 countries, finding that small farmers increased their crop yields by an average of 79 percent by using environmentally sustainable techniques, including organic farming and crop rotation. Organic soils have better physical structure, preventing erosion; are more permeable, which increases healthier microorganism growth; and provide more availability of nutrients which are necessary for crop productivity.

Global Warming
Organic soils sequester carbon in soil from carbon dioxide in the atmosphere, by increasing the “Cation Exchange Capacity” making organic farming the most available strategy to fight global warming. The research and data that have been compiled for the “Organic Revolution” report and demonstrate that across the United States organic farming practices should be established; they are commercially successful and applicable to any scale operation, from our own backyards to small family market farms to large scale farms consisting of thousands of acres. Organic methods can be adapted to virtually any location, make best use of local inputs, and creatively transform carbon waste streams into valuable products. We are all in this changing climate together. If all of us make changes we can drastically slow global warming and leave our earth for future generations clean and well diversified.
“The nutrition that your fruits and vegetables provide you, is only as good as the nutrition you provide your soil.” — Milo (1992)

I said this publicly on July 17, 1992 at a community garden in Los Angeles. This statement is more important today than it was then, and it will be even more important in another 20 years.

**You Are What You Eat**

We are assured by our politicians and leaders of the agribusiness and food industries, that the American food supply is the highest quality and the most nutritious in the world; that we Americans enjoy the greatest food choice; and that our food is also the cheapest and most convenient. Let’s analyze this.

Our fruits and vegetables are bred not for flavor, but to fit the requirements of a uniform maturity date and adaption to mechanical harvest. They are harvested well before peak ripeness to better withstand transport, an average of 1500 miles to the consumer. Petro-chemicals, Insecticides, fungicides-trick our senses and mask the basic insipidity of mediocre ingredients. The stark contrast between the supermarket tomato and the home garden tomato is proverbial. But have you tried a supermarket egg side by side with a free-range egg? Eaten naturally soured cream from a farm cow, so thick you have to spoon it? Have you found anything that comes close among the pseudo-foods on display in the refrigerated supermarket case? If we think our food supply is top culinary quality, it is either because we have not been exposed to real, traditional foods, or because we're simply not paying attention.

**Home Grown Nutrition**

The national diet has actually been declining in nutrition for decades. It is produced in soils of dwindling fertility, and processed to the last degree, laced with food additives and a residue of crop pesticides, growth hormones, and antibiotics. If “we are what we eat,” our soaring incidence of degenerative disease should come as no surprise. What we should find particularly disturbing is the growing incidence among children of allergies, attention deficit and behavior disorders, obesity, and most shockingly, degenerative conditions we once thought of as illnesses of age such as heart disease, cancer and adult-onset diabetes.

It is true that we enjoy enormous food choices, but those “choices” are largely an illusion. How many people do you know would choose to eat chicken that had soaked in fecal poop? Yet that is chicken from high-speed processing plants utilizing robotic kill lines, i.e., most chicken on offer at the supermarket, fast-food restaurants, and in frozen TV dinners. Would you prefer not to consume powdered milk, based on your reading about its dangers? Its addition to skim and nonfat milk is industry standard, meaning everybody does it, but FDA regulations do not require inclusion of “powdered milk” on the label because, it is industry standard, that is, everybody does it!

More and more processed foods on offer in the supermarket are not foods in the traditional sense at all, but imitations whipped up from an extremely narrow ingredients base, many of which have never before been eaten in the evolution of our species. Truly, we have devised a massive laboratory experiment, and we are the guinea pigs. Consider, for example, a package label which tells us the encased “food” is 98 percent “water, corn syrup, hydrogenated vegetable oil, and high fructose corn syrup.” (The remaining 2 percent of ingredients is the usual incomprehensible list of additives.) What is the food that is being labeled here? It’s impossible to say, isn’t it? None of us has ever sat at a meal and asked, “Would you pass the hydrogenated vegetable oil and high fructose corn syrup, please” and indeed, we would not recognize either ingredient if passed. Reading the label, none of us has a clue what this “food” would look like or how we might use it in a meal. Furthermore, however limited our knowledge of biochemistry, isn’t it clear there is absolutely no nutritional value in the contents of that container, other than sheer raw calories (fats and sugars) to burn in the body’s cells, or convert to fat?

**Study & Read those Labels**

Become a student of supermarket labels, you will find plenty of other foods with the same, or close to the same, base of highly processed ingredients, well, at least our food is cheap, we might observe. It is true that Americans spend a smaller percentage of their income on food than almost any other national population. However, “cheap” turns out to be an illusion as well, when we consider that food is cheap because the true costs of production are “externalized” in terms of environmental pollution, subsidizing of long-distance transport of food, and severe economic exploitation of farmers and agricultural workers. And our “cheap food” turns out to be expensive indeed if, as seems likely, it is implicated in the growing incidence of diet-related illnesses. So in the end, it seems that truly the only positive thing our food supply has to offer is: convenience. That is, the industry offers us not deeply satisfying, nutritious, and wholesome food, but relief from the “drudgery” of food preparation, the opportunity to “fuel the machine” with least expenditure of time in our busy, high-speed, mobile lives.

**The Alternatives**

If we cannot hope to buy better food in the supermarket, what alternatives are open to us? There are two. For many of us, the opportunity exists to produce at least some of our food in our own back yards, probably more than we might at first think possible, and we should buy food grown locally buy small organic farms, that is, directly from the producer, who is personally known to us.

Now, in those terms, taking together foods which you raise in your own backyard and that you buy from a known producer, you have at least made a start on a healthy lifestyle. If all the food on your table is from the industrial food system, please begin thinking how you might introduce some food production into your backyard (or even back deck), or where you might find local sources for wholesome foods. If you’ve already made a start, what is the percentage of your food that comes from one of these sources? 25 percent? 50 percent? Every year you should increase the amount of food on your table which you raise yourself or purchased from local growers, despite a heavy work schedule and a long commute, it is worth the effort. Fresh organic foods are the cornerstone for living a healthy life, if you like meat, buy it from a sustainable organic source, grass fed beef is absolutely wonderful, free range chicken simply is much better for you, feed the soil that feeds your family, that is, if the soil is nutritious, so will the crop that is grown in it, Dr. Earth organic fertilizer Feeds the soil that feeds your family.
PROBIOTIC: Connecting the Soil to Your Life!

We evolved playing in the dirt — then eating it!

Imagine this: a baby is born late in the night, the first screams of life fill the hallways of a cold and sterile hospital; the walls are painted white, stainless steel and plastic fills the room; the smell of disinfectants saturate the air with that unmistakable smell of a hospital; the medical team wears plastic gloves and face guards, everything must be of an antibiotic nature, sterile, so to prevent any contamination to the child. The doctor looks at the at the proud mother and says, “it’s a healthy boy.” The mother, in anticipation, holds her child for the first time, so much joy and pride running through her veins. The doctor says “what are going to name him?” The young mother says, “Joseph,” and the doctor replies, “what a beautiful name” and hands her Joseph for the very first time. The doctor says he is in great health, “let’s start his life out right”. “please breast feed Joseph.” The mother instinctively knows what to do, no lesson is needed. She knows what her child needs and she provides that “first sip of life” for her precious child. In this cold and sterile environment, full of antibiotics, full of sterilizers, the doctor knows that the child will need to be inoculated by his mother. You see, mother’s milk is more than just milk that contains protein or calcium; it is loaded with Lactobacillus acidophilus. This is our first inoculant. We are administered probiotics upon entry into this world. A coincidence? Is it simply a part of our evolutionary success or God’s creation? It does not matter what you believe. This I do know: it is needed to sustain health from the very start of our life.

Now imagine this, Joseph is now 8 months old. He is an explorer by nature. He crawls from the kitchen to the living room several times a day, his older brothers and sisters are playing outside, they come in and out of the house 20 times a day. The floor is full of soil and other organic debris they bring in on their shoes. Joseph wants to explore and keeps crawling and he also loves to put his hands in his mouth after crawling, he was ingesting a wide variety of microbes that are ubiquitous in garden soils and around our home. Joseph, not knowing what he is doing is simply inoculating his stomach with probiotics, which are needed to protect him as he develops into a mature healthy adult. As Joseph grows, he will be able, with the help of probiotics, to fight off disease and have a variety of “beneficial microorganisms” that call his mouth and digestive system home. A sterile environment is the farthest thing from what we humans need to sustain life on this wonderfully beautiful bio-diverse planet.

Joseph is now 14 years old. He has been given the job of weeding the garden in preparation for the family’s vegetable patch. It’s early spring, the soil is warm and so is the weather. It’s around lunch time and his mother brings him a sandwich along with a bag of potato chips and a juice for lunch. Like most teenagers, Joseph does not wash his hands and eats his sandwich quickly with soil under his fingernails and all over his hands. He freely eats the chips out of the bag, licking his fingers to taste every bit of salt that he might have missed. Unknowingly, he has just further inoculated his body once again with more probiotics. This is the most natural thing that Joseph has just done. All kids do it and need it build a bio-diverse set of microflora in our intestines.

Garden soils and around our home. Joseph, after crawling, he was ingesting a wide variety of microbes that are ubiquitous in garden soils and around our home. Joseph, not knowing what he is doing is simply inoculating his stomach with probiotics, which are needed to protect him as he develops into a mature healthy adult. As Joseph grows, he will be able, with the help of probiotics, to fight off disease and have a variety of “beneficial microorganisms” that call his mouth and digestive system home. A sterile environment is the farthest thing from what we humans need to sustain life on this wonderfully beautiful bio-diverse planet.

Joseph is now 14 years old. He has been given the job of weeding the garden in preparation for the family’s vegetable patch. It’s early spring, the soil is warm and so is the weather. It’s around lunch time and his mother brings him a sandwich along with a bag of potato chips and a juice for lunch. Like most teenagers, Joseph does not wash his hands and eats his sandwich quickly with soil under his fingernails and all over his hands. He freely eats the chips out of the bag, licking his fingers to taste every bit of salt that he might have missed. Unknowingly, he has just further inoculated his body once again with more probiotics. This is the most natural thing that Joseph has just done. All kids do it and need it build a bio-diverse set of microflora in our intestines.

Soil, plants, animals and our living bodies all come into contact with thousands and even millions of microbes daily. Just as Joseph needs microbes to keep him healthy, so does the living soil. Probiotic microbes in the soil keep it healthy and alive. Probiotics breaks down the organic material that we add to the soil in the form of organic amendments or fertilizers as well as a fallen tree branch or earthworms that have died and begun to decompose, the microbes are doing their job breaking-down organic materials so all life on our planet can benefit from their hard work. Energy is harnessed by and from microbes to further perpetuate life. All life, from plants to mammals all need microbes for our basic survival and energy. Without the digestive enzymes that microbes produce, much of the needed nutrients that we consume would never be assimilated by our bodies and would simply pass through our gut without any benefit or absorbed energy. Similarly, the microbes prepare bio-available nutrients in the soil for plants to absorb. If nutrients are in an “un-available” form, locked-up by Mother Nature, then our plants would not grow either.

What I know for sure: Life is about energy exchange and probiotics facilitate that exchange. They share their energy with all life that is higher on the food chain. In order for us to live a full life abundant with energy, we need to create an environment that is healthy and full of bio-diversity. I ingest a probiotic blend of microbes everyday with my green juice and I know it keeps me healthy and provides me the ability to fight off diseases and absorb the nutrients from the food I consume daily. I also know for sure that my backyard needs probiotics as much as I do to keep it healthy and alive. I do not use “sterile” chemical fertilizers, insecticides or herbicides that are designed to kill all life. I take a proactive method in my garden, like the one Joseph took throughout his life, like the one we all have taken throughout our lives.

I have great faith in 2010 as being the year of “life” - a year of probiotics and renewed hope that we consumers are shying away from chemicals in our diets, homes and gardens. The nature to play in the garden without fear of chemical contamination is great, and opportunities to fill your life with clean and healthy choices are here. I have formulated my entire company on living products with life as the very basic function of my beliefs. I invented probiotic organic lawn and garden products in 1992, way before it was even a word that many had used. Please join me in creating a healthy life in your garden that Joseph and all other kids, pets and us adults can feel great about playing in.

To me, all of these chemical potions that we are exposed to are at the heart of anti-life, but they are sold to us with misleading pictures that suggest, for-life, beautiful green gardens that seem safe for us to play and grow in. There’s something about 2010 that makes me really hopeful. It’s here for the progressive thinker, a year that’s ever evolving, from our approaches of soil management to our garden plant care, we know our garden nurtures us, the very meaning of probiotic literally means for-life!

Milo
Dr. Earth Founder & Formulator

Dr. Earth builds
Why do we use SEAWEED EXTRACT & Humic Acid

Why Seaweed Extract? Seaweed extracts have been proven to accelerate the health and growth of plants. Seaweed stimulates beneficial soil microbial activity, particularly in the pockets of soil around the feeder roots which results in a substantially larger root mass. This root mass, or “rhizosphere” is also where Mycorrhizae make their home. One benefit of increased rhizosphere activity is to improve a plant’s ability to form healthier, stronger roots. Another is to enhance the plant’s own natural ability to ward off disease and pests. For example, it has been observed that aphids and other types of sap feeding insects generally avoid plants treated with seaweed. Yet another benefit is to make more soil nutrients available to the plant. The rhizosphere forms a nutrient food bank for the plant, from which it is able to draw on in times of stress. Finally, due to the increased mass and depth of the roots from seaweed’s influence, the plant is better able to absorb moisture and nutrients from the soil, increasing drought tolerance and the general effectiveness of applied fertilizers. Another action seaweed has on roots in the rhizosphere is due again to the increased mass and depth of the roots. The overall stronger root structure may help plants physically resist certain types of root diseases.

How does Seaweed Extract work? Seaweed enhances photosynthesis via increasing a plant’s chlorophyll levels. Chlorophyll is the compound giving plants their green color. By increasing chlorophyll the plant is better able to convert sunshine into its own energy for growth. Pure seaweed extract contains a complex range of biological stimulants, nutrients, and carbohydrates. So far, scientists have confirmed more than 70 different nutrients in seaweed. Seaweed extract is classified as a “bio-stimulant.”

Seaweed extracts contain natural plant growth regulators (PGRs), which control the growth and structural development of plants. The major plant growth regulators are *Gibberellins, **Cytokinins and ***Auxins. These PGRs occur in very small quantities in seaweed and are usually measured in parts per million. It only takes a tiny amount of these powerful compounds to stimulate healthy plant growth.

*Gibberellins are plant hormones regulating several processes including internode elongation and cell enlargement.

**Cytokinins are hormones that promote growth via rapidly speeding up the process of cell division.

***Auxins, also hormones, occur in the roots and stems during cell division. They move to areas of cellular elongation were they allow the walls of cells to stretch.

How does Seaweed Extract benefit plants?
• Improved cold tolerance
• Disease resistance
• Provides abundant micronutrients
• Provides growth hormones
• Microbial stimulation

These are just a few of the many benefits derived from seaweed extract. All Dr. Earth products contain an abundance of seaweed extract to increase healthy plant growth and performance.

Why Humic Acid? Humic Acid is a bio-stimulant derived from Leonardite shale and is among the most concentrated organic material available. Elemental analysis of humic acid has shown it to consist mostly of carbon and oxygen (about 50% and 40% respectively). It also contains hydrogen (about 5%), Nitrogen (about 3%), Phosphorous and Sulfur (both less than 1%). Humic acid is a complex of closely related complex molecules, with the exact composition varying somewhat from one source to another. Dr. Earth sources its humic acid from deposits in North Dakota derived entirely from the ancient trees and vegetation of North America’s tropical carboniferous period millions of years ago. Over the ages, the vegetation underwent compaction and heating. It slowly carbonized and became coal. This compaction squeezed out the organic acids and esters (organic salts) present in the vegetation forming a liquid pool above the coal bed. This pool aged, dried, and eventually became Leonardite shale, very rich in the beneficial plant food known as humic acid.

How does Humic Acid work? Humic acid helps to bind cations (positively charged elements) in the soil environment. The ability of humic acid to chelate positively charged multivalent ions (Mg++, Ca++, Fe++) and other valuable “trace minerals”) is probably its most important role in garden soil. By chelating ions, nutrient uptake is facilitated by several mechanisms. One of many benefits of humic acid is its ability to prevent ion precipitation (leaching of valuable nutrients through the soil.) Another is the direct and positive influence on increased nutrient solubility. Plants can only absorb nutrients if they are dissolved in water. And yet another benefit humic acid has is its ability to help detoxify the soil from heavy metals. Research has shown that heavy metals in soils can be “locked up” and made unavailable to plant roots by the addition of humic acid.

How does Humic Acid benefit your plants? Humic acid increases nutrient uptake, drought tolerance and seed germination. The microbial activity in the soil is increased making it an excellent root stimulator. Humic acid also increases the availability of soil nutrients and those in applied fertilizers. It helps aerate the soil from the inside, tends to lower the pH of alkaline soils toward neutral, and can flush high levels of salts out of the root zone, all of which will help to promote better plant health and growth. Dr. Earth fertilizers contain an abundance of humic acids.
## Information on PLANT Nutrients

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Nitrogen (N)** | The most used nutrient. Stimulates dark green vegetative growth. Involved with amino acids, protein, chlorophyll and genetic material. Nitrogen is made available by soil microbes.  
**Deficiency:** Older leaves are yellow. New leaves are stunted.  
**Excess:** Plant leaves burn with elongated growth, bud drop, poor fruit and flower production. |
| **Phosphorus (P)** | Needed for seed, root, flower and fruit growth. Essential for genetic material, membrane formation and energy transfer. Soil pH should be between 6.0-7.0.  
**Deficiency:** Reddish to purple leaves. Stunted growth. Dark green leaves with tip burn. Poor fruit, flower and root set.  
**Excess:** Restricts the availability of Zinc, Manganese & Iron. |
| **Potassium (K)** | Improves overall plant vigor and disease resistance. Encourages root growth and fruit quality. Used for carbohydrate metabolism and cell division. Required for stomata guard cells, regulates absorption of Calcium, Sodium and Nitrogen. Helps roots withstand compacted soils.  
**Deficiency:** Plants exhibit chlorosis (loss of green color) along the leaf margins or tips starting with the bottom leaves and progressing up the plant.  
**Excess:** Restricts availability of Magnesium and Boron. |
| **Calcium (Ca)** | Stimulates root growth. Promotes firm, thick stems. Helps to correct soil acidity. Needed for Nitrogen uptake and protein synthesis. Must be present for cell walls, also plays a role in enzyme activation and cell reproduction.  
**Deficiency:** Symptoms appear in the meristem regions (new growth) of leaves, stems, buds and roots. Younger leaves are affected first and are usually deformed. In extreme cases, the growing tips die. Roots on calcium-deficient plants are short and stubby. In tomatoes and peppers, a black leathery appearance develops on the blossom end of the fruit (a disorder called blossom end rot).  
**Excess:** Restricts availability of Magnesium, Potassium, Iron, Zinc, Phosphorus and Boron. |
| **Magnesium (Mg)** | Essential for chlorophyll production. Necessary for Phosphorus metabolism and enzyme activation. Enhances the production of oils and fats. Facilitates the translocation of carbohydrates (sugars and starches). Some plants are heavy users such as citrus and roses.  
**Deficiency:** The predominant symptom is interveinal chlorosis (dark green veins with yellow areas between the veins). The bottom leaves are always affected first.  
**Excess:** Restricts availability of Potassium, Zinc, Manganese and Boron. |
| **Sulfur (S)** | Stimulates plant growth and seed formation. An essential element that is used in amino acids, proteins and several vitamins. Will lower the pH in the soil.  
**Deficiency:** Characterized by stunted growth, delayed maturity and general yellowing of plants. Yellowed plants are also characteristic of Nitrogen deficiency. However, unlike Nitrogen deficiency which begins in the older leaves and progresses up the plant, sulfur deficiency symptoms begin in the young, upper leaves first. Frequently misdiagnosed as nitrogen deficiency.  
**Excess:** Can create acidic pH that can be toxic. |
| **Iron (Fe)** | Promotes green color. Essential for formation of chlorophyll. Constituent of various enzymes and proteins. Restricted by pH and lime. Excess will restrict Zinc, Magnesium and Calcium.  
**Deficiency:** Interverinal chlorosis of young leaves and twig die back.  
**Excess:** Restricts availability of Zinc and Manganese. |
| **Manganese (Mn)** | Promotes plant maturity. Acts as an enzyme activator for Nitrogen assimilation. It is essential for the manufacture of chlorophyll. Low plant Manganese, therefore, reduces the chlorophyll content causing leaves to turn yellow (chlorosis).  
**Deficiency:** Typically characterized by interveinal chlorosis (dark green veins with yellow discoloration between the veins), but symptoms vary depending on the plant.  
**Excess:** Iron is restricted. |
| **Zinc (Zn)** | Part of the enzyme systems which regulate plant growth. Essential for the transformation of carbohydrates. Regulates consumption of sugar.  
**Deficiency:** The first obvious symptom of deficiency is interveinal chlorosis of the upper (youngest) leaves. Afterwards, shoot growth slows down.  
**Excess:** Restricts availability of Iron, Copper and Manganese. |
| **Copper (Cu)** | Important for reproductive growth. Catalyst for enzyme and chlorophyll synthesis. Aids in root metabolism and helps in the utilization of proteins.  
**Deficiency:** Symptoms generally appear on young plants. The first symptoms are yellowing of the youngest leaves accompanied by slightly stunted growth. In extreme cases, leaves become shrivelled, twisted, broken, ragged and die. |
| **Boron (B)** | Essential for seed, root and fruit development. Aids in production and transport of sugar and starch. Helps in the use of nutrients and regulates other nutrients.  
**Deficiency:** The first visible symptom of deficiency is death of the growing tips. This disorder is generally followed by growth of lateral shoots, which may also be deformed or die. Other symptoms include stunted roots, failure to set flowers. |
| **Molybdenum (Mo)** | Required for symbiotic Nitrogen fixation (nodulation) by legumes and reduction of nitrates for protein synthesis.  
**Deficiency:** Symptoms are very similar to those of Nitrogen: pale-green to yellow leaves; yellow spots on leaves; marginal chlorosis along side and tip of blade; thick cupped leaves. The marginal chlorosis exhibited by some plants looks similar to Potassium deficiency. |
| **Chlorine (Cl)** | Aids plant metabolism. Chlorine is naturally found in the soil.  
**Deficiency:** Reduced growth; stubby roots; interveinal chlorosis; nonsucculent tissue (in leafy vegetables). |

---

**Dr. Earth**
Basic requirements for a successful garden are highly visible, such as sunlight, water and organic amendments. But you cannot see pH. It is a hidden abstraction buried in the soil. Understanding soil pH is essential for successful gardening. Proper pH promotes plant growth because essential nutrients are more available. This critical consideration is often neglected. The effects of improper pH are often highly apparent by the poor growth of plants. Many times gardeners will diagnose a plant as being deficient in nitrogen, iron, or magnesium and will add more nutrients to the soil without checking soil pH first. Improvement is often not achieved because soil pH was actually the limiting factor.

“Learn your soil’s pH; it’s worth getting it right.”
— Dennis Kuga
Owner, Sunset Boulevard Nursery

Soil pH Basics
Think of pH as simply a way to measure a condition in a common way, a lot like a ruler. Acidity and alkalinity are measured in pH units, which are expressed in a logarithmic scale from 0 to 14. Technically, acidity is associated with an increase in hydrogen ions, and alkalinity is with an increase of hydroxyl ions. The differences affect how molecules react and interact in the soil.

A pH of 7.0, like pure water, is neutral because the concentrations of hydrogen ions and hydroxyl ions are the same. As the pH number goes lower than 7, the hydrogen ions increase and the soil becomes more acidic; as the pH number goes higher than 7, the concentration of hydroxyl ions increases and the soil becomes more alkaline.

Most garden plants grow best in a slightly acidic soil, with a pH between 6.0 to 7.0. Experiments have demonstrated that tomato plants grown at pH 4.8 are undersized, but normal at pH 6.0. Corn yields are 66 percent lower at pH 4.8 than they are at pH 6.8. A change by one number on the pH scale (e.g. from 5 to 6) makes a big difference because the ion concentrations actually change by factors of 10. A pH of 6 is 10 times more acidic than a pH of 7 and pH of 5 is 100 times more acidic than a pH of 7. Acid soils with typical pH's ranging from pH 4 to 6 are common in the Eastern U.S. where rain leaches out calcium, and the underlying rock is rich in magnesium. Conversely, alkaline soils in the dry Southern states arise from calcium-rich rock and range from pH 7 to 9.

pH Affects Nutrient Uptake
A nutrient feast may wait in the garden soil but plant roots may not be able to use it if the soil pH is not appropriate. The essential nutrient Phosphorous provides a good example.

Plants need phosphorous to manufacture DNA, develop membranes, and to produce energy. Phosphorous also participates in photosynthesis and sugar formation. But most of the phosphorous in the soil exists in insoluble forms that are unavailable to plants. Phosphorous must dissolve in water in solution in the form of orthophosphate before plants can absorb it. At very low pH levels, phosphorous is tightly bound to iron and aluminum in the soil. At high pH levels the phosphorous combines in insoluble forms with calcium and magnesium. But there is a pH window between 6 and 7 where the mineral grip on phosphorous loosens and more orthophosphate dissolves. Even the pH of orthophosphate in solution can affect its uptake. Around pH 6.0, orthophosphate has one negative charge, the form favored for root absorption. But above pH 7.5, most of the orthophosphate has two negative charges and is absorbed more slowly.

Because of the pH effect, adding phosphorous to a garden can be tricky. An application of three pounds doesn’t mean three pounds will be available. Adding a fertilizer such as super phosphate temporarily makes more orthophosphate available, but most of the phosphorous ultimately turns to an insoluble form.

The role of pH is less dramatic with other nutrients. Nitrogen, usually taken up by roots as nitrate, is very soluble in the soil solution. Its uptake by roots is not as influenced by soil pH. Likewise with potassium, which clings tightly to soil particles in layers of crystalline sandwiches and does not leach rapidly like nitrate. Plants also require minute amounts of other minerals, including iron and zinc. Although the ideal pH for these elements varies, a pH of 6.5 is usually adequate to make sufficient amounts available. Iron is insoluble in alkaline soils and thereby unavailable, often leading to poor growth and yellow leaves. The first step toward achieving proper soil pH is to measure the pH in the garden soil. Do-it-yourself kits provide approximate pH values, and they’re easy to use. More exact results come from agricultural experiment stations or private labs. If it turns out the soil is too alkaline, the pH can be adjusted to a lower value by mixing in organic materials such as compost, peat moss or soil sulfur. Clay soils often demand more of these amendments.

The low pH of acid soils can be counteracted by mixing in crushed limestone, dolomite or even wood ash. The amount needed depends on the pH change and the soil texture. A clearer understanding of planting requirements is better achieved when you know your soil pH. Knowledge equals success.
The Healing Power of Herbs

Our history of using herbal medicines far predates modern medical doctors. For thousands of years herbal-based healing was common practice. Asians were the best documenters of herbal medicine, from the near east (Lebanon-Phoenicians) to the Far East (Chinese) have used herbs to heal and maintain healthy living throughout history.

Modern medicine is based upon the principles of control over the body and nature. Herbal plants have been used for thousands of years by billions of people all over the world. The efficacy of herbs is so vast by so many people, what is better proof? The experience of billions over the centuries or the clinical studies of a few thousand? Even today, herbal healing is the primary medicine for up to 80% of the world population. Cultures separated by time and/or space frequently have very similar explanations for what an herb is good for.

Together with nutrient rich organic foods and supplements, herbs can help keep us healthy in our busy 21st century lives. Modern medicine has provided some advantages over ancient herbal medicine, yet all a person needs to do is read the fine print and the contraindication sheet that comes with every prescription drug. Remember, pharmaceutical drugs have only been around for about a hundred years. Know that the body does not have drug deficiencies, yet it does develop many nutritional ones.

Herbs are all about helping to balance the body, building defenses and adapting to stress. We have a craving for the exotic and unusual, while we frequently overlook valuable healing remedies that are right in our own backyards.

Ordinary Home Grown Cures

You can grow your herbs and healing plants in a pot on the patio, in a raised bed or anywhere in the in the garden. Herbs have few insect pests so it’s easy to grow them without chemical sprays. If “you are what you eat,” you definitely want to eat healthy herbs grown in rich soil fed with micronutrient rich Dr. Earth fertilizer. Look at this way, feed the soil the vitamins, the plants absorb the nutrients, you then consume the healthy plants, it’s that simple!

Aloe Vera. I consider this plant the fountain of youth, I drink its juice every morning. I use it on my face and neck after I shave, it has been revered by ancients as the plant of immortality. Aloe improves digestion, immunity, support insulin sensitivity and helps the absorption of vitamins and minerals. Fillet the center pulp and eat it pure.

Basil is a large family of plants. It’s soothing to the stomach, mildly sedative, soothing expectorant, aromatic, helps nausea, motion sickness and relieves nervousness.

Burdock has a long and storied history as a blood cleanser, can boost immune function, stimulates digestion and the liver, and can work wonders for virtually all skin conditions.

Catnip aids digestion, calms nerves, and lowers fever, restlessness, sleeplessness and tension.

Cayenne is warming to the heart, aids blood circulation, the nervous system and mucous membranes, quickens the pulse and metabolism. Topically it helps relieve joint pain.

Cilantro helps to eliminate the heavy metal build up of mercury and lead from the bones and tissue in the body.

Dandelion has a long history of use as a medicine and nutritious food. I drink about 6 ounces every morning with my green juice. It stimulates digestion and the liver, supports the kidneys and is a mild diuretic. Do not use a weed killer on your lawn, pick it and eat it!

Fennel is a gentle liver and bile stimulant. It provides gallbladder and digestive support and relieves indigestion, flatulence and fullness after meals. It relieves coughs and colds, and also enhances the production of breast milk.

Garlic. I can knock-down a cold within 24 hours after I make my famous garlic and onion soup with freshly squeezed lemon juice. It stimulates metabolism, acts as an antiseptic, reduces cholesterol, inhibits platelet aggregation (“thins the blood”), prevents heart disease and reduces high blood pressure.

Lavender is a pleasant aromatic, mild sedative, nerve tonic and anti-depressant. Helps to relieve anxiety, worry, depression, sleeplessness, nervous stomach, nausea and motion sickness. Make sure it receives full sun all day.

Mint will thrive in shady or sunny areas. I love it in my juice, I drink about an ounce daily and I chop some to sprinkle on my tabouleh salad. My grandfather Nicholas Shammas used to swear that it could cure a hang over... along with a shot of ouzo! Greek orthodox remedy!!! I like it in my tea when I have an upset stomach; it really works. My mom Jeannette gave it to the entire family when we got sick.

Mustard Greens increase blood circulation in the areas where a body dressing is applied. Increased blood flow to inflamed areas will quicken the natural healing process. Also used for pneumonia, bronchitis, and excessive build up of phlegm due to colds or flu.

Oregano stimulates sluggish circulation, helps to treat cold and flu symptoms. Topically it aids achy joints and muscles.

Parsley has lots of nutritional benefits. I drink a couple of ounces in my green juice every morning. It is a very healthy source of chlorophyll, B vitamins and potassium, with broad healing activity; a strengthening diuretic and specific for liver, kidney and bladder problems; an effective gallstone dissolving agent, digestive aid, blood tonic, immune enhancer and nervous system support.

Sorrel has high levels of vitamins A and C. It also has moderate levels of potassium, calcium, and magnesium. Learn to love it in small doses in the beginning. It has natural laxative properties that make consuming too much sorrel a trial for the tummy.

Stevia has many health benefits. It provides a natural, good-tasting sweetener for people who are diabetic and for people who want to lose or control their weight. Also, some studies have shown that it contains substances that inhibit tooth decay and plaque formation, increases mental alertness, decreases fatigue, improves digestion, regulates blood pressure and eases hypoglycemia.

Tarragon is considered a friend to the head, heart and liver. Russian Tarragon is eaten in Persia to induce appetite. The root of Tarragon was formerly used to cure toothaches.

Thyme is commonly used as an antiseptic, antispasmodic, tonic and carminative (helps with gas). Employed with success as a safe cure for whooping cough, as well as in cases of catarh (thick mucous) and sore throat, Thyme tea will arrest gastric fermentation. It is useful in cases of wind spasms and colic, and will assist in promoting perspiration at the commencement of a cold or in fever.

All of these plants are easy to grow as long as you give them the basics of sun and healthy garden soil. Don’t look at your herbs as decorative, use them often and don’t be timid. You can’t really make a mistake in cooking with herbs. Combine them in your foods to leave out salt. Use Dr. Earth organic fertilizer to feed the soil with plenty of micronutrients that will feed your herbs, which will ultimately help to nourish and cleanse your body. Nutrients are needed for the human body to stay alive. Take action to feel better and you are on the path to wellness. Health is a lifestyle... strive to be your best!

This article is for educational purposes only, it is not intended to diagnose or prescribe any cures of medical conditions.
When it comes to fertilizers and plant health, cutting costs on an incomplete product is not the most sensible approach, but often easy to do. One segment of a budget might be to purchase a fertilizer with nitrogen, phosphorous and potassium only. This might save money in the short term but will have long term effects on the soil and overall plant health. The likely result is yield loss from an out of balance approach to meeting plants nutrients needs. Helping gardeners to better understand the importance of micronutrients and applying a complete fertilizer is always my goal.

I encourage gardeners to look hard at their micronutrient needs and explain that micronutrients are the catalyst in the soil, making other nutrients available. The main nutrients are not available without them.

Study Your Soil
This is the time to really study your soil, test it, track what you are applying and consider buying a nutrient test kit along with a pH meter. Using tests to measure the nutrients in your soil is always a good idea, but not always necessary if you are feeding with a complete fertilizer, although knowing your soils pH is always a good idea as the pH will determine the availability of many nutrients. You can read more detailed information about soil pH, the article is titled “Plant pH Preference” posted on our website or in this gardening guide for more specific details. To get the best yields and optimum plant health, it is critical to keep soil fertility in balance and not cut back on nutrients that may be limiting optimum plant health. I believe even commercial growers who are on a strict budget realize they need micronutrients as well as N, P and K; years ago they would have just cut the micros out.

Proven Results
Research and development have played important roles in understanding the importance of micronutrients. This is especially true of sulfur, once a common soil ingredient, thanks in part to atmospheric sulfur deposited by rainfall. As sulfur pollution has been reduced, indirect and direct yield response to applied sulfur has increased, especially over the past four years.

We have seen that without sulfur in the soil, nitrogen losses can be as great as 30 percent, when compared to a NPK only fertilizer, Sulfur also plays a critical role in the formation of amino acids, proteins and in chlorophyll production. We’ve also seen dramatic increases in overall plant health. Once we conducted field tests using an NPK fertilizer against Dr. Earth Blended Fertilizers the results where very clear, the micronutrient needs of plants were met with Dr. Earth.

The Natural Cycle
The base ingredient for Dr. Earth blended fertilizers is fish bone meal, this ingredient is full of, not only primary nutrients, but also packed full of micronutrients,(sort of like a multi-vitamin) this is because the ocean is the lowest part of the earth, and all nutrients erode into the ocean, starting with simple plankton to higher aquatic plant life, they absorb these rich micronutrients, fish consume aquatic plants, larger fish consume smaller fish, thus transferring the eroded micronutrients from microscopic elements to large fish through this natural cycle, this is why I insist on using fish bone meal as our base ingredient. Fish bone meal is also used in pet foods, and in commercial fisheries to help maintain their needed nutrient requirements. This is also why eating a diet high in wild caught fish is healthy for us, far better than consuming meats that have been raised unsustainably in feed lots, fed a scientific diet, injected with hormones and anti-biotics and not allowed to move freely so they become fat quickly, besides being inhumane and a practice I do not support, the meat is less nutritious.

Ocean Rich Nutrients
Fish bone meal is not the only source of micronutrients that I rely on to formulate a complete fertilizer, I also depend on fish meal, an ingredient full of protein that will break-down and become a slow source of nitrogen. I also rely on cold-processed kelp meal and the very rich seaweed extract which contains over 70 trace minerals, along with the important growth hormones, cytokinins, auxins and gibberillins which stimulate cell division, cell elongation, internode elongation and cell enlargement. Kelp and seaweed also contain 21 amino acids, enzymes, simple and complex carbohydrates; they also enhance seed germination and increase the uptake of nutrients, both full of an abundance of micronutrients, and potassium, an element needed for overall plant health and stress relief.

Research & Balance
I continue to research with different crops, micronutrient blends and crop mixes. Dr. Earth fertilizers contain a naturally high percentage of micronutrients such as sulfur, and zinc. Zinc is critically important to plant health, but plants typically need very little of this nutrient. Independent research indicates that while you can see an impact on starch levels from sulfur alone, it is even greater with zinc in the formulation, a fine balance is required, for example, too much iron can interact with other micronutrients, and a high level will tie up needed manganese. Getting the balance right is the fundamental key to the efficacy of Dr. Earth products.

Micronutrients are very important for many different situations. Replenishing depleted soil from over farming, increase the effectiveness of organic fertilizer, increased crop production, higher quality of produce, healthier fruits and vegetables for animal and human consumption, support the viability of beneficial soil microbes and mycorrhizae, growing the “good” or “healthy” bacteria for human and animal health, micronutrient rich Dr. Earth can help you save money, reduce fertilizer costs, save on energy use and decrease your carbon footprint. Applying more does not always equate to more, getting the balance right is the key to all successful situations, taking one multi-vitamin is good for you, taking the whole bottle can have adverse effects. Balance!
Diversity is the KEY to Abundance

In the natural world, diversity is the perfect model for sustainable ecosystems. Diversity is a major factor in preventing pest and disease build-up because of the way in which organisms interact. When any one species becomes dominant in an area, its predators will move in to take advantage of the bounty. Eventually, they will reduce the numbers of the dominant species, restoring the balance of Nature.

In the past, farmers relied on natural methods of farming because chemicals were not available to them. Now it is possible to grow crops as monocultures, because the use of pesticides has given us a way of controlling competition. This unnatural form of agriculture has created a range of unintended problems. We can learn from these mistakes by planting a diverse range of species in our gardens, thus naturally reducing pests and diseases.

Advantages of Heirlooms:
Heirloom plants are varieties that have been handed down through decades or even centuries from farmer to farmer and gardener to gardener. For roughly 12,000 years, human civilization has been based on agriculture and horticulture, during this time thousands of genetically unique strains of fruit and vegetables have been selected and bred by farmers and gardeners. They represent a genetic heritage that is disappearing from commercial horticulture, where large-scale factory-type production demands that plants conform to strict guidelines to fit into mechanized systems.

By contrast, heirloom varieties are a celebration of genetic diversity whose greatest strength is the fact that there are individuals within each crop that mature a bit earlier or are more resistant to pests and diseases. Such characteristics are a tremendous advantage in the organic garden where the produce does not have to fit into a narrow commercial window.

Fortunately, there are many gardeners who recognize the value of maintaining genetic diversity for future generations. Consequently, around the world various non-profit organizations have been formed to store seed or to help gardeners and farmers form networks that enable them to swap seed and vegetative material of heirloom plant varieties.

The vital role of herbs & flowers:
Introducing a wide range of herbs and flowers into your organic garden will have all sorts of benefits. They will help attract an increased range of birds, insects, lizards, and other animals. Insects and birds will act as pollinators for your fruit and vegetables resulting in increased yields. Many of these creatures will also help to control pests. Inevitably, there will also be some negative consequences, such as birds feeding on fruit, but the diversity you create will be your insurance policy in that if one food crop is decimated there will be a host of others that can replace it.

Herbs often have aromatic oils that give their foliage and flowers as characteristic perfume. Herbs such as pyrethrum and garlic can be used to create organic remedies for pest and disease problems. In addition, such plants release oils into the air and soil that surrounds them, thereby helping to repel pests from your garden naturally. I have been a horticulturist for over 30 years and I have grown thousands of different plants, both commercially and personally, diversification is a great insurance policy in everyone’s garden.

How Dr. Earth Inc. FERTILIZERS Work

The nutrient content in each Dr. Earth product is formulated to provide the perfect nutrient ratio based on a plant’s needs. This ratio is noted on each box and is referred to as the NPK ratio. Dr. Earth blended fertilizers derive Nitrogen (N) from fish meal, cottonseed meal, alfalfa meal, fish bone meal and feather meal. Phosphorous (P) is derived from fish bone meal, cottonseed meal, alfalfa meal and soft rock phosphate. Potassium (K) comes from kelp meal, cottonseed meal, alfalfa meal and mined potassium sulphate. These nutrients are released quickly, steadily and efficiently as the beneficial soil microbes included in the product digest the ingredients. Dr. Earth works within the natural cycle of growth, feeding plants steadily, the way nature intended.

Our fertilizer blends include not only the nutrients your plants need but also ProBiotic® technology, seven champion strains of beneficial soil microbes plus Ecto & Endo-Mycorrhizae to provide a wide range of growth enhancing functions. These beneficial soil microbes help break down organic material, making the nutrients more readily available for absorption by the plant roots. This superior ability of Dr. Earth fertilizer blends to thoroughly break down organic materials results in better plant health with fewer applications. Other microbial benefits include a decrease in disease-causing soil pathogens, the degrading of complex sugars and Nitrogen fixation in the soil. Also included in our blends is a special fungus extract which provides additional enzymes to help digest organic materials, seaweed extract containing multiple trace minerals and naturally-occurring growth hormones known as auxins, gibberellins and cytokinins.

A vital mechanism for nutrient transfer in plants lies in the bacterial process. The bacteria’s ability to break down the organic fertilizer into plant nutrients, store and release them as needed increases plant performance. Increased microbial activity in the soil also helps to make plants more resistant to diseases, drought, frost and insects while contributing to optimum plant growth and health. Dr. Earth has also included Ecto & Endo Mycorrhizae to all the blended fertilizers. These specialized soil fungi develop a symbiotic relationship with the roots of most lawn and garden plants and trees, enhancing nutrient and water absorption from the soil environment. Finally, as the organic material is broken down, humus is created. Humus increases the soil’s ability to absorb and retain water, reducing fertilizer loss caused by wind and water erosion. Humus helps to build a friable, workable and productive soil that becomes home to an abundance of beneficial macro and micro soil organisms. Dr. Earth feeds the soil that feeds your plants!
**Dr. Earth**

**ORGANIC FERTILIZER Blends**

**Beautiful Bulbs!**

Organic 1: Bulb Food

- Enriched with: Alaskan fish bone meal, valley-grown alfalfa meal, colloidal soft rock phosphate, high-country feather meal naturally mined potassium sulfate blended with 100% pure love!!!

- **Uses:**
  - All bulbs
  - Tubers
  - Corms
  - Rhizomes

- **Benefits:**
  - 100% natural and organic
  - Better, faster results
  - Bigger, more abundant blooms naturally
  - Loosens and improves soil structure
  - Formulated to feed both short and long term
  - People and pet safe

**Organic 2: Starter Fertilizer**

- Enriched with: valley-grown alfalfa meal, Alaskan fish bone meal, high-country feather meal, naturally mined potassium sulfate, colloidal soft rock phosphate, MicroActive™ concentrated seaweed extract, ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

- **Uses:**
  - All vegetables
  - Trees
  - Shrubs
  - All early planting stages
  - Drought tolerant plants (e.g. cactus and succulents)
  - Plants which require a low N-P-K
  - All transplants

- **Benefits:**
  - 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
  - Exceptional results because nutrients are released quickly
  - Feeds for several months
  - Safe for all tender transplants (e.g. pony packs and 4" containers)
  - Increases transplant success and reduces transplant stress
  - Eight select strains of ecto and endo mycorrhizae contribute to drought-tolerance, enhanced nutrient availability and increased plant performance
  - Eliminates the need for chemical fertilizers when used as directed

**Available in:** 4, 12, 25 and 50lb sizes

---

**The only Top 10 that matter!**

It is with great pleasure that Dr. Earth presents the only ProBiotic® top ten organic fertilizers in the country. Dr. Earth's advanced technology with its inclusion of fish bone meal, seaweed extract, beneficial soil bacteria & beneficial soil fungi (mycorrhizae) has proven to perform consistently in every planting application. We proved that organic fertilizers can work quickly and still have a long lifespan in the soil, we invented ProBiotic® and we proved to mainstream gardeners that organics work better than synthetics! Dr. Earth fertilizers achieve superior results every time. We are the organic lifestyle company that gets results.
Organic 3: Rose & Flower Fertilizer

5 – 7 – 2
Enriched with: clean cottonseed meal, Alaskan fish bone meal, Alaskan fish meal, valley-grown alfalfa meal, Norwegian cold water kelp meal, naturally mined potassium sulfate, colloidal soft rock phosphate, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

Uses:
• All roses (including bare root)
• Flowering shrubs
• Ornamental trees
• Top dress roses
• Pre-spring dressing
• Feed all flowers

Benefits:
• 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals.
• Superior buds and blooms
• Exceptional results because nutrients are released quickly
• Feeds for several months
• More natural available phosphorous
• Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance.
• Eliminates need for chemical fertilizers when used as directed.

Organic 4: Rhododendron, Azalea & Camellia Fertilizer

4 – 5 – 4
Enriched with: clean cottonseed meal, Alaskan fish bone meal, valley-grown alfalfa meal, high-country feather meal, naturally mined potassium sulfate, Norwegian cold water kelp meal, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

Uses:
• Rhododendrons
• Azaleas
• Camellias
• Hydrangeas
• Evergreens
• Blueberries
• Strawberries
• All acid lovers

Benefits:
• Makes soil more acidic
• 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
• Superior buds and blooms
• Exceptional results because nutrients are released quickly
• Feeds for several months
• Consistent premium quality
• Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance.
• Eliminates the need for chemical fertilizers when used as directed.

Organic 5: Tomato, Vegetable & Herb Fertilizer

5 – 7 – 3
Enriched with: Alaskan fish bone meal, high-country feather meal, Norwegian cold water kelp meal, colloidal soft rock phosphate, naturally mined potassium sulfate, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

Uses:
• Tomatoes
• Summer & winter vegetables
• Herbs
• Root crops
• Established vegetables
• During transplanting

Benefits:
• More abundant, nutritious and tasty crops
• 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
• Exceptional results because nutrients are released quickly
• Feeds for several months
• Consistent premium quality
• Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance.
• Eliminates the need for chemical fertilizers when used as directed.

Rosarian’s Choice! All Acid Lovers! Healthy Soil = Healthy You!
Organic 6:
Flower Garden Fertilizer

4 – 8 – 4
Enriched with: Alaskan fish bone meal, high-country feather meal, valley-grown alfalfa meal, naturally mined potassium sulfate, colloidal soft rock phosphate, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

Uses:
- Bedding plants
- Impatients
- Begonias
- Petunias
- Blooming perennials
- Marigolds
- Day Lilllys
- Geraniums
- Lavender
- Chrysanthenums

Benefits:
- More vigorous flowers
- Consistent results, no growth spikes
- 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
- Exceptional results because nutrients are released quickly
- Feeds for several months
- Consistent premium quality
- Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance
- Eliminates the need for chemical fertilizers when used as directed

Organic 7:
All Purpose Fertilizer

4 – 4 – 4
Enriched with: Alaskan fish bone meal, high-country feather meal, valley-grown alfalfa meal, Norwegian cold water kelp meal, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

Uses:
- All vegetables
- All flowers
- Bedding plants
- All trees and shrubs
- Annuals and perennials
- Potted plants
- Fruit trees
- Citrus
- Vines
- Hibiscus
- Bougainvilleas
- Roses
- All flowering plants
- Potted plants

Benefits:
- Usable for all plant applications
- Champion soil builder
- Stable and consistent plant growth, no growth spikes
- All plants benefit from Organic 7
- 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
- Exceptional results because nutrients are released quickly
- Feeds for several months
- Consistent premium quality
- Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance
- Eliminates the need for chemical fertilizers when used as directed

Organic 8:
Bud & Bloom Booster

4 – 10 – 7
Enriched with: Alaskan fish bone meal, clean cottonseed meal, valley-grown alfalfa meal, high-country feather meal, naturally mined potassium sulfate, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

Uses:
- Fruit trees
- Citrus
- Vines
- Hibiscus
- Bougainvilleas
- Roses
- All flowering plants
- Potted plants

Benefits:
- Better root establishment
- Bigger, abundant buds, blooms & fruit
- More naturally available phosphorous
- 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
- Exceptional results because nutrients are released quickly
- Feeds for several months
- Consistent premium quality
- Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance
- Eliminates the need for chemical fertilizers when used as directed
### Organic 9: Fruit Tree Fertilizer

**7 – 4 – 2**

**Enriched with:** high-country feather meal, Alaskan fish bone meal, clean cottonseed meal, Norwegian cold water kelp meal, valley-grown alfalfa meal, colloidal soft rock phosphate, naturally mined potassium sulfate, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

**Uses:**
- Fruit trees
- Avocados
- Citrus
- Apples
- All berries
- Peaches
- Plums
- Apricots
- Almonds
- Grapes
- Persimmons
- All nut trees
- All vines
- Fruit vines

**Benefits:**
- Stimulates hearty root development
- More abundant and nutritious fruits
- 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
- Exceptional results because nutrients are released quickly
- Feeds for several months
- Consistent premium quality
- Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance
- Eliminates the need for chemical fertilizers when used as directed

### Organic 10: Palm, Tropical & Hibiscus Fertilizer

**6 – 4 – 6**

**Enriched with:** high-country feather meal, Alaskan fish bone meal, naturally mined potassium sulfate, clean cottonseed meal, magnesium sulfate, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!!

**Uses:**
- All palms
- Hibiscus
- Plumerias
- Ferns
- Bougainvilleas
- Tropicals
- Sub-tropicals
- Potted plants

**Benefits:**
- High in magnesium
- 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals
- Exceptional results because nutrients are released quickly
- Feeds for several months
- Consistent premium quality
- Eight select strains of Ecto and Endo mycorrhizae contribute to drought tolerance, enhanced nutrient availability and increased plant performance
- Eliminates the need for chemical fertilizers when used as directed

### Compost Starter

A superior blend of alfalfa meal, seaweed extract and beneficial soil microbes.

**Uses:**
For all composting applications

**Benefits:**
- Creates true humus
- Speeds up the decomposition of raw organic materials
- Contains the necessary microbes to break down the organic material in your compost pile
- People and pet safe
- Available in easy-to-handle 3-pound boxes

“**These mushroom ideas of agriculture are failing; Mother Earth deprived of her manurial rights is in revolt; the land is going on strike; the fertility of the soil is declining.”**

— Sir Albert Howard (1940), Founder of organic farming movement
Our liquid fertilizers produce consistent and superior growth from every bottle. They are rich in primary nutrients, secondary nutrients, multi-minerals, humic acid and natural growth enhancers. Our liquids quickly correct any nutrient deficiencies, helping transplants and established plants to thrive. Easy to mix and apply, Dr. Earth liquids are formulated for use on all indoor and outdoor plants, both soil and foliar applications also hydroponics. Spring, summer, fall and winter you can count on fast results every time.

**FOLIAR FEEDING**

As organic gardeners we are constantly reminded to feed our soil, not our plants. But there are circumstances when we want to directly feed our plants through foliar feeding. Foliar feeding can give plants a direct boost of nutrients through their leaves. This is done by thousands of microscopic pores on leaf surfaces. These openings, called stomata (Greek: stoma, mouth), are located primarily on the underside of the leaves. This prevents them from plugging up with dust and other environmental contaminants and also prevents fungal spores from entering.

The primary function of stomata openings is to permit gases containing carbon, hydrogen and oxygen to enter the plant. These are then used to manufacture sugars during photosynthesis. Conversely, stomata allow water vapor to escape from plants. In most cases, stomata close at night because the absorption of carbon dioxide is unnecessary when photosynthesis is not taking place. Stomata may also close on hot, dry days, in heavy winds or when the soil becomes dry.

We can use these stomata openings to help increase a plant's growth, health and overall production through the application of organic fertilizer in the form of a foliar spray. The stomata are then able to absorb dissolved nutrients and minerals and translocate them to the parts of the plant where they are needed.

Dr. Earth® Liquid Solution™ 3-3-3 liquid fertilizer is rich in organic nutrients, humic acid and seaweed extract. It can make a huge difference in plant growth and performance. Seaweed extract contains an abundance of trace minerals as well as growth hormones that can quickly stimulate plant growth through cellular division, enlargement and elongation. Plant hormones called cytokinins, which increase the speed of cell division, are particularly important. Dr. Earth® Liquid Solution™ introduces these hormones, increasing growth rates and causing plants to break dormancy early. It is effective as a short term measure to ensure plant health within a long term soil building program. Nothing can replace feeding the soil, but foliar applications can be a good addition at certain times of the year or as a strategy and remedy for nutrient deficiencies until the soil is able to supply them. Supplementary foliar feeding may also be necessary as an annual practice in some soil and climate situations. For example, in cold northern soils, foliar fertilizer may be necessary each spring to supply nitrogen, phosphorus and other essential nutrients until the soil warms up and nutrients become available from the soil.

**When to Foliar Spray**

The best time to spray is done late in the afternoon or in the early dawn, when temperatures are mild and wind is minimal. When wind is minimal, finely atomized sprays drift readily. This is most desirable. Absorption is further enhanced when weather conditions are humid and moist. The presence of dew on leaves facilitates foliar feeding. Absorption is maximized when sprays coat the underside of leaves where the majority of the stomata are located.

**When not to Foliar Spray**

Do not spray when it is windy and dry. At air temperatures of 80° or higher, absorption is very poor because plant stomata are closed. Avoid spraying during the height of solar indexing (10:00 AM to 4:00 PM) to avoid burning the leaves.

**For Best Results**

Be certain to read all product labels. Apply a small amount of fertilizer to start until you know how your plants will respond. Sometimes using a small amount of surfactant added to the mix will decrease surface tension on the leaf and better facilitate absorption.

**Application Equipment**

You can use nearly every kind of sprayer to apply foliar fertilizers, keeping in mind that you want the finest mist possible. The finer the mist, the more easily it will be absorbed by the stomata openings. Hand pump sprayers or even hose-end sprayers will work just fine.

**Sweet smelling liquids, no smelly fish emulsion!**

**Seaweed Concentrate**

A liquid organic 29% seaweed plant food for use on all plants including fruits and vegetables, trees, shrubs, vines, flowering ornamentals and container plants. Dr. Earth Seaweed Concentrate 0–0–4.5 contains naturally occurring nutrients which enhance plant development, crop yields, drought resistance and stress recovery. All plants benefit from seaweed concentrate especially after transplanting.
## Dr. Earth SINGLE INGREDIENT Fertilizers

Use our single ingredient fertilizers to correct any nutrient deficiencies in your soil.

<table>
<thead>
<tr>
<th>Acid-loving plants</th>
<th>Nitrogen-loving plants</th>
<th>Container plants</th>
<th>Blooming plants</th>
<th>Fruiting &amp; flowering plants</th>
<th>Indoor &amp; outdoor plants</th>
<th>Plants in vegetative growth</th>
<th>Bulbs</th>
<th>Flowers</th>
<th>Roses</th>
<th>Trees and shrubs</th>
<th>Tropical plants</th>
<th>Vegetable gardens</th>
<th>Herbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fish Bone Meal

**Available in larger bags**

3 – 18 – 0 Pasteurized fish bone meal infused with seven strains of beneficial soil microbes

**Benefits:**
- An excellent source of organic phosphorus and calcium
- Contains ProBiotic® beneficial soil microbes
- Benefits plants in all stages of growth
- Especially beneficial for roots, buds, blooms
- High in trace elements

### Alfalfa Meal

**Available in larger bags**

2 – 1 – 2 Alfalfa meal infused with seven strains of beneficial soil microbes.

**Benefits:**
- Contains ProBiotic® beneficial soil microbes
- Acts quickly because it decomposes fast
- Excellent for roses because it contains available magnesium that roses love
- An excellent all around source of organic nutrients

### Kelp Meal

.6 – .5 – 2.5 Cold water Norwegian kelp infused with seven strains of beneficial soil microbes

**Benefits:**
- An excellent source of potash
- Contains ProBiotic® beneficial soil microbes
- Promotes health in all planting applications
- Contains minerals that support plant health and growth
- A potent all around ingredient that will benefit all plants
### Fish Meal

**9 – 4 – 1**
Fish meal infused with seven strains of beneficial soil microbes

**Benefits:**
- Contains ProBiotic® beneficial soil microbes
- Feeds for a long period of time
- Faster results due to the microbes
- Benefits all types of plants
- A traditional source of primary nutrients
- High in trace elements

### Bat Guano

**10 – 3 – 1**
Bat guano infused with seven strains of beneficial soil microbes

**Benefits:**
- An excellent source of fast acting nitrogen
- Contains ProBiotic® beneficial soil microbes
- Promotes growth of all types of plants
- Can be used as a fertilizer tea for all applications

### Cottonseed Meal

**5 – 2 – 1**
Cottonseed meal infused with seven strains of beneficial soil microbes

**Benefits:**
- Contains ProBiotic® beneficial soil microbes
- Fast results due to the microbes
- All around source of primary nutrients
- Makes soil more acidic

### Soft Rock Phosphate

**0 – 2 – 0**
Colloidal phosphate infused with seven strains of beneficial soil microbes

**Benefits:**
- Contains ProBiotic® beneficial soil microbes
- An excellent source of natural phosphorous and calcium
- Provides both short and long term benefits
- Great for feeding flowering trees and shrubs
- Stimulates root growth

### Blood Meal

**13 – 0 – 0**
Kiln-dried blood meal infused with seven strains of beneficial microbes

**Benefits:**
- An excellent source of organic nitrogen
- Contains ProBiotic® beneficial soil microbes
- Promotes growth of all types of plants
- Can be used as a fertilizer tea to feed plants
- Helps to repel deer

### Bone Meal

**3 – 15 – 0**
Bone meal infused with seven strains of beneficial soil microbes

**Benefits:**
- An excellent source of organic phosphorous and calcium
- Contains ProBiotic® beneficial soil microbes
- Provides both short and long term benefits
- Great for root and fruit development

---

*Available in larger bags*
**Dr. Earth**

**PRO-ACTIVE™**

**Organic Insect Sprays**

Certified 100% Organic Insect Sprays

In many instances, even a combination of cultural, physical and biological controls won’t be enough to remedy a pest problem. In these cases the choices become 1) lose your harvest, flowers and valuable plants, 2) apply chemical pesticides, or 3) use organically acceptable insect sprays. Organically acceptable pesticides have three characteristics that distinguish them from their synthetic counterparts: a) they are derived from natural substances. b) They are generally less toxic to humans than synthetic pesticides. And c) they break-down relatively quickly and harmlessly in the environment.

Farmers and homeowners used botanical pesticides to control both indoor and outdoor pests long before synthetic pesticides were formulated in the mid-1900s. Some of the earliest insecticides were extracted from plants growing in tropical forests and other natural environments. These very special plants are now grown commercially to produce botanical insecticides. Some of these natural components are made by grinding raw plant materials such as flowers, roots, stems or seeds. Others are extracted from plant materials, then refined and purified into essential oils.

The general idea is to make a pungent insecticide that will fool pests into turning away from their favorite plants. These highly specialized essential oil blends in the proper ratios kill insects, deter insect feeding and confuse the pests’ smell receptors (often located on their feet). The essential oils and other ingredients coat and suffocate insects and scales, and make pest habitats inhospitable. They also reduce the number of pest eggs laid and minimize damage caused by a broad range of pests.

**Kills, Repels And Controls Insects Naturally**

Dr. Earth’s PRO-ACTIVE™ insect control products provide the home gardener with an effective alternative to chemical insecticides. Dr. Earth insecticides are unique in their formulation with components that quickly kill and control insects naturally.

**Fast And Effective Results**

Formulated with essential oils and garlic extract to knock down and kill insects quickly, the results are apparent from immediately to several minutes. Dr. Earth PRO-ACTIVE™ works to block Octopamine neuroreceptors. Octopamine is a chemical neurotransmitter that controls body movement and metabolism in insects and mites. The ingredients in Dr. Earth PRO-ACTIVE™ interfere with the transmission of Octopamine signals throughout an insect’s body. The interference of these signals leads to metabolic toxicity, immobilization and ultimately death.

**Long Lasting**

Garlic extract has been proven to repel insects for several weeks or even longer. Dr. Earth PRO-ACTIVE™ also includes several oils and molasses that naturally sticks to plant foliage. This “gummy” carrier adheres the insecticidal compounds to plant foliage for a long period for lasting, effective control.

**Dynamic Combination**

The dynamics of our essential oil blend, garlic extract and specialized inert ingredients are designed to work synergistically, killing insects within minutes. They also have the ability to repel insects for weeks. Dr. Earth PRO-ACTIVE™ effectively controls a broad spectrum of insects using several active agents. The result is a natural, effective, broad-spectrum insecticide whose active ingredients are proven to kill insects while demonstrating repellant properties which detract insects from attacking plants.

**Unique Pro-active™ Bonus**

Dr. Earth insecticides are environmentally safe yet contain the most dynamic combination of active and inert ingredients designed to kill and control plant destroying insects. Our insecticides have the ability to not only control insects but also to rejuvenate plant growth! We have added natural, biological growth enhancers, providing gardeners with multiple benefits. The Dr. Earth formula offers a new concept in a single product that combines quick, safe insect control with fast-acting plant growth and healing capabilities. Dr. Earth does it again!

**Kills A Broad Spectrum of Insects:**

Use Dr. Earth’s PRO-ACTIVE™ insect control products on Aphids, Leafhoppers, Caterpillars, Beetles, Whiteflies, Mites, Mealybugs, Scale, Centipedes, Earwigs, Gnat, Silverfish, Spiders, Cockroaches, Ticks, Pillbugs, Crickets, Fleas, and many other insects.

Formulated with Pure Essential Oils & Garlic Extract

People, pet & environmentally safe Dr. Earth’s PRO-ACTIVE™ is a superior blend of rosemary oil, cinnamon oil, clove oil, garlic extract, coconut oil, mineral oil, wintergreen oil, safflower oil, molasses and water.
Certified 100% Organic
People, Pet and Environmentally Safe

**Powerful**

**Safe**

**Effective**

Dr. Earth 3 Controls™
Organic botanical fungicide
Broad spectrum fungicide

Here’s how it works.

- Active ingredients are derived from essential oils which alter fungi’s cell membrane thus inhibiting cellular respiration. This is certain death.
- Inert ingredient is Potassium bicarbonate which collapses fungus’s cell wall, shrinking the cells and destroying the fungus.
- The combination of ingredients makes it a very effective fungicide.
- Post and pre-harvest control as well as ornamentals and turf
- Use at 7-14 day intervals
- Ready to spray on vegetables, fruits, lawns, roses, greenhouse

Available in
Ready-To-Spray Concentrate
2 Week Repellant
**Lawn Care:**
- Set your mower as high as it will go (3 to 4 inches) during growing season. Slowly lower mower height as temperatures cool and winter rains begin. The lower lawn height will allow the grass blades to “dry off” faster, helping to prevent fungus and disease.
- Water only when your grass shows signs of drought stress and then water deeply (put a cup in your sprinkler zone and make sure it gets at least an inch of water).
- Fertilize with Dr. Earth Supernatural Lawn Fertilizer as recommended.
- Have the pH of your soil professionally tested. Add lime if it is below 6.0 and soil sulfur if above 7.0.
- Add an inch of organic mulch in late spring to help reduce heat stress in the summer. (Use Dr. Earth Planting Mix as a top dressing or mulch).

**Objective:**
This is a competition strategy. You want to make things favorable for the grass and unfavorable for the weeds so the grass will choke out the weeds. Naturally!

**Mow High:**
There is competition for sunlight. If the grass does not shade the weed, the weed will shade the grass. Sunlight is energy, the source of strength and life. Shade is weakness, disease and death. Grass will shade the weeds only if it is tall enough. The shade of tall, dense grass turf will prevent essential light from reaching most weeds and will aid in the destruction of young weed seedlings (such as the notorious dandelion). MYTH: “If I mow short, it will be longer until I have to mow again.” False! Your grass needs long leaves or blades for photosynthesis (converting sunlight into sugar) to feed the roots. When you cut the blades off, the grass has to race to make more blades to make sugar. It then grows amazingly fast. This fast growth uses up a lot of the grass’s stored sugar, and weakens the plant. It is now vulnerable to disease and pests! Tall grass is healthier and can use the extra sugar to make rhizomes (more grass plants) thus thickening the turf. Have you ever noticed that short grass in the summer is always riddled with dead brown patches?

After mowing, be sure to leave the clippings on the lawn. It adds organic matter and nutrients back into the soil, which also helps reduce the thatch layer. If you do not leave the clippings, your soil will begin to look more like “dirt” than soil.

**Water Infreqently:**
This will force your grass roots to go deep into the soil, deeper than most weed roots. As the top few inches of soil becomes bone dry, the weeds and weed seedlings up there die while the grass still enjoys water from its slightly deeper roots.

Shallow, frequent watering encourages “thatch” (the grass propagates with above-soil runners like strawberry runners) rather than rhizomes under the soil. There gets to be so many runners that they weave a mat, choking out water and air. If necessary, de-thatch your lawn once a year in the fall. If grass roots are shallow (located in the top inch or two of soil), a hot day will quickly dry the soil and much of the grass will brown. Weeds and weed seedlings love a daily watering. It is just what they need for a good start.

**Fertilizer:**
Grass consumes high levels of Nitrogen. Legumes (such as clover) can get their Nitrogen from the air (remember that the air we breathe is 79% Nitrogen!). So, when you see legumes taking over your lawn (clover, etc.), you know that your soil is Nitrogen poor.

If your lawn needs fertilizer, apply Dr. Earth Supernatural as recommended on the package. This will feed it and supply organic material to the soil lasting up to 3 months. Dr. Earth contains PROBIOTIC®, beneficial soil microbes and 3 species of Endo Mycorrhizae. These living organisms develop a symbiotic relationship with your lawn, helping it to better absorb nutrients from the soil. They also aid in relieving drought stress by absorbing water from a much greater volume of soil.

Beneficial microbes in Dr. Earth Supernatural not only help to digest the organic fertilizer, but also aid in the consumption of “thatch”. Some of the microbes even produce antibiotic compounds that suppress disease-bearing fungal pathogens, preventing them from becoming established in your lawn. The end result is a healthy, productive, weed, drought and disease resistant lawn that will give you years of enjoyment. Naturally!

**Mowing & Growing Tips:**
The most common mistake gardeners make in caring for their lawn is mowing too short. The grass blades are the “solar factory” that provide energy for the roots to grow. Mowing your lawn too short deprives it of needed energy and prevents its roots from becoming established deep in the soil.

- Never cut more than one third of the grass blade at one time.
- Leave the clippings on the lawn to recycle nutrients (especially nitrogen).
- Keep your blades sharp for an even and consistent lawn.

In addition to a productive soil, all lawns can benefit from periodic aeration (prior to feeding) and the addition of a good organic compost or planting mix. We recommend our Dr. Earth Planting Mix as an organic cover. Use Dr. Earth as recommended and enjoy a beautiful, carefree lawn, naturally!
Building a Good Foundation

The foundation for a successful lawn is nutrient health in the soil. Lawn care can be very easy and less time consuming after a productive soil has been established. Many lawn problems are directly due to soils lacking in nutrient health caused by a build up of mineral salts left behind by chemical fertilizers. Brown and yellow patches, uneven coloring, and hard crusty soil are all symptoms of soil problems. You can help to create a productive and nutrient healthy soil in just 4 applications of Dr. Earth Super Natural Lawn Fertilizer which assures that essential nutrients are continuously available to your lawn and that beneficial soil microbes, plus endo mycorrhizae are present. The simple steps listed in this section can help to reduce thatch build-up and keep your lawn green & beautiful.

Super Natural™ Lawn Fertilizer

Enriched with:
Alaskan fish meal, Alaskan fish bone meal, high-country feather meal, naturally mined potassium sulfate, valley grown alfalfa meal, calcium sulfate, MicroActive™ concentrated seaweed extract and ProBiotic® beneficial soil microbes plus endo and ecto mycorrhizae blended with 100% pure love!!

Uses:
• New lawns (seed or sod)
• Fescue, Blue grass, and St. Augustine
• Cool or warm season grasses

Benefits:
• Controls thatch build-up by digesting thatch in the organic debris layer produced by grass roots, stolons and blades.
• Adds life to lawns by providing a broad spectrum of beneficial soil microbes plus three mycorrhizae strains. This ensures nutrients are made available to the grass roots more effectively and at a steady rate, even under stressful conditions (e.g. drought, low nutrient availability, poor soil structure).
• Promotes a hardy root system in two ways. First, it stimulates roots to grow down into the soil to absorb the organic nutrients made available by Super Natural. Second, mycorrhizae develop a symbiotic relationship with the grass roots causing the root system to expand tremendously enabling more nutrient availability to your lawn.
• Fast results, plus continuous feeding for up to three months
• 100% natural and organic
• People and pet safe
• Available in 18 and 40 pound bags

Dr. Earth

Super Natural™

Lawn Fertilizer

Safe to play on!
Safe for Children!
Safe for Pets!
Safe for the Ground Water!

A True Organic! Non-Soluble Phosphorous

Ready to Use:
Spring, Summer, Fall, Winter

 Helps Conserve Water

Dr. Earth Gardening Guide 23
Dr. Earth soils are a 100% natural & organic superior blend of rich composted materials including Fir bark fines and forest humus. Also added are Sphagnum peat moss for its moisture holding properties and perlite (in potting soil) to facilitate air circulation and good drainage. Our soils are also enriched with earthworm castings, composted chicken manure, bat guano, kelp meal, seaweed extract, ecto & endo mycorrhizae and 7 strains of champion soil building microbes making its combined technology the most advanced soil available. Dr. Earth soils are complete and ready to use; they stimulate early root development, reduce transplant shock, increase transplant success and feed for months after planting.

- Seven champion strains of beneficial microbes insure quick greening and long-term planting success.
- Eight select strains of Endo and Ecto Mycorrhizae contribute to drought tolerance, enhanced nutrient availability, and soil-aggregation.
- 100% natural and organic formula provides optimum levels of essential plant nutrients, including important micronutrients and minerals.
- Long-lasting organic ingredients increases moisture retention in loose or sandy soils while improving soil drainage in hard compacted or clay soils.
- Promotes planting success and maximum growth.

Dr. Earth suppresses soilborne disease
Soilborne diseases are caused by the pathogens pythium and rhizoctonia (damping-off), thielaniosps (black root rot), and several other root rot and wilt organisms such as fusarium and phytophthora. The conventional approach relies on fungicide drenches and soil fumigants. However, an appropriate soil mixture can act as “a suppressive soil medium” that sustains healthy plant growth, but due to its microbial composition does not support plant diseases such as damping-off. Our disease suppressive soils were developed by (a) incorporating suppressive organic amendments such as superior quality peat moss and composts, (b) inoculating the soils with our microbial bio-control package SuperActive™ Soil & Seed Inoculant, (c) inoculating the soils with plant and soil health promoting Ecto & Endo Mycorrhizae. Through our research we have found that as long as a plethora of microbes are present, they compete for nutrients with pathogens such as pythium and phytophthora through a process known as “general suppression”. The disease suppressive characteristics of our soils are due to the release of antibiotic compounds such as phenols and penicillinase, and to a proliferation of bacterial and fungal microflora that suppress pathogens through antagonism, competition, predation and induced resistance. With a healthy soil and plant, soil pathogens can be minimized naturally!
Hand crafted ultra-premium super-charged soils!

The only soils in America that contain ProBiotic® technology loaded with beneficial soil microbes and mycorrhizae that have proven to be so effective in our Dr. Earth fertilizers. 35 million satisfied customers cannot be wrong!

Enriched with:
Eco-Pure™ forest humus, natural-diet worm castings, high-country chicken manure, aged bat guano, Norwegian cold water kelp meal, MicroActive™ concentrated seaweed extract, ProBiotic™ beneficial soil microbes, mycorrhizae and 100% pure love!!

Primary uses:
For use in all outdoor and indoor container applications. Excellent for use in raised beds, direct garden planting, amending and mulching.
DESIGNER Pots

by Rebecca Kolls

Just because you don’t have time, space, or money doesn’t mean you CAN’T have a gorgeous garden.

Containers, planted pots, and stuffed urns are the new gardens! Anything and everything can be grown in pots and that’s good news for those who don’t have the space and are limited on time. Pots are also a great way of dressing hardscapes like concrete, wooden decks, etc. They add focal points, color, and drama. But, great looking pots don’t just happen - they are well thought out and designed just like putting together a favorite outfit. Try to think of dressing your pots as you would dress yourself. The suit you select is your foundation to the outfit, just as the pot is to your design. The blouse, jewelry, scarf, etc, will be chosen to match the suit. The point here is that everything should be linked somehow. They don’t need to be the same or match specifically but simply need to coordinate. All too often people just put in plants that they like without considering how they all work together.

Designing Starts With The Pots

Whether terra cotta, plastic, metal, or concrete, pots are not like a pair of jeans - they really don’t go with everything. Pots are the influencing factor in your design. They set the theme. The color, texture and style of the pot should dictate what goes in it. For that reason I always recommend people take their pots with them to the garden center. Try to pick plants that coordinate with the pot’s design and color. For instance, a finely quaffed dwarf evergreen is not going to look good in a campy, pink animal shaped container, but floppy pansies or petunias would. Pick your pot and then select one favorite plant. Surround it with others that have a common thread of color that beautifully weaves them together. Also remember these three elements: thrillers, chillers, and spillers. The “thriller” is the focal point, the tallest plant. As a general rule of thumb, the thriller should be about two-thirds taller than the container itself. “Chillers” are plants that fill the space between the base of the pot and the thriller. They are upright and grow shorter than the thriller. “Spillers” anchor the pot and spill over the edge of the container, softening the look. They fill the foundation of the pot. Select petunias, ivy geraniums, or an airy asparagus fern. Here are some killer combos that do their job grabbing the center stage for attention.

Lemon Breeze:
The sun always shines around a happy pot with personality. Start with yellow flowering maple (Abutilion). This “THRILLER” It provides height and is showered with delicate drooping yellow tissue-like buttercup flowers which bloom all season. The “CHILLER” “Wild Rumpus” (Juncus Effusus) wired nature will add contrast to the softness of the flowering maple. It adds whimsical flair with the same green color that is woven throughout the combination. Vinca vine becomes a “SPILLER” as it softens the container and draws the eye down the pot. The creamy, nearly yellow foliage is a reflection of the yellow flowers. Yellow-green Asparagus fern (Sprengeri densiflorus) is another “CHILLER” that mimics the color and delicate nature of the flowering maple and adds an anchor to the base of the collection. For added interest, white and green caladium under the canopy of the abutilon adds a sense of calm and style.

Light: Full Sun

Succulents and Thyme are an architectural gem, an awesome pairing that works in any climate, but definitely has a southwest, contemporary flair. The soft pastel colors give it a delicate edge. The funky succulents make this pot a conversation piece. All the plants play off one another. A fabulous succulent that is as interesting as it is beautiful, ‘Iceberg’ sedum reflexum adds a contrast in texture and gracefully drips over the side. The variegated soft, silvery, green thyme blends beautifully with pastel colors in the succulents. Its petite leaves offer balance to the large succulent leaves. ‘Sweet Caroline’ Bronz eupomoea softens the arrangement while its burgundy color contrasts well with the potted arrangement.

Tip: Shop with your Pot!

Bring your pot when selecting flowers. That way you’ll be able to get a sense as to whether the pot and flower combo work together.

Feeding:

Remember that pots do not have the ability to spread their roots into the native soil, which means you need to feed them regularly, I like to use Dr. Earth because it is organic and breaks down slowly, this way I don’t have to constantly feed my plants every other week.

Rebecca Kolls is a friend of ours at Dr. Earth and the very talented host of the nationally syndicated show “Rebecca’s Garden” and Gardening and Lifestyles editor for “Good Morning America,” she now publishes her own magazine Seasons by Rebecca at www.rebeccakolls.com, I encourage all gardeners to visit her website for excellent information.

— Milo
Plants grown from seed, cuttings, or division are a good way of inexpensively increasing the number of plants in your garden. I have done this for years and saved a lot of money, a few tricks will help you too!

**Growing from Seeds**

This is much less expensive and can be more fun than buying cuttings or mature plants. Annuals like poppies and nasturtiums can be raised easily from seed and will often self seed once established. Just make sure you get them from a good source, I trust my local independent nursery for guidance and directions. The simplest method is to sow seeds straight into the spot in the garden where you want the plants to grow. This is especially effective if you want to achieve a mass planting of one particular variety, if the seeds are tiny (like radish seed), or if the seedlings are from plants that don’t like to be moved once established.

To prepare the ground, rake the area clean, lightly cultivate the soil and remove all weeds. Add Dr. Earth Starter Fertilizer at half strength. Scatter the seeds over the soil surface, and then rake again gently to distribute them. It would be beneficial to add a thin layer of planting mix or compost to help keep the seeds moist. Ensure the seeds are kept moist and thin out the seedlings as they develop.

If you are sowing seed in pots or trays, use Dr. Earth Potting Soil rather than garden soil. Fill the container with moist potting soil and lightly firm it. Then scatter or space the seeds evenly. After sowing add a little more potting soil to maintain even moisture. Keep moist and provide even light and temperature until sprouts appear. Once the seedlings have developed a set of leaves you can gently separate them out and transfer them to individual containers. They can be transplanted to the garden when they are approximately 3 to 4 inches tall.

**Growing from Cuttings**

Small segments of stem or leaf sections can be removed from one plant to generate a completely new one that is genetically identical to its parent.

Fleshy-stemmed plants like begonias, nasturtiums, and pelargoniums can be grown easily from cuttings. Remove a new shoot, cutting just below the third set of leaves from the tip. Trim off the lowest set of leaves and make a fresh cut at the base of the stem. Insert the cutting into a pot of potting soil. Cover the plant with a plastic bag or the top half of a plastic bottle to conserve moisture, keep it in a light airy place until a root system develops. The plants can then be transplanted to a large pot and gradually moved outside.

In mild climates, cuttings can be taken at almost any time of year, although rose cuttings are usually taken in very early spring. Cuttings taken from shrubs can be placed straight into fine soil and kept outside in a sheltered spot. Several cuttings can be packed tightly into one pot; the survivors could be potted when there are signs of good root and leaf growth.

**Division**

This is a quick and easy method of propagating clump-firming perennials such as anemones and campanulas. Use a fork to loosen and lift the entire plant, then gently cut or pull apart the roots so that the plant is divided neatly into sections. To survive, each section must have both roots and above-ground shoots. Replant the divided sections as you would any new plant. The best time to divide plants is when they are dormant.

Tuberous-rooted plants, like begonias, can also be propagated by division. Lift the tubers, choosing one with at least three shoots, and use a sharp knife to cut the tuber into sections. Each section must have a shoot. The sections can then be replanted. Once bulbous plants, like daffodils and lilies have been established for a few years you can divide them by removing the young bulblets that form on the main bulb. Dig up the bulbs when dormant, gently remove the small bulblets from the parent bulb, and replant. They may take a few years to flower again.

African violets and succulents can be propagated from a single leaf or leaf segment. Remove a leaf with its stalk or a segment from a succulent and place the cutting in a pot of fine propagating soil. Provide even temperatures and moist levels until the cutting takes root. As soon as the plants develop a root system, give it a light dose of Dr. Earth Fertilizer and Dr. Earth Seaweed Extract.
Select a site with good drainage and the proper sun exposure. If water stands or the soil is often soggy, a raised planter may be preferable.

Dig a hole twice as wide as the root structure, and almost as deep as the root ball. Create a soil blend by mixing 1 part your soil with 1 part Dr. Earth Planting Mix along with Dr. Earth Starter Fertilizer according to product directions.

Remove container and carefully score and loosen the sides and bottom of the root ball. Plant (as illustrated) so that the top of the rootball rests 1 inch above ground level.

Backfill with soil blend around the rootball, firming in the sides to prevent settling. Only backfill to existing ground level. Use the remainder of your garden soil to make a 4 inch tall raised ring around the edge of the hole.

Add more Dr. Earth Starter Fertilizer according to product instructions around the plant, then mulch with Dr. Earth Planting Mix in a 2 inch layer, being careful not to buildup around the trunk of the plant. Water thoroughly.

Before next watering, check the soil every 2 to 3 days to a depth of 2 to 3 inches. Water only if soil is damp to damp dry. Soil should be kept moist, not soggy. When watering, fill the basin (the area created by the raised ring) slowly. This will ensure a thoroughly wet root zone and help to leach harmful mineral salts.

We at Dr. Earth are great believers in mulching and have practiced it for many years. In our experience, mulching keeps the soil moist and friable, easy to cultivate, and helps to regulate the soil temperature from going to extremes. Mulches also help to keep ground moisture from evaporating and rainwater from splattering mud on your plants and walkways.

Mulches also helps to suppress weed seeds from germinating, which means less work later weeding the garden. We have tested just about every kind of mulching material available to us. We found that all had some benefit to the garden, some were more beneficial than others. For example partially decomposed hay would be better than coarse, freshly baled hay, or you could use dried grass clippings, leaf mold, or newspaper, cardboard or even carpet with holes drilled in it. These are all options you have available to you, although some might be unsightly in the garden they are effective. For an attractive, dark brown organic mulch use our Dr. Earth Planting Mix. Mulch at 3” to 5” thick in your flower or vegetable garden.

Your soil will benefit equally from the planting mix plus a few other benefits that straw, newspaper or even carpet do not provide. As the Dr. Earth Planting Mix is broken down slowly it will contribute to the humus reserve in the soil, and help to build friable soil structure. Mulch can greatly benefit the garden as well as the gardener by saving him a lot of time watering and weeding.
Planting in Containers

**Choosing a container:**
It is important to choose a container that is big enough to accommodate the plant’s future growth. Next, check that the container has sufficient drain holes. Good drainage is very important!

**Transplanting:**
Fill the container with Dr. Earth Potting Soil until it is filled to a level that allows the base of the plant to sit one inch below the top of the container. Add Dr. Earth Organic 2, Starter Fertilizer according to the package directions. Holding the plant in the desired position, continue to fill in around the roots with potting soil and fertilizer mixture until the container is filled to one inch below the top of the container. Water thoroughly.

**Existing containers:**
Remove the top one third, and all loose soil from the existing container. Use your fingers, or a garden hose with low pressure to remove the soil. Replace it with fresh Dr. Earth Potting soil. Your plants will love it!

Bare Root Planting

Dig an extra large hole (usually twice the size of the plants root structure). Mix the soil from the hole with an equal amount of Dr. Earth Planting Mix or Potting Soil. Put the new soil mixture into the hole to form a mound at the bottom of the hole until the mound is high enough to allow the base of the plant to sit at ground level.

Sprinkle Dr. Earth Organic 2 Starter Fertilizer on top of the mound and scratch into the soil. Place the plant in the hole arranging the roots around the mound. Hold the plant in place and fill the hole around and over the roots to one inch below the ground level. Water well and allow to drain. Once it has drained fill the hole to the original soil level with more soil mixture. Water thoroughly once again.

Open Ground Planting

**Seeds and annuals:**
Apply a 2” to 6” layer of planting mix evenly throughout the soil surface. Next, apply Dr. Earth Organic 2 Starter Fertilizer on top of the planting mix according to the package directions. Cultivate the planting mix and starter fertilizer with the native soil to a depth of 4” to 8”. This should ensure an even consistent layer of amended soil throughout the garden. Broadcast seeds according to package directions, depth, spacing, etc. or transplant all tender young plants directly into the soil, making sure that the tops of their root balls are even with the soil surface. Water thoroughly, and keep moist until the seeds germinate or the transplants become established.

“Dr. Earth is the best organic product in America — hands down — the best!”
— Matt Lepow  
Owner, Almaden Valley Nursery

---

Choose a container with sufficient drain holes.

Base of plant should sit 1” below top of container.

Dig an extra large planting hole

Mound of 50% soil and 50% Dr. Earth Planting Mix or Dr. Earth Potting Soil

Spread roots over mound & fill remainder of hole with 50/50 mixture.

Bud union
**Gardening Basics**

**Enriching the Soil**
In nature, dead or rotting vegetation, animal manure and decaying animal remains provide adequate nutrition for the soil. As man removes the crops or gardens he grows, he must replenish the soil with organic material to maintain a healthy and productive soil. It’s a simple concept. You must replace what you take out.

**Digging**
Despite the activity of earthworms, burrowing animals and penetrating plant roots, untended soil is still relatively hard and compacted. We can improve the texture by digging, or turning over the soil, to allow oxygen and water into the soil.

**Seeding**
In nature, relatively few seeds germinate because of competition from other plants and poor soil conditions. In the garden, most seeds will germinate as they are given optimum conditions and spacing, along with organic matter and moisture.

**Watering**
Plants are dependent on water for their survival. Whereas adequate rainfall cannot be guaranteed in nature, in the garden, additional water can be given to plants at optimum amounts for maximum success.

**Pest Control**
Nature maintains its delicate balance by ensuring that pests and predators control each others numbers. Man can encourage and assist this process while also protecting his plants by using artificial means. Releasing ladybugs and praying mantises can control a wide variety of insects. Introducing beneficial nematodes in the soil can be of great help in controlling soil pests.

**Finally**
Left to its own devices, nature would not produce a very abundant harvest, either in terms of quantity or in the size of individual fruits. The harvest from cultivated ground that has been enriched and cared for will always outweigh what Mother Nature can produce.

**Improving Soil Structure**

**Loam**
This is the soil structure for which all gardeners aim: a good combination of organic matter with the basic mineral particles, whether sand, silt or clay. It is achieved by generous and regular applications of composted material. Plants will not thrive unless they have a certain amount of oxygen for their roots, and heavy clay soil has such small particles that very little air penetrates it. In such circumstances, it is the gardener’s job to create a more porous texture to the soil, normally by adding lots of organic matter, and possibly some grit. Another way of improving heavy clay soil is to add gypsum. If the soil is very heavily waterlogged and fails to drain well, you may consider creating some form of artificial drainage as well.

With light sandy soil, the main problem is that it drains too freely and retains very little moisture. In periods of drought, therefore, plants will suffer and possibly die. Again, the answer is to add plenty of bulky organic matter to help bind the particles together.

To find out what your soil consists of, take a lump of it in your hand and crumble it between your fingers. A less sandy soil, often found in areas surrounding a river bed, is silt, which has a soapy feel to it. Clay is very heavy and sticky, with a glaze on its surface that causes it almost to shine. These are the basic soil types that you will find in your garden.

What you have to do is create a loamy soil, a rich mixture of soil that feels light and friable to the touch, and has a pleasant, brown, earthy color to it. This quality of soil encourages earthworm activity and is well aerated, because it is neither too dense nor too crumbly, and holds moisture to the right degree for microbes, mycorrhizae and, most importantly, for plant roots.

Dr. Earth products contain the right proportions of microbes and mycorrhizae blended with premium organic materials to help correct all soil types.

Although to the uninitiated soil looks pretty much like, well, soil, from the gardener’s point of view it is well worth knowing a bit about soil’s actual composition. Correct analysis of the soil is one of the key elements in the success of growing certain types of plants. The kind of soil you have in your garden will (together with other factors such as climate and rainfall) determine which particular plants you can grow in it.

Since the soil is made up of mineral particles to which organic matter has been added, different kinds of soil clearly depend on the nature of the underlying rock, and whether you live in a river valley, where particles have been ground down to form silt or clay, or in areas with only a thin covering of soil, where it may well be rocky or sandy. These underlying conditions also determine how acid or alkaline the soil is, another important factor in determining what can be grown in it.

**Improving Soil Structure**

Although nature can cope perfectly well with poor soil conditions, ensuring that only suitable plants will survive to propagate themselves, the gardener wants a far wider scope. To grow a larger range of plants than nature had in mind, it is important to improve the soil in various ways.

**Clay**
Clay has the finest particles of minerals and the least amount of air in its structure. Unless you work lots of grit and organic matter into it, it will be hard to grow a good range of plants in clay.

**Silt**
The particles in silt lie somewhere between those of sand and clay soils in size and, provided it contains lots of organic matter, silt makes good garden soil. It has a silky feel and is often found in river valleys.

**Sand**
Sand has the coarsest particles of minerals and, although it is well aerated, water runs through it very easily. Sand needs lots of organic matter added to it to bind the particles and improve its moisture retaining properties.
**Digging the Garden**

**You Dig the Soil** for three reasons: first, to improve aeration; second, to improve structure; third, to incorporate organic matter and fertilizers that add nutrients to the soil. Gardens that have been badly neglected will need to be cleared before they can be dug. Normally, on a very overgrown plot, a trimmer will be needed to cut down the vegetation or, if you have the energy, a cultivator can be used. Compost or recycle all the perennial weeds, making sure that all weed seeds are far from the garden. Then, dig the plot.

Generally, you must turn the soil over with added organic materials for this kind of job. It gives you the opportunity to add compost or fertilizer to the soil, and ensures that the soil has been dug to a uniform level over the entire plot.

On less overgrown gardens, you can usually get away with a simple digging. In other words, turning the soil over with a spade or fork to a more shallow depth. Using a fork has the disadvantage that it does not chop up the roots of perennial weeds, which will re-sprout if you do not remove all the tiny root particles. Also, you cannot physically move the soil from one place to another with a fork. On heavy clay soil you may find that a spade or cultivator is the only effective tool.

A more drastic form of digging is double digging. It is sometimes required on previously uncultivated land that has been fallow and overgrown with weeds for a long period of time. This entails digging down about 8 to 10 inches and really turning the soil thoroughly. Doubling up on organic matter in the form of planting mix or compost will truly enhance your efforts.

**Preparing a Seedbed**

**Seeds Need Plenty of Air** in the soil if they are to germinate successfully. Soil in which seeds are to be sown directly has to be much finer in texture than normal garden soil. All stones, bits of twigs and clods of soil should be broken down, then raked over the soil. Leave the seedbed for a month before sowing, then rake again. Water well before and after sowing, using the shower setting on your hose. All of these steps will help to ensure a good start.

**Starting from Seed**

Start with good quality seeds you can trust, otherwise the work and effort you have invested in preparing your garden will be wasted until the next season. Always follow the manufacturers’ recommendations for planting depth, moisture, and the time of year you should begin. Seeds vary and require different sets of standards in order to germinate properly. In general, if the bed is prepared properly, kept moist and weed-free, you will have a successful garden from scratch.

**Fertilization**

Prior to sowing your seeds you should mix in ample amounts of organic matter along with Dr. Earth organic fertilizer. Work both the fertilizer and organic matter into the soil, rake it smooth, water it thoroughly and let it sit for 30 days prior to sowing. After the seeds have sprouted and have their first set of true leaves it is always beneficial to give them a light foliar feeding to give them an extra boost in becoming established. Use a liquid fertilizer that contains seaweed extract. Do not use a chemical, water soluble fertilizer as it has the potential to burn young plants easily.

**Planting with Nature**

If your soil presents specific problems with its structure, for example, being very wet or very dry, rather than expend great quantities of energy trying to bring it closer to the norm, you can always copy nature, and grow those plants that will thrive naturally in such conditions.

For instance, if you have an area of poorly draining land in your garden, often as the result of heavy clay soil, you have the ideal conditions in which to create a bog garden. The virtues of a bog garden are that the plants that thrive there are usually large and lush with beautiful foliage. So, before you drain the site, think about whether it might be worthwhile adapting to the conditions that you have, rather than the reverse, and growing what nature intended for it.

If you have very sandy soil you may want to grow those plants that will do well in those conditions. Cactus and succulents will be very happy in sandy soils that contain little to no nutrients and hold little moisture.

When you are buying a plant from your local nursery, tell your nursery professional about the soil types you have and ask them to recommend those plants that will thrive in them. It is better to work with nature rather than try to change it. Sunlight and moisture should be considered prior to buying any plants. Keep in mind that all plants will do better with organic materials added to them regardless of where they are indigenous to.

---

**Healthy Soil = a Healthy You!** — Milo

---

**Dr. Earth Gardening Guide 31**
The Importance of **GOOD** Garden Records

by Shannon Francis Fenady, Writer/Producer & Gardener Extraordinaire!

**As a beginning gardener**, I studied seeds that sounded interesting to me, I read the seed packets, plant the seeds, and hope for the best; this is how my mother did it.

Over the years, I learned... Don’t plant beets too close together. (Each “seed” is actually several seeds.) Thin the carrots. (Those growing too close together will be small, and might not form useable roots at all.) Don’t let tomatoes dry out too much before watering them. (Large variations in moisture will cause blossom end rot.) And I have learned how different varieties of the same vegetable perform for me, how the same variety from different seed companies can sometimes differ, how different years produce different results, and much more.

But then, even after years of experience, I still don’t do nearly as well as I could, and should. The reason is that there is so much to learn and know, so many variables, that no one can keep it all in their head. Some people who have been gardening for 20 years don’t have 20 years’ experience; they have one year’s experience 20 times!

The solution? Record everything you do...

Most gardeners do, eventually, after a period of time. Even in the beginning an enthusiastic grower (especially one with a new computer!) might record seeds purchased, the company they came from, planting dates and so forth. Rainfall might be noted, along with temperature extremes and other simple data.

But by harvest time... Well, that week of vacation really interfered with weeding, the first few pickings of beans weren’t worth weighing, and we’ll never forget that infestation of tomato horn worms! And when the main crops came in and we were busy barbequing, spending time with friends and giving away tomatoes, green peppers and cucumbers by the bags, who had time to weigh stuff or make notes or record anything?

The next season, this gardener is virtually starting all over again, from scratch. (And all those lessons, events and conditions we thought we’d never forget have evaporated like the morning dew under a blazing sun).

To learn more, more quickly, and to preserve data for later reference, study and analysis, a detailed garden journal is a necessity. The more data you accumulate the more you’ll learn.

A diagram of your garden can be very helpful, if only for crop rotations. On graph paper, it can also indicate the amount of space devoted to each crop. Include special treatments such as bone meal for potatoes, extra nitrogen for the corn, or selective applications of lime or other soil amendments and you’ll have a veritable road map to a better garden.

Here are some of the things to consider recording:

**Seed**

Variety, amount, source, area or length of row planted.

**Dates**

Of starting seed in flats, setting out plants or planting directly into the garden, germination, first harvest, main harvest.

**Weather**

Last frost, rainfall, extreme temperatures or wind, hail, first frost.

**Problems**

Insect pests, animal pests, diseases, specific weed problems.

**Yield**

By weight

**Other notes**

Are some plants too closely spaced? Too far apart? Did the squash vines strangle the green beans? Don’t think you’ll remember all this next year, much less three years down the pike. Write it down!

**Summary**

were you satisfied with the flavor? Should you have grown cucumbers in the same wine barrel as the heirloom tomato’s? How long did the Italian eggplant keep? Yes, some day you’ll want to know all of this, to make better decisions and to make them much more easily.

**A postscript**

All dedicated gardeners find snippets of information in books, magazines and newspapers, which they intend to put to good use... when the time comes. These are invariably forgotten. Every time I find a tidbit of information, I cut it out, fold it and put it in my pocket, as soon as I get to my computer; I make a note of it in the proper file, this way I keep a constant flow of information recorded and I know exactly where to access it.

It is easy if you record them in your journal. This is easiest if you have a separate page or section for each crop. Then, when you’re planting, say, beans again, you’ll have all your information at your fingertips: what varieties you planted in the past, how they did, whether it was enough or too much or not enough ... and that little tip about sprinkling Dr. Earth Organic 5 to grow super tomato’s!
Some 450 million years ago, plants first spread out over the land. As slow colonization progressed, an interaction between the underlying rock and the remains of plants. Soil, in all its various forms, was gradually being produced and eventually became the land form upon which all life on Earth ultimately depends.

The ability of animals to move allows them freedom to choose favorable habitats, even under changing conditions. A plant, on the other hand, is usually in one place for life, its root system hidden, and its destiny dependent on the soil for anchorage, nutrients and moisture.

Plants are highly resilient and can survive in very marginal conditions, actually growing out of rock and even brickwork, and certainly capable of living in very poor soil. Many plants grow on other plants — these are known as epiphytes — and are usually found high up in trees in tropical rain forests.

The important thing to remember about your own garden is that you are pretty much stuck with whatever you have in the way of garden soil. You cannot completely dig it out and replace it, so you must get to know it if you are to cultivate it successfully. You need to understand its texture and whether it consists of heavy clay or light, sandy soil. You need to find out its pH in order to ascertain how acidic or how alkaline it is. Then you are in a position to choose the plant material that is most suited to that environment.

Different kinds of soil are found in different regions of the world. The ground-down particles of rock form the underlying basis of the soil — sand, silt, clay or the ideal, loam — to which organic elements are added from the decomposed remains of plants and animals.

In a country like the United States, which has been cultivated for hundreds of years, the soil is made up of not only the underlying geological strata, but also of the product of years of farming. As a result, the soils are many and varied. Clays, sands and loams all give color and texture to the patchwork of fields once typical of the countryside.

Deep, dark, rich soils are particularly good at supporting crops such as vegetables and grasses. The dead organic remains from previous crops retain moisture, feed biological life and ensure good soil structure. Other edible crops prefer lighter, more free-draining soils with rather higher levels of mineral nutrients. The good news is you can always improve the structure of your soil by amending it with the appropriate materials to achieve the desired structure for the plants you are growing.

In our gardens, soils are even more varied than those under the plow. Most of them are able to support a colorful range of handsome plants. Even those from the most remote or exotic parts of the world seem to find an agreeable climate somewhere in our gardens. However, in order to grow a wide range of healthy plants, you need to know what your soil is composed of, and if necessary, how to improve it.

---

**Creative OUTDOOR Spaces**

by Patricia Williams, Owner, Sweet Peas Nursery

There is a corner in just about every part of our yard that could be used very creatively. Generally, we have 4 corners that make up our property line, but I bet we probably have over 25 corners or more when you include all the nooks around the house, garage, and all other structures on our property. This does not take all of the green areas such as trees and shrubs that can be used as a focal point to help us create and design our outdoor landscape.

Let’s use just the 25 corners for example, that is 25 creative opportunities to design something totally different than our neighbors. Let’s take every other part of our yard and we might have 50 to 100 opportunities to be creative. One thing I have learned over the years is that most people are afraid to be creative in different parts of their yard; they somehow feel that the entire outdoors need to be landscaped with similar plants and must have a similar look, rule number one for me is to do it differently, it must be different! This will give every part of our yard a different feel and make the yard feel much larger because it is not identical.

It’s easy to create outdoor living spaces if we do not overwhelm ourselves with a project that is bigger than our capabilities. Start with an area that is small and manageable, this makes it easy to get our feet wet. The most exciting time for me is the planning stage, I love to plan a dreamy area of my yard and put it on paper, I can change it 10 times if I have to. If you are not very good drawing it out, visit your local independent nursery, most are very talented and have a great team that will help you put it together on the spot.

Keep in mind that being creative means just that...do not be afraid to mix plants with garden art and even existing gardens that you might have put together last year. Focus on a small area to begin and your project will go very smoothly. Independent nurseries have trees and shrubs, garden art, and just about every other idea to help you be creative in your yard. This is so much fun and can be accomplished without any stress, just fun and enjoyment.
Few plants bring elegance, beauty and splendor to the garden that are equal to roses. Roses have historically been associated with beautiful and well maintained estate gardens throughout the world. Fortunately today we do not have to be born into royalty or own an estate to enjoy a beautiful rose garden; we just need to visit our local nursery to find an array of rose varieties that will beautify every part of our garden. Organically grown roses offer an extra bonus because they are free of pesticides, herbicides and other chemicals that may be harmful to our family and pets. Organically grown roses offer the option of using the petals and other parts of the plant in food arrangements, for rose tea, to flavor food stuffings, in distilled rose water, in potpourri and even in homemade cosmetic products. Most importantly, the knowledge that there is no risk of toxic exposure brings peace of mind.

Organic roses are fun and easy to grow with a basic understanding of their basic requirements- sun, water, nutrients and pruning. Roses enjoy full sunlight, although there are varieties that will thrive in partial shade and still provide beautiful and vigorous blooms. If sunlight is a concern in your garden and you are not sure of what variety to plant, consult with your local independent nursery. They are knowledgeable about which roses will work best in your specific garden location. Independent garden retailers often offer selections of roses that are not available at the “big box” stores. Also, the staffs at these local stores are generally more knowledgeable about roses in general. For great rose gardening tips and techniques, listening to expert radio gardening programs like Southern California’s Garden Compass with John Bagnasco, San Francisco Bay Area’s Bob Tanem “In the Garden”, “In the Garden with Mike Darcy” in Portland, Oregon and “Gardening with Cisco Morris” in Seattle Washington. These gardening gurus know roses and how to grow them!

Providing roses with the correct amount of water is very important. It’s best not to use sprinklers to water roses. Roses frequently develop diseases from watering by sprinklers. Try to pay close attention to how the moisture of the soil is. If the soil is dry to the touch two inches below the soil surface, it’s time to water. The better condition the soil is in, the better it is able to retain water. Rich soils consist of a variety of organic components such as humus, compost, peat moss and organic fertilizers. Wet the soil to the point that it looks and feels saturated to a depth of about 6 inches. A common error is watering frequently but not deep enough. This approach promotes shallow root growth, which will makes roses more susceptible to drought stress. Deep roots access more water, nutrients and minerals. They are better able to support the production of more and bigger blooms. Deep roots also develop a more productive association with Endo-Mycorrhizae. Dr. Earth Organic 3 Rose & Flower Fertilizer contains beneficial Mycorrhizae soil fungi that develop a symbiotic relationship with the roots of roses and many other flowering plants.

Roses are heavy feeders; they love their nutrients! Add as many organic amendments to the soil as possible and roses will express their gratitude by producing beautiful, abundant blooms. It is recommended to add both amendments and fertilizers to the soil. Amendments come in the form of planting mixes, composts, soil conditioners, mulch’s and other relatively coarse organic materials that directly improve the physical texture of the soil. Some have nutritional value but often not enough to maximize your roses growth potential. Dr. Earth, Organic 3 Rose and Flower Fertilizer is perfectly formulated for rosarians who expect the best and demand the most. It helps to greatly improve soil texture, contains high levels of essential Nitrogen, Phosphorous, Potassium, secondary nutrients, micronutrients and most importantly, it contains the champion biological soil inoculant Dr. Earth ProBiotic®.

Use Dr. Earth Rose & Flower Fertilizer for a completely balanced rose diet containing everything a rose plant will
require. Work the organic components (amendments and fertilizer) deep into the soil to a depth of at least 2” to 8” for maximum results. Organic nutrients are released slowly (the way nature intended) as the beneficial soil microbes digest and convert the materials in them into nutrients in forms that the plants roots can absorb. Mycorrhizae (“fungus-root”) develop a symbiotic relationship with roses to absorb more water, more nutrients, contribute to good soil structure and help resist soil-borne diseases. All of this happens in the organic garden. There’s no need to apply chemicals to the soil to achieve maximum plant potential.

Proper rose pruning is essential for a beautiful rose garden. It is recommended to take a rose pruning class at a local independent nursery. Many retail garden centers offer these classes on weekends free or for a minimal fee. Proper pruning knowledge and technique translates directly to success.

Becoming an organic rosarian can be a very rewarding experience. Organically grown roses can be easy! And, they are the easiest to grow once a rich and nutritious soil has been established. Organically grown roses can be more drought tolerant, disease resistant, require less applications of fertilizers, pesticides and fungicides because they have grown steadily and healthy without the unnatural growth spurts often caused by chemical fertilizers. Please consult with your local independent garden retailer for more advice and tips on growing organic roses.

Organically grown tomatoes are delicious! It’s safe to say that every home-grown organic tomato tastes better than its supermarket cousin. Tomatoes are fun and easy to grow once the basic growing requirements of sun, water, trellising and feeding are understood.

Most tomatoes require full sunlight for maximum growth and fruit size. However, there are some very productive varieties that can tolerate less sunlight.

Check with your local nursery professional for these specialized varieties if limited sunlight is a factor.

Water tomatoes as they require it. Young tomatoes will require a little more water at first until they become established and their root system has penetrated deep into the soil. Check young plants to see if they might need water simply by poking a finger into the soil. If the soil is dry to the touch two inches below the soil surface, then it is time to water. Depending on the time of year and the local climate, the warmer it is, the more watering is required. Tomato plants will signal drought stress very quickly by wilting leaves. Keep an eye on the garden and change watering habits according to the climate and the needs of the plants.

Staking or trellising tomatoes is very important for exposing as many of the leaves to sunlight as possible. The more energy tomatoes derive from sunlight, the larger the fruit size will be! Sunlight translates into sugar, and sugar translates into taste and nutrition for your tomatoes.

Soil preparation is one of the most important elements of a successful tomato harvest. Start your organically grown tomatoes by adding the proper organic ingredients such as compost, mulch, planting mixes and, most importantly, an organic fertilizer to the soil. Tomatoes are very heavy feeders. Compost and mulch help to create a friable soil that is workable, retains water, discourages weed growth, attracts earthworms, reduces erosion, retains moisture and will ultimately provide nutrition for your plants.

Dr. Earth organic fertilizers will feed the living organisms in the soil. By feeding these beneficial soil organisms or “microbes” the tomatoes are likewise fed. This process is achieved as the microbes digest the organic fertilizer and convert it into forms that plants can use. As an example, plants cannot use fish meal in its protein form. It must first break down into a simpler form of nitrogen, which tomato plants can use directly for their growth. The microbes act as enzymes—similar to the enzymes in our own stomachs. When humans eat proteins such as fish, red meats or fowl, they must be digested or broken down in the stomach before nutritional benefits are realized. A similar process occurs in the soil through the enzymatic action of the beneficial soil microbes.

Tomatoes are susceptible to a condition called “blossom end rot” which will distort the growth and ruin the fruit. This condition is usually caused by a calcium deficiency in the soil, Dr. Earth Organic 5, Tomato, Vegetable and Herb Fertilizer contains a high calcium value to prevent blossom end rot. Feeding the soil with rich organic materials is necessary to grow and harvest large, abundant, tasty and nutritious tomatoes. Visit your local Independent nursery professional for advice on which tomato varieties will work best in your garden.

“Plant your tomatoes where the cats lay... that’s the warmest spot in the garden.”

— Curtis Williams (1951)
Nurseryman, Entrepreneur, Philanthropist
A 4’ x 8’ balcony is all you need to grow enough organic vegetables to satisfy most hungry appetites! When space is limited in the garden, or you live in an apartment, or there just isn’t time for a full-scale garden, home-grown vegetables within easy reach of your kitchen are still a possibility. Growing organic vegetables in containers is rewarding and easy. Paying close attention to a few important rules can convert a minimal amount of time to an abundance of organic vegetables. Following five easy tips can lead to an easily set-up and maintained container garden. Container vegetables can provide you with nutritious, tasty and visually pleasing organic plants and vegetables. There is nothing quite as rewarding as a salad made from vegetables fresh from your own container garden.

**Tips:**

1. **Sunlight:**
   **More is better!**
   Sunlight is the most important factor to consider. Too little and plants are unable to convert sufficient sunlight into enough energy to produce a crop. However, some herbs grown specifically for edible foliage may do fine in low sunlight areas. Tracking the sun and shade patterns of your garden space will give you a good idea of how to plan and position your containers and which plants will do best. Remember this very simple rule: Plants that will set flowers will require a lot of sunlight. If you have these warm sunny conditions, consider plants such as tomatoes, cucumbers, eggplants, peppers, and squashes. Sufficient photosynthesis is required to produce the levels of sugars needed to produce quality fruit with size, yield and taste. Photosynthesis produces sugars that directly feed flowers and fruits, which is why sunlight is so important for these types of vegetables. For a more thorough list of plants that will thrive in your container garden and for further information of the amount of sunlight they will require, it is best to consult with your local independent nursery that have experience with the varieties of plants that will thrive in your location.

2. **Container size:**
   **Size Matters!**
   The second most important variable for success is container size. The greater the soil volume that a plant has, the greater nutrient pool its root system can access. This will directly influence the size and quality of the vegetables and herbs at harvest time. More is better in this case. It is known that tomatoes require a minimum of five gallons of soil in order to develop into full size plants with the ability to produce tasty and nutritious fruit. Some other vegetable crops may survive in containers with less soil volume than this, but generally, more soil is preferred. Vegetable plants will produce larger, more bountiful crops in larger containers. The type of container used can also make a big difference. Terracotta containers are always a good choice because they breathe with the soil and do not fluctuate to extreme temperatures quickly. Redwood or cedar planter boxes are also a good choice because they too will breathe and have the ability to retain moisture. There is a wide variety of plastic containers from which to choose. They will work just fine, but may require a little more watering than pots made of thicker, absorbent materials. It is especially important to use a surface mulch if you are planning on using a plastic container. The mulch maximizes moisture retention and is recommended in all containers, but especially those of plastic or water-impervious materials. Plants in small containers tend to dry out quickly, so keep an extra close eye on these. Less plant foliage means less watering later. Of course, larger plants usually require more water. Pay close attention to all plants and water regularly whenever they required it.

3. **Potting Medium:**
   **Just Go Organic!™**
   Soil is the source of life for every living thing on earth! Treat it with the respect, dignity, reverence and understanding; remember, it is not dirt! It is alive with an abundance of beneficial living organisms that promote life for all plants and directly and indirectly affects the health of the plants and animals we consume. If the soil is healthy, the crop it yields will also be healthy! The type of soil or "potting medium" you choose for container gardening will have a large impact on the plants’ ability to produce an abundance of large, nutritious vegetables. Choose a proven, successful potting soil. Try to make sure that it does not contain any chemicals, such as synthetic plant nutrients, which are common in many bagged potting soils.
We recommend using Dr. Earth Potting Soil. It contains everything your vegetables will need to produce an abundant crop. Dr. Earth Potting Soil contains ProBiotic® beneficial soil microbes plus Ecto & Endo Mycorrhizae, which will help you’re seedlings and transplants get off to a great start. Dr. Earth also retains the optimum amount of water and nutrients, while ensuring proper drainage which helps avoid fungal root diseases.

4. Fertilizer: Feed Your Soil!
Be sure to feed the soil that feeds the plants. Tomatoes and most other container-grown vegetables will require a lot of fertilizer to yield their full potential. In containers the roots are unable to tap into nutrient reserves in surrounding soil like they could if planted in the ground. What is provided in the soil inside the container is all they get. For this reason, it is especially important to use Dr. Earth Organic 5, Tomato, Vegetable and Herb Fertilizer when growing vegetables in containers. Dr. Earth will steadily convert the organic fertilizer into nutrients which in turn will feed the roots of your vegetable plants abundantly and consistently. Dr. Earth Organic 5 is rich in a multitude of minerals available to vegetable plants. The benefits from these nutrients will be evident in the form of superior taste and quality as the crops are harvested and consumed. Remember, healthy soil equates to healthy vegetables. Use Dr. Earth fertilizer once at planting and repeat the application 2 to 3 months later depending on the length of the growing season. Tasty and nutritious vegetables can be just outside your kitchen window. Enjoy!

5. Trellising Support: A Shoulder to Lean On!
Exposing as many leaves to sunlight as possible will help to increase vegetable growth and yields. Some vegetable plants do not require any support at all, but cucumbers, tomatoes and other vine plants require physical support to keep them off the ground and growing in the desired location. Allowing sufficient air space helps minimize exposure to fungal and other diseases. Plenty of air space will also aid beneficial insects, allowing them better access to blossoms. When purchasing seeds or transplants, ask your local independent nursery professional for a recommendation for plants specific to your needs and location.

**Outside of my kitchen** I have four wine barrels full of herbs. I love to harvest a variety of herbs just about every night and mix them into my salad. I grow mint, mustard greens, basil, thyme, rosemary, parsley, coriander and several other types of herbs that are stunning in color and taste. Nothing dresses up a plate of food like fresh picked herbs; they just scream flavor and presentation.

**Where do I start?**
Starting with a good idea of what you enjoy eating will help simplify your life and make your job easier. You must know if the herbs you want to grow will thrive in sunny or shady areas, or maybe a little bit of both. Ask your local independent nursery professional for the best varieties for your garden. You might want to have a couple of herb gardens. I like to grow all my herbs in containers because it gives me the ability to place them where they will thrive the best. Remember that sunlight is energy, so if those sun loving herbs do not receive the required sunlight, they will not grow to their full potential. Seek the advice of a nursery professional when purchasing your seeds or transplants.

**What should I grow?**
I plant just about every common variety of herbs that will grow in my area. If I do not consume the herbs, I can be sure that they will be a beautiful addition to my garden. If you have a favorite herb, focus more on that. If you like a mint lemonade once in a while, grow a little mint. If you love Italian food, focus on basil and oregano. Salsa anyone? Grow a bunch of cilantro! The idea is to grow a variety of herbs that you enjoy, even if it is only once in a while. Keep in mind that many herbs have medicinal attributes that may be very good for you, especially if they have been grown organically.

**Preparing the soil**
Herbs, like most plants, need good healthy soil to grow in. Soil rich in organic matter will yield the greatest harvest. If you are growing in containers, buy the best quality potting soil you can find, such as Dr. Earth.

Fill the container about 2” below the top of the pot. This will ensure you have enough space to comfortably water your plants as they grow. Use the best quality organic fertilizer, such as Dr. Earth Organic 5 Tomato, Vegetable and Herb Fertilizer. This will ensure your soil is packed full of nutrition for your herbs. Remember, you are what you eat! So feed your soil with high quality nutrients. This way you will consume herbs that are packed full of nutrition for you and your family. The best tasting herbs are grown in rich organic matter.

Every year I grow herbs, every year I give a few friends some young herb plants to grow, and every year the herbs that I grow always taste better than my friends’ herbs. Last year I gave my neighbor three basil plants, the same exact variety that I was growing from the same exact source. Even though the plants were grown next door, in the same microclimate, they did not taste nearly as good as mine. Could I be biased, or is it the soil? Year after year I taste different plants grown by friends and neighbors, and consistently my plants outperform theirs. It’s Dr. Earth soil and fertilizer. It makes that big of a difference. They taste like they were grown on an organic farm in the country, fresh and full of flavor.

**Growing ORGANIC Herbs**
by Milo Lou Shammas, Dr. Earth Founder & Formulator
Packed full of vitamin C, every home should have at least one citrus tree in the garden. Few things beat a freshly picked juicy tangerine just off the tree, or fresh lemon juice on your organic salad. Citrus trees have shiny evergreen leaves, fragrant flowers, and attractive fruits that hang for months without dropping. In Northern climates, you can grow dwarf citrus trees in containers and bring them indoors during the winter.

Selecting trees:
There are so many types of citrus that you may have trouble deciding which to grow. Edible types include grapefruit, lemon, lime, kumquat, mandarin orange, tangerine, orange, tangelo, and temple orange.

1) Consider the yearly range of temperatures and possible frost when making your selection. Local nurseries usually stock citrus that grow well in the area. The fruit of all types is easily damaged by frost, but the leaves and wood of some are more cold-resistant. In general, limes are the least hardy, oranges slightly hardier; kumquats are the most hardy, withstanding low winter frost temperatures.

2) A single mature citrus tree yields more than enough fruit for a family. If you plant more than one tree of the same type, select cultivars with different harvest times, or plant different types of citrus so you won’t be overwhelmed with one kind of fruit. Almost all citrus are self-pollinating. A few hybrids are not; be sure to check for the kind you want when you buy.

3) Select sturdy, nursery-raised trees. A one-year-old tree should have a trunk diameter of 3/4". A two-year-old plant should have a diameter of at least 1". Those with fewer fruits and flowers are better because they have put more energy into sturdy top and root growth.

Rootstocks:
Most commercially grown citrus fruits are grafted onto rootstocks that are resistant to frost and insect attack. Select the proper citrus for your area if your soil is susceptible to nematode attack and other soil problems. Your local agricultural extension office or a good quality nursery can tell you what rootstock is best for your region.

Planting:
Citrus trees do best at pH 6.0-6.5. They are not fussy about soil but do require good drainage. If drainage is a problem, plant in a raised soil mound about 1’ high.

1) Select a sheltered area with full sun, such as a sheltered, south-facing alcove of a building. Citrus flowers attract bees, so don’t plant them in high-traffic areas.

2) Plant citrus in late winter or early spring. Keep the graft union 6” above soil surface when planting. Full-sized trees require at least 25’ between trees; smaller trees need less.

3) Citrus bark is thin and easily sunburned. Wrap the trunk with commercial tree wrap or newspaper for the first year, or paint it with diluted white latex paint.

Care:
In dry areas, water newly planted trees at least once a week for the first year. Once established, trees need less-frequent watering, but never wait until leaves wilt to water. Water stress can cause developing fruit to drop; prolonged drought causes leaf drop and may kill the tree. Water slowly and deeply; shallow sprinkling does more harm than good. In drought areas, construct a shallow watering basin that extends from 6” away from the trunk to 1’ beyond the drip line. Or install drip irrigation under a thick layer of mulch to conserve water and protect shallow feeder roots. Keep mulch 6” away from the trunk.

In citrus-growing areas, soils often lack organic matter and nitrogen. Spread compost, mulch and Dr. Earth Organic 9 Fruit Tree Fertilizer on the soil surface out to the drip line four times a year, beginning in February. This will help to ensure a healthy productive crop that will be full of nutrition for you and your family.
**Pruning:**
Most citrus trees need little pruning beyond removing dead or broken branches. Limit the tree’s size by thinning out fast growing shoots that outgrow other branches. Thin branches rather than shortening them. Remove suckers as soon as they emerge from the ground.

You can revitalize an old unproductive citrus tree by pruning severely in early spring. Wear thick gloves if the tree has thorns. Cut off all branches 2" or larger in diameter flush to the trunk, and feed and water heavily for the next year. Note: Very severe pruning may stop fruiting for up to two years.

**Winter Protection:**
Citrus are usually grown outdoors in climates where frost is rare. In areas where mild frost is common, don’t plant cultivars that bear in winter and early spring. Since succulent new growth is more prone to frost injury, withhold extra water in late summer to limit new growth. When frost does threaten, cover trees with large fabric sheets. Use fans to keep air circulating around the trees. If symptoms of frost damage appear, wait until spring growth starts to see the true extent of damage. A tree that loses all its leaves can still rejuvenate. If damage is severe, dieback may continue during the growing season.

**Harvesting:**
Citrus trees usually bear in 3-4 years. It can be hard to tell when citrus fruit is ready to pick. Color is not a good indicator. Fruit can have ripe coloration several months before being ready to harvest or remain green and unappealing even when ripe and juicy inside. Use the taste test to determine when fruit is at its peak flavor. Allow fruit to ripen on the tree before picking. Use pruning shears to cut stems close to the fruit when harvesting. Don’t just pull fruit off the tree. Ripe citrus fruit can remain on the tree for up to three months. Once harvested, citrus can be stored in the refrigerator for three weeks. Enjoy the fruits of your labor. They will be juicy and full of flavor and nutrition.

**Avocado Trees Are Attractive,** broad-leaved evergreens. The yellow-green flesh of the fruit is rich in oil and protein. Trees are easy to grow outdoors in most of California, Florida and Texas. They also make attractive houseplants but will not bear fruit indoors.

**Selecting Trees:**
Avocado trees mature to a height of 15'-45' and are as wide as they are high, so give them plenty of space. Mexican types have dark, rough skins and are hardy to about 22°F. Guatemalan and West Indian hybrids have smooth, green skins and are less hardy. Not all cultivars are self-fertile; check pollination requirements before you plant. Ask your local independent nursery for further information about the variety that will grow best in your area.

**Planting:**
Purchase a grafted tree and plant it slightly higher than it was growing in the original container. Dig the hole twice as wide as the container size it is growing in. Use Dr. Earth Organic Planting Mix at a rate of 50% planting mix and 50% native soil, plus Dr. Earth Organic 2 Starter Fertilizer according to product directions. Choose full sun and very well drained soil with a pH of 5.5-6.5. If you have poor drainage, plant your tree in a large raised bed or mound. Avoid windy locations, as the trees are prone to breakage.

**Care:**
Water young trees weekly, mature trees every other week or often enough to prevent wilting. If your water contains a lot of salts, flood the tree every fourth watering to flush out salt built-up and lessen possible root damage. Feed every other month with Dr. Earth Organic 9 Fruit Tree Fertilizer to ensure a healthy and hardy crop. Apply a thick layer of organic mulch out to the drip line to conserve water and protect roots. Keep mulch 1’ away from the trunk. If a young tree is not growing vigorously, an application of compost in early spring to midsummer is helpful. If new leaves yellow, have the soil tested. It may be a pH problem. Using a foliar fertilizer such as Dr. Earth Liquid Solution will give the tree quick results.

**Pruning:**
Avocados need very little pruning. Pinch back upright shoots to control the height. Other than that, pruning will reduce yields and expose the trunk to sunburn damage.

**Problems:**
The most common avocado problem is root rot. Symptoms include no new growth, very small fruit, and leaf yellowing and wilting. In advanced cases, a tree may die or survive in poor health for many years. Prevent root rot by providing good drainage and not over watering. Avocados are sometimes attacked by fungal disease such as anthracnose, scab, and powdery mildew. These all thrive in high humidity. Control fungal diseases by spacing trees widely and trimming back surrounding trees to increase sunlight. Insects do very little damage to avocado trees unless the tree is weakened by disease. Some cultivars naturally tend to fruit lightly, then heavily in alternate years. Check with your local independent nursery for the best variety for your area.
**Growing ORGANIC Apples**

by Shannon Skinner, Apple Lover

Biting into a crisp apple picked fresh from your own tree is rewarding and full of nutrition. You may never taste anything quite so delicious. Growing apples organically is easy if you follow a few basic rules. Once you have grown a successful crop and tasted the fruit of your labor, you will never want to bite into a store bought apple again.

**SELECTING TREES:**
Since apple trees take several years to bear fruit, it pays to select trees carefully before investing time and energy in them. Consider these factors. Apple trees come in a wide range of sizes to suit any yard. They also make attractive landscape trees. Apples are subject to many serious diseases such as apple scab. Choose resistant cultivars. New ones are being released every year.

**TREE SIZE:**
An important consideration. Standard trees can reach 30' and take 6 years to bear fruit. Most home gardeners prefer dwarf and semi-dwarf trees, which are grafted on a rootstock that keeps them small, grow 6'-20' tall (depending on the rootstock used), and produce full-size apples in just a few years. The final height of your trees will also depend on what cultivar you select, because some cultivars are more compact than others. Tree size will also depend on growing conditions and pruning and training techniques. Some cultivars bear fruit on short twigs called spurs, while others produce fruit along branches. Spur-bearing cultivars have more fruiting twigs than non-spur trees do and produce more apples. Cultivars that have a strong, horizontal branching habit are easy for beginners to prune.

Most cultivars need to be pollinated by a second compatible apple or crab apple tree within 40'-50' that blooms at the same time. Some cultivars, such as “Mutsu” and “Jonagold,” produce almost no pollen and cannot serve as pollinators. A few cultivars, including “Golden Delicious,” are self-pollinators. If you only have space for one tree, improve fruit set by grafting a branch of a suitable pollinator onto the tree. When choosing apple trees, consider your climate. Your tree will produce more fruit and live longer if it is suited to your area. Antique apples can be fun to grow but require careful selection because many are susceptible to diseases.

Sample the fruit before you choose. Find some less familiar cultivars at farmer’s markets and orchards, or order a collection from a mail-taste order sampler company. The range of aroma, taste, texture, shape, color and size of apple is far greater than a trip to your local supermarket would even begin to suggest.

**PLANTING:**
Buy dormant one year un-branched grafted trees, sometimes called whips. Plant apples in the early spring in most areas, or in late fall in the Southern climates. Space standard trees 20'-30' apart, semi-dwarfs 15'-20', and dwarfs 10'-15'. Start training immediately.

**FERTILIZING:**
Healthy apple trees grow 8"-12" per year. Have the soil tested if growth is less. Low levels of potassium, calcium or boron may cause reduced growth and poor-quality fruit. Apples thrive with a yearly mulch of 2" of compost and Dr. Earth Organic 9 Fruit Tree Fertilizer. Apples also benefit from foliar feeding. Spray Dr. Earth Liquid Solution when the buds show color, after the petals fall, and again when young fruits reach 1/2"-1" in diameter to improve yields. If testing shows calcium is low, spray 4 more times at two week intervals.

**PRUNING:**
Begin training by pruning to a central leader shape immediately after planting. Prune trees yearly, generally in late winter or early spring.

**THINNING:**
Once your tree starts bearing, remove excess fruit for larger, more flavorful apples. Thinning also helps prevent trees from bearing fruit every other year. Remove the smaller apples in each cluster before they reach 1" in diameter. Leave one fruit per spur on dwarf trees, two per spur on larger trees.

**PROBLEMS:**
Insects and diseases are a major frustration for organic apple growers, but new resistant cultivars and pheromone-bated insect traps make it easier to grow apples organically. Common apple pests include apple maggots, codling moths, green fruit worms, leafhoppers and mites. Aphids, scale and tarnished plant bugs can also cause problems. Fall webworms and tent caterpillars spin webs in branches and munch on leaves. Remove and destroy webs as soon as you see them. Spray BTK (Bacillus thuringiensis var. kurstaki) where caterpillars are feeding. Leaf rollers pull leaves together and spin small webs. They feed on buds, leaves and developing fruit. Native beneficial insects such as parasitic wasps help control them. Spray dormant oil just before bud break to kill eggs. Monitor with pheromone traps, and spray with BTK or Dr. Earth Pro-Active Insect Spray. Handpick webs after webs appear. To help prevent disease problems, dispose of all pruned wood as well as fallen leaves and fruit.
Harvesting:
Apples ripen from midsummer through late fall. Early apples tend to ripen unevenly over several weeks. Late apples can all ripen the same day. If you have room for a few trees, select cultivars that ripen at different times and pick apples all season. Taste apples to decide when they are ready to pick. Skin color and the first fallen apple may be good clues, but taste is the best method. If they taste starchy, they are still green. Some apples are ideal picked early. Others improve as they linger on the branch. You may have to experiment to find when each cultivar tastes best. Lift each fruit in the palm of your hand and twist the stem. If ripe, it will part easily from the twig without tearing. Handle apples with care so they don’t get bruised.

Storage:
Apples vary greatly in their keeping quality. In general, late apples are better keepers than summer apples. Store apples in a humid refrigerator at temperatures just above 32°F. If you have several trees full of fruit, you might want to be the generous provider to family and friends. Remember to check regularly for that one bad apple that really will spoil the barrel.

Best Cultivars:
There are hundreds of apple cultivars to choose from. Here are a few with particular characteristics.

Disease Resistance:
New resistant cultivars are being released every year. Check nursery catalogs to find out what’s new. Two good cultivars immune to apple scab are “Red Free,” with medium-sized, dark red, slightly tart fruit and “Williams Pride,” with sweet, medium-sized, dark red fruit. Both mature in mid- to late August. “Liberty” produces dessert-quality apples, is immune to scab, and resists cedar apple rust, powdery mildew, and fire blight, and it ripens in September. “Sir Prize,” another scab-immune cultivar, bears fruit similar to “Golden Delicious” but bruises easily and is susceptible to cedar apple rust. Two antique apples with good disease resistance are “Summer Rambo,” from sixteenth-century France, and “Yellow Transparent,” from Russia.

Ease of Pruning:
Cultivars that have a strong, horizontal branching habit, such as “Haralson” and “Honey Gold,” are easy for beginners to prune. Those with upright habits, like “Red Delicious,” are more difficult.

Growing Organic Apricots
by Gerry Arteaga, Apricot Enthusiast

Growing organic apricots can be a little bit challenging, but the sweet, aromatic fruit makes it well worth the effort. The juicy and naturally sweet fruit is one of my favorites to eat right off the tree.

Selecting Trees:
Doing a little research can help you to choose the right tree best suited for your climate and will provide the best chance for success. Some apricots are self-fruiting; others need a second tree for cross-pollination. While winter-hardy, a variety that blooms too early for your climate may lose its crop due to frost. Many cultivars don’t do well in high-humidity areas. Select trees grafted to seedling apricot rootstock as these do the best. Avoid those grafted to peach or to dwarfing rootstocks.

Planting:
Dig the planting hole at least twice as wide as the container the tree came in, but the same depth or a couple of inches higher. This will ensure that the tree does not settle and become prone to fungal diseases. Use Dr. Earth Organic Planting Mix at a ratio of 3/4 planting mix and 1/4 native soil, plus Dr. Earth Organic 2 Starter Fertilizer according to product directions. Space 20'-25' apart, or a little closer for better pollination.

Feeding:
Apricots, like any other fruit tree, need to be fed on a regular basis. Use Dr. Earth Organic 9 Fruit Tree Fertilizer in early spring just before they break dormancy and then every other month until the harvest is complete. Feed once again after harvest to replenish the soil of nutrients that have been depleted.

Pruning:
Apricot trees can grow up to 30’ tall. Train them to an open center shape.

Where diseases are a problem, limit pruning cuts and slow growth by spreading young limbs. In newly planted trees, make first cuts low to encourage low branching for better access to fruit.

Thinning:
If your tree escapes frost, it may set too many fruits, and you’ll need to hand-thin. While tons of fruit set are very tempting, thinning a tree provides larger apricots and removes the danger of breaking limbs. Remove smaller and damaged fruits before the pits harden. Where summers are damp, space so the fruits won’t touch.

Harvesting:
Apricot trees bear fruit in 4-5 years. Harvest when the skin turns a beautiful orange and the fruit is soft. Apricots dry well.

Best Cultivars:
If you have spring frosts and humid summers, look for late-blooming, disease-resistant cultivars such as “Jerseycot,” “Harcot,” and others starting with “Har-,” including “Harglow,” “Hargrand,” “Harlayne,” “Harogem,” and “Harval.”

Dr. Earth Organic Enthusiast

Growing Organic Apricots

By Gerry Arteaga, Apricot Enthusiast

Happy and healthy gardening.
There is nothing mysterious or magical about organic gardening. It is simply a way of working with nature rather than against it. The objective is to recycle organic matter back into the soil, to maintain soil structure and fertility, and to encourage natural methods of pest and disease control, rather than relying on chemicals. It is, in fact, a lot less mysterious than the methods employed by the chemical grower.

Organic gardening is much more than just growing plants without chemical fertilizers and artificial sprays. It is a lifestyle. It recognizes that the complex workings of nature have been successful at maintaining life for hundreds of millions of years, so the sound organic cultivating principals closely follow those found in the natural world. Do not be fooled into thinking that these principals will have a detrimental effect on yield and quality. In fact, you are likely to increase both, and in doing so, you will be providing an alternative habitat for wildlife, while being certain that the fruits and vegetables you have produced in your garden are safe, nutritious and chemical free. You will also be reducing the possibility of the harmful side effects from pesticides that are on the increase in infants and young developing adults.

Of the approximately 50,000 home pesticide poisonings each year, 17,000 are among children under the age of 4. Pesticides can remain active for years. They are poisonous and designed to kill.

The organic grower uses a more constructive approach based on the awareness that there is a balance in the natural world which allows all species to co-exist without any one gaining dominance.

By growing a wide diversity of plants, the organic gardener will attract and build a miniature eco-system of pests and predators so that, provided the balance isn’t upset by killing them with chemicals, no species will be allowed to build up to an unacceptable level.

The soil is teeming with millions of microorganisms which, in the course of their lives, will release those nutrients required for healthy plant growth from organic matter. So, rather than feeding the plants, the organic method is to feed the soil with natural materials and allow the plants to draw on that humic reservoir of nutrients as they need them. Plants grown this way will be stronger and more able to resist attacks by pests and diseases. Dr. Earth ProBiotic® is built on this sound principle. It works and lasts for years as it becomes a part of the living soil.

The Chemical Method
The purely chemical gardener uses soil simply as a means of anchoring plant roots and of holding artificial fertilizers to provide plant nutrients. This approach seems to have good results, but only in the short term.

In the long term, it has disastrous consequences. Because organic matter is not replaced, the soil organisms die out. Without them the soil structure breaks down and the soil becomes hard, airless and unproductive. Attempts at “force-feeding” plants result in soft, sappy growth, which is prone to attack by a host of pests and diseases.

When a plant is forced to grow with a chemical, high NPK fertilizer, it becomes weak. As plant cell walls are developing they do not have enough time to produce two important compounds, cellulose and lignins. These substances give the cell wall its structural integrity. As cells are forced to duplicate and grow quickly, the amount of cellulose and lignins are decreased, making the plant tissues much softer and more appealing for pests to attack. Think of it this way. It is like chewing on a piece of butter lettuce for us as opposed to chewing on a piece of wood. The same is true for insects. They prefer that tender soft growth.

In order to control insects, chemical pesticides are used, often with short term success. But, in killing the pests, pesticides also kill their natural predators. Eventually, the problem gets worse. Stronger and more poisonous pesticides have to be resorted to, and so it goes on. It is a vicious cycle that, once started, is difficult to break.

We at Dr. Earth will help you to grow all plants and control those insects naturally without the harmful side effects of chemical products. This is our lifestyle and contribution to all gardeners and our environment.
Minimize Your Carbon Footprint

**CLEAN WATER, Clean Lakes**

The connection between fertilizer and water quality

by Milo Lou Shammas

Dr. Earth Founder & Formulator

---

**Water quality starts at home**

Clean water in our lakes, reservoirs and streams starts at home with basic practices you can incorporate into your lawn and garden care program. Water quality begins at home. There is a pipeline from your garden to a body of water. Regardless of where you live, you are a part of a watershed – a region where water flows across or under on its way to a lake, river, stream or ocean. Year-round lawn and garden care practices impact water quality even if you don’t live near a body of water.

**The problem: Water-soluble phosphorous**

Thanks to modern science, we now understand how the phosphorous contained in fertilizers contributes to poor water quality. Phosphorous is the middle number on the “NPK” analysis printed on a fertilizer bag. It is present in all living things, including the soil. Too much phosphorous, however, can disrupt nature’s delicate balance. Runoff carries excess phosphorous from fertilizers across lawns, roads and woods into ditches and streams which eventually run into reservoirs, lakes, bays or the ocean. Water soluble phosphorous is “junk food” for the algae present in all these waterways.

**Lawns: A big contributor to the problem**

Lawns and plants are not usually able to absorb all of the water soluble fertilizers in chemical fertilizers, so some of it becomes the source of water pollution. As algae grow out of control (known as algae “bloom”) they reduce the clarity and visibility of the water. This in turn reduces photosynthesis by oxygen-producing aquatic plants, therefore reducing the oxygen in the water. Some forms of blue-green algae can even be toxic. Repeated algae blooms can create green-colored lakes with low oxygen, often resulting in fish kills or depleted water habitat for fish, wildlife and humans. Additionally, such conditions may degrade drinking water supplies and create other environmental nuisances. Many cities have put a ban on the use of chemical fertilizers in close proximity to lakes and rivers for these very reasons.

**The solution**

Dr. Earth organic fertilizers contain only water-insoluble forms of phosphorous and will ensure that the fertilizer applied remains in the soil. The phosphorous will not leach into the water table and travel into waterways. Dr. Earth contains ProBiotic® beneficial soil microbes and mycorrhizae. A vital mechanism for nutrient transfer by plants lies in the microbial process of the soil. The microbes ability to breakdown organic matter quickly, then release it as plant nutrients slowly and continuously over time, increases yield and builds the humus reserve in the soil. Humus conversion increases the soils ability to absorb and retain water, further reducing runoff and fertilizer loss caused by water or other erosive forces.

**Pollution from runoff**

Runoff of agro-chemicals during storm and irrigation events is a significant concern from the standpoint of surface water quality. The delivery of phosphorous and pesticides into the surface water via runoff may contribute to acute or chronic eco-toxic effects. Numerous studies have documented that the transport of agro-chemicals via runoff to streams is facilitated primarily by sediment movement. It has been observed that concentrations of phosphorous and nitrogen are often richer in the deposited sediment than the source soil. Fine soil particles, if not blended with coarse organic materials, tend to move quickly during irrigation or runoff events. This becomes even more critical in times of heavy rainfall as sediment-laden runoff moves from the land to the waterways.

**Be part of the solution!**

Apply fertilizers only when they are needed, during the proper season and in the correct amounts. Avoid getting the fertilizer on driveways, sidewalks and in storm drains. Above all, apply carefully, especially when using chemical fertilizers.

Don’t let your fertilizers get into lakes, streams or ponds. On lawns, use a mulching mower and cut no more than the top third of the grass. Keep leaves, grass clippings and soil out of streets and gutters. Clean up after your pet. Pet waste contains phosphorous. Prevent soil erosion by covering the ground with vegetation or mulch. Use Dr. Earth organic fertilizers to feed plants in your yard, garden and lawn to avoid applying water soluble phosphorous.

We all share the same pool of water. Be conscientious in your gardening habits to ensure that future generations will enjoy a healthy, toxic-free environment. Poor water quality can impact the ability of fish and other wildlife to reproduce, feed and survive in the dynamic aquatic environment. It all starts in our own backyard and ends in a large body of water. Please act as a responsible steward of our environment.
Grow It – JUICE IT!

Milo with Ali drinking his famous green juice!

Look good and feel great while you lose the weight!

Grow everything you possibly can! This is my philosophy and has been ever since I became Dr. Earth. What I do not eat, I throw in my juicer and drink. I have a lean, low fat content in my body because I live primarily on green foods. My metabolism is very fast which allows me to burn fat even when I sleep.

Another nice thing about juicing is that it is loaded with energy boosting vitamins and minerals. I can literally feel a burst of energy running through my body every time I finish my glass of juice. Green drinks are the best thing for your living body; they feed the cells at the microscopic level. Think about it this way, you would have to forage for about 10 hours a day and consume about 7 to 10 pounds of green vegetables. I can drink this nutrient density from all of these vegetables in about 5 minutes with 48 ounces of fresh green juice.

Your body will receive an abundance of nutrients, giving you that full feeling. You in turn will eat less because your metabolism has accelerated while simultaneously you feel full. As the day progresses you can snack here and there on whatever you want. I personally keep several heads of romaine lettuce in the office refrigerator. I often eat 3 heads of lettuce a day, never touching anything else at lunch time. I also keep several organically grown oranges that I grow on the Dr. Earth ranch available for that afternoon snack. It gives me that sugar rush plus it is loaded with vitamin C and antioxidants.

Juicing is a lifestyle with a commitment that should be made with health in mind. This is a choice I made many years ago to change my life for the better. Once you have made that choice it will become an automatic behavior. Losing inches off your belly is the by-product of having the energy you receive by drinking plenty of green juice and staying away from greasy, fatty foods. I encourage everyone I can impact to treat themselves to a hamburger and fries along with a soda no more than once a month. It’s OK not to be a saint. A regular healthy diet full of energy boosting vitamins and minerals, low in fats and carbohydrates will allow you to lose weight fast. As a matter of fact, if I wanted to I could lose 5 pounds in a week without exercise and still eat a full meal every night full of protein and healthy greens, I could do it. I know this because I have done it many times. I am often interviewed on television for gardening shows and a producer will make contact with me and tell me they want me on a show in a week. I never turn down the opportunity to support Dr. Earth and the organic lifestyle, so I put myself on my recommended diet, only green juice and water throughout the day, then lean free range chicken breast with a huge salad at night. No sneaking! I can lose a pound a day.

What do I mean when I say “green juice?” I mean whatever I can’t eat from my garden that is green in color. I even juice all the wild dandelions that I pick from my lawn, along with mint from my herb garden, lettuce, zucchini, bell peppers and cucumbers. I even throw in a few tomatoes as they seem to be the most abundant crop in my garden. I must admit that with my busy schedule I am not able to juice everyday at home, plus I do not grow enough to make my recommended 48 ounces a day, so I have my dear friends at my local health food market make it for me. This way I have access to a fresh daily selection of wheatgrass which is great for energy and chlorophyll, kale, broccoli, diakon, parsnip, turnip, dill, cilantro, beets, celery, carrots and ginger. I usually double up on dandelion as it is a major body cleanser. Your liver will thank you!

Grow everything you possibly can organically. This way you know what you are consuming. All Dr. Earth products are loaded with micronutrients and vitamins to feed the soil. Healthy soil equals a healthy plant which ultimately equals a healthy you! What you cannot grow you can buy at the local farmers market on the weekend. Supporting local growers is great for you and the environment, because you know less freight was involved to ship the product. Also support your local health food store that sells good quality produce. Take a good supplement daily, drink green juice, stay away from fatty fast food, no soda, drink plenty of clean filtered water and drink as much green juice as you possibly can and I can assure you the pounds will fly off! Another side effect of this lifestyle is you will have healthy glowing, tight skin. You are in essence feeding your living cells. The organic lifestyle is something you do as a treat for yourself, not because it is a chore. Burn the fat naturally and look and feel great.

Be healthy,

Milo Lou Shammas
Dr. Earth Founder & Formulator
**Life begins in the soil**

Some people think of soil as nothing more than an anchor to hold plants in place, but that’s like thinking the ocean is nothing more than a liquid to float ships on. They don’t realize that the soil, like an ocean, is filled with life, needing to be fed on a regular basis, like all living things. Unless you already understand this concept, the following is a must-read for you.

There is a clear difference between feeding the soil and feeding plants. Organic fertilizers and synthetic fertilizers function in fundamentally different ways. Organic fertilizers feed the living biology (microorganisms) in the soil. Synthetic fertilizers feed plant roots directly. You might ask yourself, what’s the difference, as long as my plants grow? The difference is one of a short-term result, that looks good for awhile, as opposed to the lasting benefits of improved soil health, plant health, and in the case of edibles, even your own health.

If you feed the soil, you build nutrient reserves. Plant roots can tap into these reserves on a regular basis. This approach works to build soil structure and make it more porous, encouraging roots to expand into the rhizosphere. It also suppresses diseases, creates biological diversity, supports a neutral pH, forms humus, and adds minerals and micronutrients to a living soil, equivalent to giving a human a multi-vitamin.

Chemical fertilizers feed plants directly and do not address the soil. This is possible because they are in a form that plants can absorb immediately. Although this sounds attractive, it adds no beneficial attributes to the soil; as a matter of fact, these chemicals could actually deplete it after a period of time.

Organic fertilizers and soils feed the soil that feeds your plants. This is the way Mother Nature intended it: slow and steady. Remember that organic fertilizers and amendments are made of pure and natural ingredients. Beneficial microbes, present in the soil, and in Dr. Earth fertilizers, digest these ingredients as a food source. Then the microbes convert them into a simpler form that plant roots can absorb as needed. Organic fertilizers do not leach through the soil, contaminating the water table and simply wasting the nutrients, as chemical fertilizers do. Instead, organic fertilizers are absorbed by the plant’s roots system.

**My backyard is the center of the universe**

Every little thing I do in my backyard makes a difference on a global level. It affects my health, my family’s health and the health of all living things that come into contact with it, such as insects and birds. It all begins with the soil, so we must be serious in how we treat it. Casual decisions to save a few bucks have lasting and potentially devastating effects.

I have noticed that there are more soil scientists today than any other time in history, but we are losing topsoil at a greater rate than ever before. How can this be? Despite all the great minds working hard in this field, none have conclusively addressed concerns over control of soil erosion and water quality.

We should not be mislead by the giant agribusiness scientific community that touts “miracle” results by using advanced blue liquid potions. Only the giants can afford to pay a soil scientist in the first place. Few of these scientists end up working for organic companies. It is up to us in the organic community, including amateur gardeners, to lead the way when it comes to discovering (or rediscovering) methods to nurture and protect the soil.

I have become quite pessimistic about the likelihood of governmental agencies and universities that receive research funding from giant agribusinesses, ever focusing on the vital concept of nurturing the soil. It is not in the best financial interest of any of these parties to discourage the use of, or stop selling, water-soluble blue potions that have high dollar profit margins. Expanded awareness, and the resulting change in widespread practices, will have to come from people like us who care about our family’s health and what we put into our bodies. I cannot control what others do. I simply do the best I can to control my own environment in my backyard, and to help improve the larger environment by directing one of the most successful organic lawn and garden companies in America.

Make no mistake; this question of soil preservation and soil health may be the most important issue of our time. This bit of soil I am steward of is intimately tied into bigger, even global, issues of eroding soils, environmental degradation, economic and social justice, climate change, etc. If you want to tackle these big issues, start in your own backyard.

**Knowledge equals success**

Learn as much as you can about the health of your soil. I am here to help you. If you are reading this article you are already well beyond the “N-P-K” mentality. The notion that plants will look good and be healthy if we add the right mix of chemical salts of nitrogen, phosphorus, and potassium to the soil, is yesterday’s view. We all want good looking, healthy plants, but many of us seek, organic, sustainable ways to reach those goals. Enlightened gardeners provide plants with the nutrients they need for maximum health potential through the addition of organic fertilizers, soils, kelp meal, and fish bone meal. And they use non-toxic insect controls. We’ve all heard the ads that claim chemistry creates a better life! It might be that our greatest opportunity for a better life, through better soil health, is to leave chemistry behind and move toward biology instead.

The soil is alive. Rather than just adding any particular chemical needed by plants, our primary goal should be to support and nurture a diverse web of soil life, as complex and well organized as an ocean ecosystem. At the same time, we nurture our own web of life on the earth.

Milo Lou Shammas  
*Dr. Earth Founder & Formulator*
NO CHEMICALS in My Food

Free of Toxic Garden Sprays

An increasing number of American families are growing organic fruits and vegetables to provide healthy, chemical-free food for their families. I have personally witnessed this extreme shift in the last 5 years. I know that the health-conscious consumer will pinch pennies elsewhere to afford to buy organic food. You are what you eat is so true for those who understand.

Is organic food really better for you? The debate goes on, but we do know that organic food contains far fewer pesticide residues than food grown using synthetic fertilizers and pesticides. Whether or not it is a proven scientific fact that organic food or especially home grown food contains more nutrition becomes secondary. The fact that you are not putting those toxic synthetic chemical fertilizers, pesticides and herbicides into your body should be enough of a reason to garden organically or buy organic produce and other foods.

Approximately 5 billion pounds of synthetic pesticides are applied annually to crops worldwide; the U.S. alone applies 1 billion pounds. Chemical companies have put big bucks into promoting the sale and the use of synthetics in traditional farming practices, the promise of “miracle results”. Home gardeners and traditional farmers generally believe that there is a trade-off in their farming methods. Applying a synthetic fertilizer triggers rapid growth in crops but also encourages bug infestations. American farmers buy about $2.4 billion worth of insecticides and fungicides each year. Corporations that produce these chemical fertilizers also sell the chemical remedies to fix the insect problems that occur with the use of chemical fertilizers! A corporation’s message to a traditional farmer might sound something like this: “Our chemical company will train you to use lots of synthetic fertilizers; Our chemical company will sell these chemical fertilizers to you; Our chemical fertilizer will create rapid growth in your crops (we won’t mention that your crop will be weaker and that your weaker, vulnerable plants will develop pest problems); Our chemical company will also provide the pesticides to control your pest problems, and by the way, we will sell those chemical sprays to you, too.”

Until 1986, there had been very little research in examining the relationship between organic crops and reduced insect damage. Ohio State University posed the question: Do healthy crops grown organically have reduced insect damage? What they found is that organic matter reduces insect outbreaks by releasing nutrients at rates and in proportions that best meet the plant’s needs. What they found was that the use of synthetic fertilizers creates a nutritional imbalance that leaves plants more vulnerable to bugs. Simply summarized: plants that are fed with synthetic fertilizers are ‘pushed’ to grow quickly resulting in plants that are weak and easy “pick ins” for bugs.

Consumers are quickly recognizing that there are real dangers associated with residual levels of pesticides in non-organically grown food. Annually, over 100,000 cases of human pesticide exposure are reported in U.S. certified regional poison control centers, but many exposure cases are not reported because the symptoms of such exposure mimic flu symptoms. Interest in organic gardening –using organic and natural materials for fertilization and disease and insect control – is increasing. The word is out: laboratory studies show that pesticides can cause health problems such as birth defects, nerve damage, cancers (leukemia, kidney cancer, brain cancer, and non-Hodgkin’s lymphoma), and other effects that might be more difficult to diagnose because the symptoms occur over a long period of time. Of concern to families is that children are especially sensitive to pesticide exposure. A child’s internal organs are still developing and their bodies do not fully and efficiently remove pesticide toxins from their immature systems. A child’s normal behavior, such as playing on floors or lawns, or putting objects in their mouths, increase exposure to pesticides used in homes and gardens. Pesticide effects on the unborn and in infants can have lifelong effects such as low birth weight and birth defects. Pesticide exposure can interfere with a child’s development and cognitive ability.

So what can you do to protect yourself, your families and pets from pesticide exposure? First and foremost, minimize your exposure by making smart food choices. Grow as much of your food as you possible can! Create a garden space in your own yard where you can grow your fruits and vegetables without using synthetic fertilizers, insecticides or pesticides. Select pest resistant plants. Put plants in your garden that will attract many beneficial insects that will deter detrimental pests. Plant only healthy vegetable transplants and apply only high quality, all organic fertilizer to your home garden to grow your food. If a complete home garden is not possible, buy organic produce from local organic farmers or from your local farmer’s market. Many supermarkets now stock organic produce for their consumers. When considering the choices in the produce aisle, pick organic fruits and vegetables when you can. For weed control simply apply 2-3 inches of organic compost to control weed growth. The mulch will keep your soil warm and retain moisture in your garden. No herbicides needed this way.

There are easy, safe and efficient ways to manage pests in your garden without resorting to chemical pesticides. Accept a little insect damage on your plants. Remember that healthy, robust plants can withstand a little insect damage, but if you need to treat insects, it’s vital that you figure out the insect that is doing the damage. One “mechanical” method used to control an insect population is to hand-pick the insects off of your plants. If you do use a spray, make certain that it is 100% organic and that it is “people and pet safe.” An organic spray made with essential oils will provide you with a broad spectrum spray to kill and repel both hard-shelled and soft-shelled insect pests.

Gretchen Taylor
Vice President of Sales & Marketing
Dr. Earth, Inc.
Growing NUTRIENT PACKED Foods

Eat Well – Live Healthy!

Growing your own fruits and veggies is beneficial for a number of reasons:

1. Home Grown fruits and vegetables - are much higher in phytonutrients, anti-oxidants, vitamins and minerals. When grown at home in hearty soil, plants will have more nutrients available for absorption and as a result be able to synthesize more of these healthy nutrients for human consumption. One of the most critical stages in the healthiness of produce is the last few weeks before harvest (the ripening period). During this time, produce becomes more tender and absorbs more vitamins, minerals, and anti oxidants rendering them more beneficial for things like digestion or nutrient absorption. So fresh picked veggies and fruit will be better for you and will even taste better because of the higher sugar content compromising the nutrient benefits.

2. Cut out the middle man - A large expense while at the grocery store goes to produce, especially fresh and organic produce. What better way to achieve nutrient rich food while avoiding mark up costs than to grow it yourself. You won’t have to worry about what pesticides, fungicides, fertilizers, or other treatments went into your produce. You’ll know exactly what went into it, when it was harvested and how it was transported to your dinner table. Understandably, most folks don’t have time to grow their entire diet in their garden, so pick out the more expensive things to cultivate like; snow peas, bell peppers, berries, avocados, and herbs. I like this approach because I can grow what I want, but hardly buy because of its price. There is a double benefit because you get to save hundreds of dollars on produce processing costs while gaining fresher and more nutrient rich foods.

3. Support the Environment - The more food grown in our back yards, the less that has to be shipped across the country. Shipping is responsible for a lot of environmental damage. No waste is produced in carrying food inside from the back yard. Not only that, the remains in the food can be used to grow more by composting. Also, when choosing to use fewer chemicals in our backyards, fewer toxins will enter the atmosphere and leach through to contaminate our water supply. I also encourage all gardeners to grow as many heirloom varieties as possible to maintain bio-diversity and keep our historical gardening tradition alive.

4. Promote overall health through sharing - Sharing your nutrient packed edibles with family and friends will not only support their health but may also encourage them to grow themselves.

First attention must be given to creating a loamy soil full of bio-diversity, which consists of microbes and mycorrhizal fungi. Good soil structure will help to facilitate pore spaces and colloids for nutrient creation and stores.

One thing gardeners can assure themselves of in the nature of the current economy, is that their food source is secure when growing as many foods as possible. Doing so will also provide an excellent sense of self sustainability, satisfaction and accomplishment. It will also be a great learning experience about how food grows, how foods function in our bodies and the environment. Not to sound like an alarmist, but if some national disaster happened and all businesses were halted, there is only enough food in grocery stores around the nation to feed Americans for three days. Given this far out example, knowing how to grow your own food and actually growing it, could come in rather handy some day. Let’s hope never!

It is my greatest hope that you are ready to plant some of your own foods. The veggie garden can start small and develop throughout the years. If you have little room, carrots, tomatoes, potatoes, celery, lettuce, asparagus, peas, or what ever else suits your fancy and meets your “backyard microclimate” will work great.

I want all of my customers to be healthy and live long lives free of ailment and disease. I know that growing nutrient packed foods will help all of us to achieve this level of health. I am here for all Dr. Earth gardeners and I will supply products that will keep us all growing in the right direction. I stand for many things, especially bio-diversity, bio-ethics, toxin free products and a clean well-balanced life. Liberate yourself from the pharmacy and have your backyard act as the medicine cabinet!

Milo Lou Shammas
Dr. Earth Founder & Formulator
Milo Shammas
FOUNDER OF DR. EARTH

Healthy Garden, Healthy You
The Best Garden of Your Life
100 easy-to-grow plants & their health benefits.

Milo (a.k.a. Dr. Earth) shows you how to live more fully by growing your own fruits and vegetables. Help restore the organic balance of Mother Nature’s good earth while giving yourself and your family the best, healthiest food you can harvest yourself.

For the first time all in one place, Milo takes the best of his research and proven techniques and puts them together in an easy-to-read book you can use right now.

From the first page you will learn
• How growing organic fruits and vegetables in living soil can improve your health and help you resist the diseases of a polluted world
• What you should grow to optimize YOUR unique body
• How we are all linked to the health of the living soil
• Why and how corporate farming with chemical fertilizers and pesticides is the worst possible way to feed a nation
• What you can do to help repair the earth

Milo takes you through a story-telling journey of soil health, plant health, animal health and how it all directly affects human health.

BONUS: 100 easy-to-grow plants, how to grow them instructions and their human health benefits and disease prevention properties.

Grow and live healthy with:
Healthy Garden, Healthy You
The Best Garden of Your Life

The latest wisdom from Dr. Earth is your trusted guide to growing and eating organically from the best soil you can cultivate. If you liked our gardening guide, you will love this book packed full of insights, inspiration and Milo’s unique way of teaching. Dr. Earth shows you how to get your hands dirty while making the world a better place to live, love and eat.

Buy online at: www.milo.pro
My personal story

My mother was my gardening teacher from the time I was 5 years old. She would build my enthusiasm before she took me out to the garden to help dig a hole or help with a little weeding. My mom knew that I was a kid with a short attention span, so she would only push me as hard as she knew I would enjoy. She put me in charge, or at least, I thought I was in charge, of amending the soil. I remember she would have the bright yellow Kellogg’s soil bags next to the vegetable plot every year. It was my job to help spread the soil and add a little fertilizer. I loved that part and I still do! Maybe that’s why I became Dr. Earth!

I remember learning in elementary school about the pilgrims and how the Indians taught them to amend the soil with fish and other natural materials. This really stuck in my mind. My father and I would go fishing in the spring and summer just about every Sunday in Santa Monica, Malibu and Paradise Cove, California. When I was seven, I came up with the clever idea to bring home all the fish by-products I could from the fishing boat my father took me on. With my mother’s guidance, I buried fish bones, fish heads, intestines and basically all the waste products (fish scraps) that would be thrown back into the ocean in an area of the garden approximately three feet by three feet. We waited a few weeks to let things decompose a little and then we planted some vegetables. I remember we planted a couple of tomato plants and a few cucumber plants. This was my first success in the garden that really made a huge impact on me and my love for gardening. My fish fertilized plot outperformed all other plants in the garden, and my mother made sure she relayed that to every family member and friend that visited us. Wow! What great feelings of pride and joy. My mom told me that I was a great gardener.

I caught the gardening bug young and I could not wait until our next project began, even if it was to help weed or cultivate the soil. I must admit though, my favorite part of gardening was harvesting summer vegetables, especially tomatoes and cucumbers, and eating them right off the vine before they ever made it inside the house. My mom was my best teacher. Because of her guidance and support, my very first class elective in junior high school was botany. When most of my friends were taking wood shop, metal shop or printing shop, I chose botany. That was one of the most important decisions in my life. It gave me the fundamental knowledge about plants that I needed to involve myself in more community gardening projects.

By the time I was in high school I was a seasoned gardener with many years of experience behind me. I ultimately went to college, studied plant science and went on to become founder and creator of Dr. Earth, Inc., a very successful organic fertilizer, soil and organic insect sprays company that now is nationally renowned. The experiences that my Mom gave me as a child in the garden have helped to shape my entire life. It is amazing what kids will become with a little guidance and enthusiasm about gardening. I personally believe the best thing you can ever grow is a gardener.

Milo’s niece and nephew, Dahlia and Nolan, future gardeners.
Dr. Earth®
5-5-5

Easy to apply Pelletized
Covers 120 sq. ft.

NATURE'S INTELLIGENCE
PURE & SIMPLE

ProBiotic Inside
Beneficial soil microbes plus Mycorrhizae

Natural and Organic

Created for LIFE®
All Purpose Fertilizer

For Fruits • Vegetables • Flowering Plants & Shrubs • Ground Covers • Lawns

Milo Shammas
Founder