DR. EARTH®

GARDENING GUIDE

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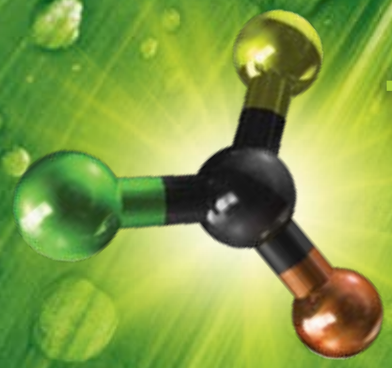

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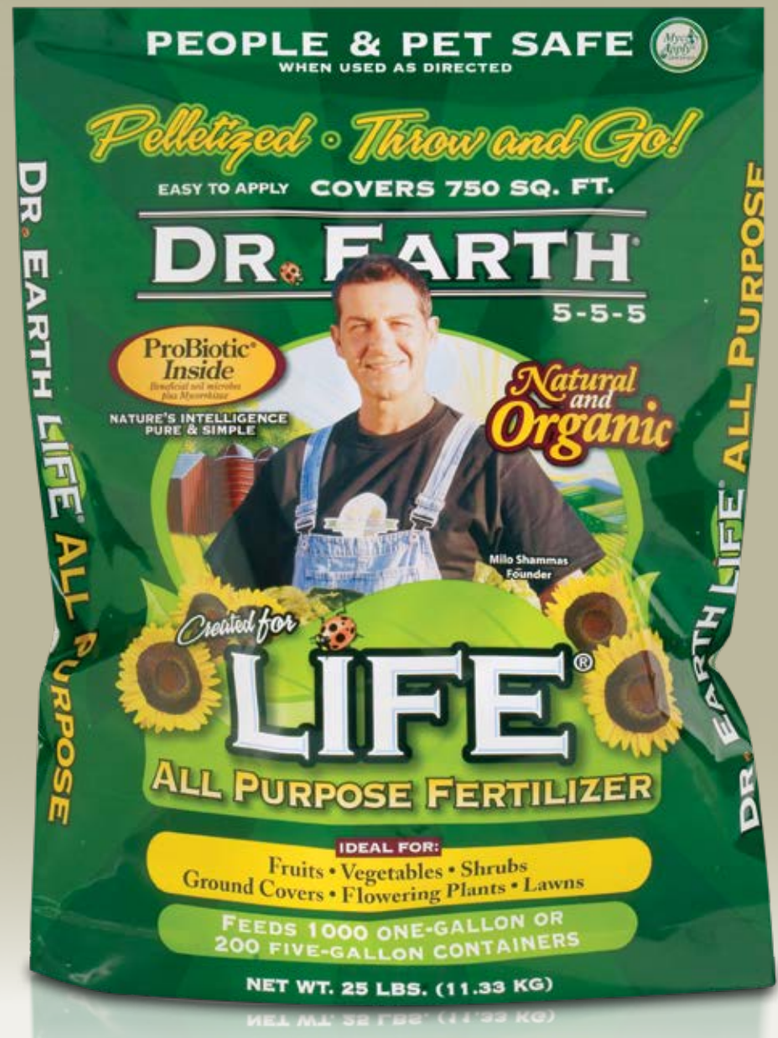

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DR. EARTH®

We Are Committed To Our Environment

Ethical

ORGANICS

In the natural world diversity is the perfect model for sustainable ecosystems. We respect and honor all gardeners and farmers that grow a wide variety of heirloom plants. We also praise those that recycle and support organic farmers and companies committed to doing the right thing for the sake of future generations.

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Get to KNOW your SOIL

If you pause to contemplate your garden or the plant life around you, you may wonder:

- *What makes plants so large?*
- *What makes them healthy?*
- *What causes plants of a species to develop differently from each other?*
- *What keeps causing plants to wilt right away?*
- *How do you get a "green thumb"?*
- *How do you give plants the best chance at healthy development?*
- *What determines the health of plants?*

While the science to answer these questions can be quite complex, it is easy to understand in general terms. In their natural environment, plants rely on environmental conditions, their genetics and a healthy soil foundation to spread their roots. Location (mountains, valleys, river banks) weather and air quality shape environmental conditions. Each plant needs a proper balance (specific to its species) of sunlight, hydration and nutrients such as carbon dioxide and nitrogen from the air or soil. Exposure to wind, rain and other living organisms also help determine a plant's life course. Any factor out of proper balance in "the equation of life" (too much, too little or at the wrong time) can lead to a plant's demise. Genetics also help determine whether a plant can survive, especially those that mature in extreme environments with high competition for nutrients.

Home gardeners who want maximum plant growth potential cannot control environmental factors nor plant genetics. Especially for organic growers, controlling the genetics of each seed is not an option. By using greenhouse growing to shelter plants from unsuitable environments, we have created pseudo environments. Because so many factors affect plant development, we cannot completely control our results. For these and other reasons, our strongest power to influence the health of plants is to control the health of the soil. If you want your plants to grow tall and be nutrient rich and resistant to pests, you must have healthy, balanced soil.

The interaction between plants and soils, sometimes over an entire life course, has received a lot of research attention during the past century. Among the important findings: When we control the health of the soil, we influence plant health in many ways. Scientists also agree that the best, most fertile soils have great consistency and structure for root extension, water retention and an abundance of organisms living in symbiosis with plants.

With regard to your own garden, consider your soil as a given that you learn to deal with. Since you cannot completely dig it out and replace it, you must get to know its nature and characteristics, and modify it as best you can to cultivate it successfully. Among the important soil qualities are:

- Texture
- Composition (heavy clay or light sand, for example)
- pH (the acid-alkaline spectrum)

With this information, you can intelligently choose the most suitable plant material for your environment. These factors also determine the best ways to modify your soil (adding amendments and nutrients) to gain the full potential for a healthy garden.

Living organisms are the bridge that connects nutrients stored in the soil to plant growth. Organisms ranging from bacteria, fungi to earthworms and insects perform a wide variety of tasks that create a regulated balance of nutrients. Soil organisms vary in size from microscopic up to small mammals like moles, groundhogs and mice. On the microscopic level, healthy topsoil contains billions of living organisms growing, reproducing and dying in each gram of soil. These species are crucially important to all life on earth, for they recycle nearly 100 percent of organic waste. They are able to provide nutrients in a form usable by plants through their digestive enzymes, changing complex molecules into a simpler form and making them bioavailable for plant root absorption. These invisible helpers serve as vehicles to transport stores of nutrients in the soil to plants, then to animals and ultimately to us.

Soil organisms play many different roles in the soil ecosystem. All living things must die and eventually decompose. Because animals and humans eat plant materials grown in the soil, organic waste must be broken down and recycled back into the soil to nourish future generations of plants. This waste may consist of animal or plant materials or both. Decomposers break down this organic matter to feed our plants, which feed our animals, both the ones we call our pets and the ones we eat for our health. They complete the cycle of living and prevent the build up of wastes. (Imagine not having the decomposers. Nothing would break down. Animals and plants that died millions of years ago would rest under mountains of waste. If dinosaurs were still on the side of the road, nutrients would never make their way back into the soil. We would run out of plant nutrients and all life would stop.)

This is why "living soil" is so crucial. The decomposers, (under attack by commercial farming practices) create a healthy balance of nutrients available in the soil to perpetuate life as we know it.

Briefly, here are some major contributors to the soil and its life.

Bacteria make up an enormous portion of living matter in the soil, weighing more than a ton per acre. In each gram of fertile soil, we can find about one million different species of bacteria just on the surface. Bacteria also exist far below the surface, more than a mile down. But they are most active around the root depth of plants, known as the rhizosphere. These hard workers are decomposers and recyclers. Some are responsible for decomposing naturally occurring organic matter such as dead cells released by roots or other organic plant and animal remains. Through their metabolism, they release carbon dioxide and other crucial nutrients supporting plant and animal life.

our strongest power to influence the health of plants is to control the health of the soil

Other types of bacteria provide plants the essential nutrients they need to survive by transforming inorganic matter into forms plants can use. These organisms need carbon dioxide to function. Bacteria also provide plants essential nitrogen through a process called "nitrogen fixation." The Rhizobia bacteria, for example, are symbiotic with the legume family of plants, which includes more than 18,000 different species. They convert atmospheric nitrogen (which makes up 79 percent of our air) from its gaseous form to a water-soluble form that plants can take up through their roots. Nitrogen then becomes available to plants. Through both types of functions, bacteria are essential to plant nutrition.

Actinomycetes are decomposers and recyclers. They break down organic matter and convert gaseous nitrogen from the atmosphere into soluble particles for plants to feed on. The nitrogen fixers have little filaments that invade or grow into root hairs and form small aggregates there. Actinomycetes are most popular as a source of antibiotics. Even at microscopic levels, we find a system of checks and balances. They help keep bacterial populations from growing out of control and throwing off the delicate balance of nutrient cycling to benefit plants. Around the time scientists observed the relationship between actinomycetes and plant health, they also discovered antibiotics like penicillin to fight bacterial diseases..

Fungi decompose fallen leaves on forest floors and in our back yards and digest dead plant and animal remains. Fungi come in many different species with a plethora of functions. Some fungi work to degrade organic matter in sequence, from tough fibrous matter down to soft simple matter that produces nutrients in the soil usable by existing plants and animals. Other species form mutual relationships with plants and protect them by consuming nematodes or other bugs before they eat plant roots.

The fungus that is perhaps the most directly beneficial to plant life is known as mycorrhizae, which forms a symbiotic relationship with roots. Two types exist, endo-mycorrhizae and ecto-mycorrhizae. The endo- version embeds some of its arms within plant roots. The ecto- version attaches to the outside of the roots. In both cases, the fungi extend their arms (hyphae/filaments) out into the soil to increase the reach of the roots wider and deeper. These mycorrhizae webs allow entire populations of plants to share nutrients. (See Chapter 6 for more detail on mycorrhizae.)

Algae contribute much organic matter to the soil. In some species, such as blue green algae, they fix nitrogen from air, helping prevent the depletion of the critical nutrient for plant growth. The organic matter composed of algae helps improve soil structure by assisting soil particles stick loosely together, which in turn enhances water retention and decreases erosion. They are also food for other bugs living in the soil. In some cases, they form alliances with fungi, giving them sustenance that strengthens their ability to absorb even trace nutrients from the soil for plants to consume. Common lichen are an example of this alliance.

Nematodes, pot worms and earthworms decompose organic matter into humus and secrete a sticky substance that helps the soil form nice cake-like aggregates. These creatures exist in the highest numbers on or near grassland, prairies and pastures. They feed on plant debris as well as some bacteria or actinomycetes that share the same topsoil. Some nematodes will feast on insects within the soil. As a result, some gardeners use nematodes as a natural form of pest control. In turn, some bigger bugs and even mycorrhizal fungi feast on nematodes.

Earthworms are larger than the other two types. They travel through the soil by burrowing, eating minerals and organic matter as they go. As they do, they minutely perforate and loosen the soil, producing a similar effect as machine tillers. Throughout digestion, the matter consumed is mixed and many unusable minerals are transformed for plants to consume later. In addition, the remains of an earthworm, commonly referred to as "castings," are much higher in nitrogen, phosphorus, potassium, calcium, trace minerals and beneficial bacteria than the surrounding soil. By these processes, earthworms create more nutrient-rich, fertile soils with a pH close to neutral. Having many earthworms in your yard is a good sign that you have good soil.

Mites and spring tails decompose many types of organic substances in the soil. They are known as arthropods, which have characteristic exoskeletons and jointed legs. They are the most abundant soil dwellers. Of the arthropods, mites and springtails are the most vital source in the creation of humus, breaking down everything from nematodes and pot worms to fungus and leaf litter. Their main job is to break down leaf litter and other relatively large remains into smaller pieces so microbes can continue the nutrient cycling.

These are only a few of the billions of organisms in or around our gardens that have been evolving for millions of years. Growing methods that clear the soil of these organisms undermine the goal of producing healthy food through healthy soil. Agricultural practices that disrupt the bio-diversity of organisms responsible for sustaining growth of all types of plants throughout the world seem like a recipe for disaster.

The soil is a living, breathing, unique and dynamic force. Soil management practices of giant agribusiness are inefficient and inferior. Their focus is directed to large-scale, single-crop growth and "miracle" results by applying broad-spectrum chemical fertilizers. Many modern practices ignore the need for complex and highly diversified soil enrichment. Instead, they use the continuous applications of three water-soluble fertilizers: nitrogen, phosphorous and potassium (N-P-K). This practice compromises the biological health of soils, leading to poor plant health and ultimately poor human health.

The amount of nitrogen fixed for plants by rhizobia bacteria, actinomycetes and green algae is double the amount of applied nitrogen in commercial fertilizers. Starting in our backyard, we can begin to change this trend by supporting the organisms that provide our plants with the sustenance they need to give us the nutrients and vitamins we need for our health.

6 FACTORS

6 Factors To Consider When Planting In Containers

Sunlight • Container Size • Potting Medium
Fertilizer • Trellising Support • Watering

CONTAINER GARDENING

6 FACTORS TO CONSIDER WHEN PLANTING IN CONTAINERS

You can grow enough organic fruit, vegetables and herbs on a 4-foot by 8-foot balcony to satisfy your hungry appetite. Space may be limited in your garden. Perhaps you live in an apartment. Or you may not want to invest a lot of time in a full-scale garden. Whatever your situation, you can still enjoy produce you grow within reach of your kitchen. Using containers to grow organic edibles is rewarding and easy. Container produce can give you nutritious, tasty and visually pleasing organic plants. Nothing tastes better and is healthier than a few fresh herbs, vegetables or fruits from your garden. Put them in a salad within minutes of harvest when they contain the most nutrients and are full of flavor.

Pay close attention to a few important rules, and you will need to invest only minimal time to enjoy an abundance of organic and healthy fruits and vegetables. You must consider five factors before you plant your organic container garden. Considering these variables will allow easy set up, maintenance and harvest of a productive container garden. The five variables are sunlight, container size, potting medium, fertilizer and trellising support.

1 SUNLIGHT *Light is Energy*

Sunlight is the most important factor to consider. Too little prevents your plants from converting enough sunlight energy to produce fruit of real value. (On the other hand, some herbs grown specifically for their foliage do fine with less sunlight.) Track the sun and shade patterns in your immediate area to get a good sense of the space where you intend to garden and what plants will do well there.

Here is a simple rule: Fruit trees and vegetables that set flowers (such as oranges, plums, tomatoes, cucumbers, eggplants, peppers, or squash) need a lot of sunlight. Photosynthesis produces sugars that directly feed flowers and help grow fruits of appealing size, taste and nutritional value. A good local nursery has staff people who can help you understand the sunlight you need for the kind of plants you can grow in your region.

2 CONTAINER SIZE *More Soil Equals More Nutrition*

The second most important variable for container gardening is the size of the container. The more soil volume your plants have, the more extensive the root system that can draw on a larger pool of nutrients and water. Available container space directly influences the nutritional value, size and quality of the fruits, vegetables and herbs you will harvest. More is definitely better. For example, tomatoes require a minimum of 15 gallons of soil in order to develop into full size plants with rewarding taste and nutrition. Other vegetable crops can survive in smaller containers with less soil volume. They still benefit from more soil by producing larger, more bountiful crops in a larger container.

The type of container you use can also make a big difference in growth and quality. Terracotta containers are a good choice, because they breathe with the soil and do not fluctuate quickly with extreme temperatures. Redwood is another good choice that also breathes and retains moisture longer. Plastic containers, which come in a great variety of styles, work fine but will require more watering than thicker, denser pots. With plastic containers, you must use mulch to retain moisture. I use mulch with all containers. Plants in small containers will dry out quickly, so keep a close eye on these pots. In general, less plant foliage requires less regular watering. A larger plant needs more water. Pay close attention to all your plants, and water them regularly as needed.

3 POTTING MEDIUM: *Premium Quality, Better Nutrition*

Soil is the source of life for every living thing on earth. Healthy soil produces a healthy crop. The type of soil or "potting medium" you choose has a large effect on your plants and their ability to produce an abundance of large, nutritious fruits and vegetables. If you have a potting soil that gives you good results, stay with it. Chemicals are common in many bagged potting soils. Make sure your bagged potting soil contains no chemicals such as synthetic plant nutrients or chicken manure & biosolids.

Potting soil is different from composts or planting mixes. It can be difficult to formulate. Getting the balance right is the key. You want potting soil to drain fast to prevent root rot, but you also need the soil to hold on to enough moisture to support a healthy transfer of nutrients to the root. Pot of Gold® is the best & is clean and pure.

Use some of that compost from your kitchen and yard waste. It makes a good component to mix with the potting soil. A good formula is about 1/3 compost to 2/3 potting soil. Do not skimp on the soil, as it is the only source of nutrition for your edibles. If the soil is poor, the nutrient value will be poor. A plant grown in a container is like a caged animal; it eats only what you feed it. Container plants do not have the luxury of drawing nutrients from the native soil. Therefore, spend a few extra dollars for the best soil available.

4 FERTILIZER *Feeds the Living Soil*

You must feed the soil that feeds your plant root systems. Chemically fertilized soils are low in organic matter, which helps conserve the soil and its moisture, providing insurance against drought. Soils lacking organic matter are more vulnerable to drought and to extreme climate changes.

Fruit trees, tomatoes and most other vegetables, especially in containers, need a lot of fertilizer to reach full potential. Roots in containers cannot tap into food reserves the way they can in natural soil. Because the plants receive only what you give them in the container, it is especially important to use the best quality organic fertilizer. Feed the roots in your container plants slowly with the best organic fertilizer to harvest the maximum amount of nutrition from your plants. Sea based organic fertilizers are superior and contain the most multi-minerals. You will benefit from these nutrients as you consume your harvest. Healthy soil leads to healthy food. Feed containers every two months throughout the year to maximize the plant's potential. Because the plant is in a confined space, it will use all of the nutrients quickly. Keep container plants on a regular feeding schedule. Rich, tasty and nutritious vegetables are just outside your kitchen. Enjoy.

5 TRELLISING SUPPORT *Form and Structure with Better Health*

Exposing as many leaves to sunlight as possible helps to increase your harvest. Some of your vegetables will not require any support at all, but cucumbers, tomatoes and other vine plants need support to keep them off the ground and growing in the desired location.

Air space between your plants is also important to help minimize fungal diseases. Air space also encourages beneficial insects to do their pollination work more easily by making flowers more accessible. When you buy your trees or vegetable transplants, ask your nursery professional what he recommends. Some plants may need a stake in the center of the container, while a tomato wants a sturdy cage, and a cucumber needs a grid-like trellis. You can build many of these support systems from scraps around the house. I like a well-assembled product that looks good. Some gardeners prefer a grungy and scrappy look. Plants do not know the difference. Just give them a shoulder to lean on!

6 WATERING *Wet Your Whistle Just a Little*

Every living organism needs water. Most plants are 90 percent water. The task of delivering water from the soil to the plant is considerable. Sixty percent of water is absorbed by plant root hairs. To keep your plants healthy and thriving you must have a good soil with plenty of organic matter to act like a sponge and allow the almost microscopic roots to travel through porous, well draining soil. Organic matter allows the soil to breathe with a good ratio of minerals that holds onto water.

When and how often should you water? No set watering schedule can be prescribed. The only schedule to go by is the one that literally feels right. I have studied many plots of land supporting many different crops. Whether growing an annual vegetable crop or perennial walnut trees that are 30 years old, I have drawn the same conclusion: you have to water when it FEELS right to you.

The best way to tell when and how much water your plant needs (whether in the ground or a container) is to feel the soil. Probe your finger about an inch or two and feel if it is dry or moist to the touch. You can buy a water meter at your local nursery. They work, but I feel closer to the soil and my plants when I touch the soil with my bare hands.

When a reference book says something like, "Water every three days in the summer and cut back to once a week in the winter" I am amazed and disappointed. I wonder: has the author ever been a farmer and paid attention to the watering needs of plants? The soil type makes a huge difference. Also, the more organic material in a soil, the less you have to water. The hotter the day and the shallower the root system, the more you have to water. I could go on and still not cover all the unique watering needs of the plants in your backyard or in a container. Gardeners should pay attention to soil, weather, dryness and humidity. You must base your watering decisions on observation not rigid rules that may not apply to your environment.

Do not set your sprinkler system solely based on what your gardener tells you. You might need to change those sprinkler timers once a month depending on weather conditions. Otherwise, you may waste water. Best for your plants is to get just the water they need when they need it. Inspect your soil. Look at it and feel it. If it looks and feels dry, you may need to alter your watering schedule.

Watering in the morning gives your plants the entire day to draw the water from the soil as needed, especially on hot days. Water slowly to insure proper absorption. Water deeply so that it does not run off the surface, never making it down into the root zone. Plant roots are sunk down deep in the soil where you cannot see them. Pay attention to shady spots. They need less water, while the sunny areas dry out more quickly and need more water.

Exposing as many leaves to sunlight as possible helps to increase your harvest

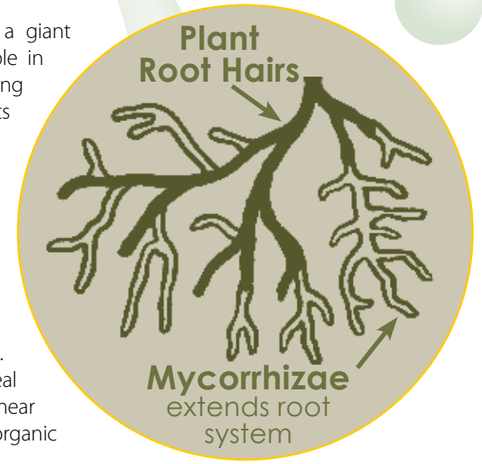
Air space between your plants is also important to help minimize fungal diseases

POTTING PLANTS

"The health of a potted plant will start to deteriorate if it has outgrown its container. Roots trailing from the bottom of the pot, leaf drop, and depleted soil are signs that the plant needs repotting. One or two pot sizes larger will usually be sufficient. Don't be too eager to repot everything. Some plants (especially ferns) actually prefer slightly cramped conditions and many flowering plants bloom more prolifically if they are a little root-bound.

Before repotting, water the plant well. When the water has drained away, invert the pot, lightly tapping the sides to release the mass of roots. Add fresh Dr. Earth Pot of Gold potting Soil to the new pot, and then insert the plant so that it sits at the same surface level as before. Add Dr. Earth Starter Fertilizer to the potting mix for maximum transplant success. Surround the plant with some more soil mix and firm in. Water the plant well. Feed it regularly with any of our liquid fertilizers to maintain maximum plant health."

mycorrhizae
THE GOOD FUNGUS



It would take an entire book to do justice to mycorrhizal fungi. Imagine a giant underground network, a transportation system, complex by nature yet simple in concept. In the network, all established plants grow in harmony together, sharing nutrients with each other, the plant on the east side of your house sharing nutrients with Bob’s tree across the street. How can this be? Mycorrhizae make it possible. The largest biomass on earth is a network of mycorrhizal hyphae in a mature established forest. It is invisible to the human eye and much smaller than any obvious root system. These threads of life share the nutrients with each other. The tall evergreen tree provides nutrients to the small fern growing at its base through mycorrhizae. The giant flowering tree on the west side of your yard provides nutrients to your tomato plants on the east side of the garden through mycorrhizae. The essence of mycorrhizae’s role is to create an extensive network of microscopic filaments that facilitates nutrient transfer among plants. Mycorrhizae help 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 we often find in fastidiously maintained organic gardens comes from long-term mycorrhizal soil activity.

Using a biologically active soil or fertilizer to introduce mycorrhizae to your garden makes a huge difference in the health and performance of all the plants. This is why healthy soils are teeming with mycorrhizae. On the evolutionary scale, they are as important to the health of all plants as plants are important to us.

THE BRIDGE FOR LIFE

Mycorrhizae were the bridge for plants millions of years ago when they first made the transition from water to land, scientists believe. The earth was a harsh environment with little nutrients available to plants. The earth was salty, the sun was hot and soils were void of biological activity, creating a rocky, harsh environment for plants. Dr. Mike Amaranthus, a friend and colleague, is a leading world expert on mycorrhizae. He says, “It is believed mycorrhizae are one of the primary reasons plants were able to survive the drastic transition from the nutrient-rich oceans to this harsh, nutrient-poor soil environment.”

If hearty mycorrhizae gathered nutrients from the soil for plants during this harsh transitional period, imagine what they can do for your backyard plants today. Here is how mycorrhizae contribute and why they are needed.

Mycorrhizae are beneficial soil fungi that form a symbiotic relationship with your backyard plants and about 90 percent of all plants on earth. They 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 root system. The fungi’s long thread-like mycelia capture moisture and nutrients from the soil, particularly nitrogen and phosphorous. The fungi consume these 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 the simple sugars (sucrose, fructose and glucose) to keep them energized and viable.

Mycorrhizae are also important soil-binding agents, which adds to friable soil texture. Countless long filaments called hyphae tend to accumulate in the soil over a period, persisting for months or even years. Hyphae filaments tend to hold together larger soil particles, particularly the sand-sized fraction. The filaments tend to have sticky surfaces from sugars processed and exuded by the mycorrhizae. Also, the tips of developing root hairs secrete a similarly sticky, plant-produced substance. Together, these sticky materials enable the hyphae to strongly adhere to soil particles, physically binding and enmeshing them together to form better soil for growing. This condition increases in the root zone, encouraging further root growth, which in turn attracts more mycorrhizae, leading to a more stabilizing aggregation of soil particles. The cycle repeats and supports the creation of desirable soil for gardeners.

Getting to Know Your Plants

THE SIMPLE MECHANICS

I must have chlorophyll running through my veins. Over the years, I have had the pleasure of educating thousands of gardeners on plant biology. As soon as I began Healthy Garden, Healthy You, I knew I had to write a chapter simplifying how plants function and absorb nutrients, and how this relates to us in our daily lives. If you understand the simple mechanics of plants, you will be the best judge of why plants respond in a certain way and how to grow them to their fullest health potential.

This chapter demystifies some common questions. Basic understanding of how plants function makes you a better gardener. If you are a better gardener, you can grow healthier plants.

PLANT BENEFITS TO HUMANS AND OTHER LIFE

A lush blanket of vegetation, a living, green and diverse blanket covers our earth. This living green cover enables other life forms to survive and thrive. Plants and animals need each other to exist. Plants evolved among earth's first living things. Early in geologic time when oceans began to recede, many aquatic plants evolved into terrestrial plants that supported animal and human life on land.

From their beginnings as microscopic, single-cell organisms, plants have been linked to all life on earth. Plants form the biosphere, a thin shell covering the earth's surface where plants and animals exist. Our reliance on plants has helped humans evolve from primitive surroundings to modern, sophisticated civilizations. Our ability to pass knowledge from generation to generation has taken us out of the primitive, hand-to-mouth existence of the early hominids and accelerated us into prosperous and progressive people. The ability to create art and express our early thoughts of survival, agricultural findings, mathematical equations and scientific data on paper made from plants has given us a progression of knowledge across many generations. Plants are the raw material of much of our created world (clothing, homes, furniture and medicines plus much more) and are essential for survival and the quality of life for all mankind.

Plants clean the air; they exchange the oxygen we breathe for the carbon dioxide we exhale. They use the energy of the sun to make foods that sustain all animals. From the soil, they draw micronutrients, minerals, nitrogen, phosphors, potassium, calcium and iron that are crucial for our existence and health. Plants absorb many of their nutrients from the atmosphere, water and soil in the form of gases, such as carbon, hydrogen and oxygen.

Roots are not the only way plants get the nutrients they rely on. They also absorb carbon dioxide through their leaves to help cleanse the environment. Sunlight energy falling on their leaves creates sugars such as sucrose, fructose and glucose through the process called photosynthesis. Plants also absorb nitrogen gas that has been fixed from the atmosphere. Nearly 80 percent of the air we breathe is nitrogen gas. Nitrogen is essential for protein synthesis in plants, because it is a main constituent of the molecules of most amino acids that form into proteins.

Plants have thousands of microscopic openings located on every leaf for absorbing carbon dioxide and water laden with nutrients. They absorb these gases and liquids through pores in their leaves called stomata. (The word comes from the Greek word stoma, which means mouth.) Stomata are found mainly on the underside of the leaves. What they absorb they transport where needed within the plant itself. The stomata close up during the night (when no photosynthesis occurs), on hot days when plants might lose too much water and dry up, or when wind threatens to dry the plant.

The earth supports approximately 400,000 different kinds of plants, all very diverse in their forms. One third of all plants do not have roots, stems nor leaves as we know them. About 150,000 plant species never produce flowers. An almost equal number of plant species do not grow from seeds but come from dust-like particles called spores. Although the vast majority of plants manufacture their own food by photosynthesis, mushrooms, molds and other fungi rely on foods created by green plants for their sustenance, as do animals. (Some biologists include these unusual, non-green species in the plant kingdom.) Most plants spend a lifetime anchored in one place; yet simple single-cell plankton can swim to different locations in the waters where they live.

The largest group in the plant kingdom consists of about 250,000 species called angiosperms. (Their name shows us their seeds originate inside containers we call fruits. In Greek angeion means vessel; sperma means seed.) These flowering plants are the garden-variety plants most common in suburban landscapes. They supply almost all the vegetable matter in our diet and produce the world's hardwoods. They are the most sophisticated of plant forms and are best adapted to survive in a wide range of climates and terrain.

The second most abundant plants are gymnosperms, plants that produce seeds in the open spaces of cones, such as between the flap-like parts of a pinecone. The Greek words gymnos (meaning naked) and sperma (meaning seed) describe this form of development. (We get the word "gymnasium" from ancient Greek. Their athletes constructed their Adonis-like bodies in the nude, hence, "gym.") Gymnosperms include all the conifers: cedar, redwood, juniper, cypress, fir and pine and the largest living things on earth, the giant sequoias.

How can we know that a potted rose bush is living, while a petal from a rose from the same plant pressed between the pages of a book is dead? From appearances, all the seeds in the seed packet in your drawer are also dead.

When the petal was a part of a living plant, its cells engaged in a complicated chain of chemical reactions grouped together under the term metabolism. As long as a cell or an entire creature is alive, it shows some form of metabolic activity (movement or growth). When metabolism stops, cells die. And when cells die, if they are not replaced, metabolism stops.

HOW PLANTS FUNCTION

Plants grow in proportion to the amount of light, water, minerals and oxygen they receive. Genes determine a plant's lifespan; one year for annuals, two for biennials and indefinitely for perennials. (If you ever notice the term indeterminate used on tomato plants, it means the plant will continue to grow until environmental conditions, such as cold weather, become a limiting factor.)

When it receives plenty of fertilizer, careful watering, optimum sun energy and thinning (removing plants that compete for available nutrients and light) a plant can be pushed to its limits of leaf and flower production.

The plants we grow for food and flowers remain anchored in one place throughout their life. Soil buries half of a plant's body, the root system. This hidden half of the plant is where nature's magic happens. Above-ground shoot systems (stems and leaves) occupy a bright, sunlit and airy world. This is where the other half of the growth occurs. Roots and shoots grow in opposite directions, but each part has a role to contribute to the song of life. Root growth and shoot growth are brilliantly coordinated and complement each other, with energy reserves and raw materials shared equally by the two halves. When daily or seasonal environmental changes affect one part, the other must respond to support its "other half." A plant can only fulfill its fundamental basics of life, such as reproduction, cellular metabolism and growth, through the precisely controlled interactions between roots, stems, leaves and flowers. This is the bright, beautiful, harmonious song of plant life in full bloom across the earth.

A plant's ability to multiply and grow while we busily lead our lives seems magical and amazing. At the right time of year, you can leave a tomato garden over a three-day weekend and when you return all the tomatoes that were small and green on the vine have become a beautiful, healthy, robust red harvest of produce for you. All this happened while you were busy living your life. We need plants more than they need us. We should feed them and nurture them to the best of our ability as they do for us when we consume them.

A report on a patented scientific advancement in the viability of microbes in packaged soils
By Milo Shammas - Founder and Formulator of Dr. Earth® products

In 1991, I invented the concept of infusing fertilizers and soils with beneficial soil microbes and mycorrhizae, utilizing "Nature's Intelligence©." My Dr. Earth® products with ProBiotic® revolutionized the lawn and garden industry and changed expectations of customers. Now other companies, with the best of intentions, sell products believed to include living organisms.

However, my continuing scientific research has revealed serious discrepancies between laboratory conditions and conditions typically found in nursery or garden center environments, conditions that can render ineffective, the microbe-infused products of all well-meaning soil bagger.

After years of research I discovered a solution to the problem. Now my patented invention, Pro-Moisture Hydrate®, is included in every Dr. Earth® branded soil. But in the case of all other brands who have copied the use of beneficial organisms, the effectiveness of their products remains at serious risk, if it exists at all, as I will presently explain.

THE MYTH - *that what works in the lab works in the real world*

Beneficial microbes are cultured in a clean laboratory environment - with a stable and moderate temperature - for use in such products as yogurt, nutritional supplements, animal feed, beer, or packaged soil.

Soil producers add these costly microbes to their products with the belief that they are selling "living" soil. In fact, it may be "dead."

I was the first to include living organisms in DRY organic fertilizers, and there was no problem with viability. But soon everyone wanted this biology in BOTH dry fertilizers and WET bagged soils. After packaging, these WET soils are shipped from the manufacturer into the real world and are no longer in a controlled situation favorable to living microbes.

THE REALITY - *an explanation of microbiology in relation to environment*

When soil baggers ship their products to retail markets, the biology contained in the packages faces the harsh conditions of the real world: extreme heat and cold. In 2004, one of my customers questioned how microbes could survive in the bags in his hot parking lot. I replied that they could because they were in a dormant state. The original Dr. Earth® microbe-infused products, the first ever available, were dry fertilizers in which microbes survived regardless of temperature extremes. Ongoing random tests proved their sustained viability. However, no one in the industry realized at the time, that adding them to WET soils created completely different, and fatal, circumstances for these tiny life forms.

I considered the customer's question carefully and grew concerned. I could not, with a clear conscience, sell products claiming to contain live organisms if I wasn't sure of the truth of that claim. I purchased my own soil from a Los Angeles nursery, where it sat in full sun, and had it tested. Two weeks later I received the bad news; all the microbes were dead.

I tested other brands that had begun adding microbes and mycorrhizae, stored under the same conditions, and saw the same results. The organisms were dying within 30 to 60 days after packaging. The temperature of bagged soils stored outside on pallets, in direct sun, can reach 175°F, killing beneficial microbes just as cooking our food kills those that could harm us. Conversely, exposure to freezing kills them too. Microbes infused into WET soils break dormancy and come to life. They are full of water, actively multiplying and digesting organic materials. When frozen, these organisms swell - since water expands when it freezes - causing their cell walls to crack open. They rupture, and DIE. Other soil producers, who embraced this profitable response to consumer demand for microbe-infused soils, still live with the problems my research revealed.

They continue to sell products of questionable value while I have perfected my invention.

THE SOLUTION - *using "nature's intelligence," requires "keeping the intelligence alive"*

For years, the answer to the problem had been right in my own home and part of my everyday life: ALOE VERA. This desert plant, used by early civilizations, thrives where temperatures reach as high as 140°F during the day and below freezing at night. Aloe vera works like a natural "anti-freeze." It draws water from the surrounding environment and reduces "evapo-respiration." Just as it protects plants, aloe vera keeps microbes moist and alive in extreme heat or cold, and elastic enough to survive the expansion that occurs with freezing, so they can swell without bursting and dying. What aloe vera does for your human skin and hair, it also does for living micro-organisms when incorporated into our wet packaged soils. It coats and protects them, remains in contact, and by lowering the surface tension of water, aloe vera serves to transport synergistic elements, such as moisturizing acids, through the cell walls to penetrate deeply. This is why I formulated, and patented (Serial No. 12,803,002) Dr. Earth Pro-Moisture Hydrate® with aloe vera.

I needed permission from the Department of Agriculture to include Pro-Moisture Hydrate® with aloe vera in my soils, but the USDA did not recognize aloe vera as a soil ingredient. I carried out extensive research between April 2005 and September 2008 and prepared a field trial and efficacy report. Results in our test gardens, comparing plants grown in our soils with and without Pro-Moisture Hydrate®, proved conclusively that Pro-Moisture Hydrate® increases plant yields, vigor, and color penetration.

With a patent and the Department of Agriculture approval, Dr. Earth® was prepared to offer the only packaged soil in America that protects beneficial microbes.

The integrity of our company - along with our pioneering research - allows us to make the PROMISE of Pro-Moisture Hydrate®: LIVING SOIL. We were the first to infuse beneficial microbes and mycorrhizae into fertilizers and packaged soils, offering customers "Nature's Intelligence©. Now, with our patented Pro-Moisture Hydrate® we are the first AND ONLY soil producer with the ability to ensure that we are "Keeping the intelligence alive©!"

PRO-MOISTURE HYDRATE® IS FOUND ONLY IN DR. EARTH® SOILS.

Note: The aloe vera plant, a succulent, has fleshy leaves with a tough outer skin, under which is a resinous, extremely bitter tasting, yellow substance.

Although when dried, this "aloe drug extract" has beneficial properties, including being anti-bacterial, it is NOT in Pro-Moisture Hydrate® because that anti-bacterial property would harm the beneficial microbes and defeat our purpose. We use only the "inner fillet."

DR. EARTH PREMIUM SOIL BLENDS

Acid Lovers® PLANTING MIX

Purpose: To provide the perfect growing medium for all plants requiring acid soil.

DESCRIPTION: Acid Lovers® Planting Mix creates the perfect soil conditions to promote blooming and vigorous health for all acid loving plants. Use Acid Lovers® Planting Mix as a soil amendment throughout the garden when planting trees, shrubs, bare root plants, flowers and every acid loving plant in the garden.

IDEAL FOR: Hydrangeas, Evergreens, Blueberries, Hollies, Gardenias, Ferns, Tropical & Shade Plants, Camellias, Rhododendrons, Azaleas, Maples & every acid loving plant in your garden.

Home Grown® VEGETABLE MIX

Purpose: To promote large, healthy vegetables in raised beds, containers, or in existing soil, as an amendment.

DESCRIPTION: Home Grown® Vegetable Garden Planting Mix creates the perfect soil conditions to promote plant health and abundant vegetables and herbs. Home Grown® can be used for many projects in the garden: amendment for planting trees, shrubs, bare root planting & flowers.

IDEAL FOR: Organic Vegetable Gardens. Rich in Green-fed Earthworm Castings, Cold Water Kelp Meal, Wild-Caught Fish Bone Meal, Soybean Meal and a plethora of rich organic nutrients.

KEEPING THE INTELLIGENCE ALIVE

Pot of Gold® POTTING SOIL

Purpose: To provide a premium potting soil for a wide spectrum of plants in containers

DESCRIPTION: Pot of Gold® All Purpose Potting Soil is recommended for use in all outdoor and indoor potting and container applications. Pot of Gold® is great for many projects in the garden in addition to container planting.

INGREDIENTS: Formulated from a fine selection of composted organic materials. Our blend is packed full of the organic materials that help plants become established. We only use: Forest Humus, Fir Bark, Peat Moss, Pumice, Earthworm Casting, Kelp Meal, Alfalfa Meal, Soybean Meal, Concentrated Seaweed Extract, Aloe Vera, Yucca Extract, Oyster Shell & Dolomite Limes. We have also included ProBiotic® beneficial soil Microbes plus both Ecto and Endo Mycorrhizae.

IDEAL FOR: Herbs, Vegetables, Indoor Gardens, Container Plants, Flowers, Houseplants, Hanging Baskets and Patio Containers. All container Plants.

Natural Wonder® FRUIT TREE SOIL

Purpose: Use combined with native soil at planting time to nurture & establish fruit trees.

DESCRIPTION: Natural Wonder® Fruit Tree Planting Mix creates the perfect soil conditions to promote plant health and abundant fruit production. Natural Wonder® is great for many projects in the garden. It can also be used as an amendment for planting ornamental trees, shrubs & bare root planting.

IDEAL FOR: All fruit trees, (including peaches, citrus, apples) grapes, all nut trees, all berries, avocados and all vines. Rich in Green-fed Earthworm Castings, Cold Water Kelp Meal, Valley Grown Alfalfa Meal, Wild-Caught Fish Bone Meal and a plethora of organic nutrients.

USING ADVANCED ORGANICS®...

Mother Land® MULTI-MIX

Purpose: To use as an all-purpose planting mix for vegetables, flowers, trees, shrubs, and more

DESCRIPTION: Formulated from a fine selection of composted organic materials. Our blend is packed full of the organic materials that help your plants become established. We only use Forest Humus, Fir Bark, Peat Moss, Worm Castings, Alfalfa Meal, Kelp Meal, Soybean Meal, Fish Meal, Fish Bone Meal, Concentrated Seaweed Extract, Aloe Vera, Yucca Extract and Oyster Shell & Dolomite Limes. We have also included ProBiotic® beneficial soil Microbes plus both Ecto and Endo Mycorrhizae. Mother Land® is great for many projects in the garden: perfect mix for large outdoor containers, use as an amendment for planting trees, shrubs, bare root planting, flowers & vegetables.

IDEAL FOR: Flowers, Trees, Shrubs, Vegetables, Ground Cover, Seed Cover and a soothing mulch rich in aloe vera.

Total Advantage® PLANTING MIX

Purpose: To provide the ideal growing medium for all roses and flowers

DESCRIPTION: Total Advantage® Rose and Flower Planting Mix promotes blooms in all flowering plants: roses, trees, shrubs, annuals. Total Advantage® is great for many projects in the garden. It can be used as an amendment for planting trees, shrubs, bare root planting, flowers & vegetables.

IDEAL FOR: English Teas, All Flowers, Hybrid Teas, Mini Roses, Climbers, Annuals & Perennials.

...TO STAY AHEAD OF THE CURVE

House Plant PREMIUM SOIL

Purpose: Growing medium for all house plants, patio containers and hanging baskets

DESCRIPTION: Formulated from a fine selection of composted organic materials. Our blend is packed full of the organic materials that help plants become established. We only use: Forest Humus, Fir Bark, Peat Moss, Pumice, Earthworm Casting, Kelp Meal, Alfalfa Meal, Soybean Meal, Concentrated Seaweed Extract, Aloe Vera, Yucca Extract, Oyster Shell & Dolomite Limes. We have also included ProBiotic® beneficial soil Microbes plus both Ecto and Endo Mycorrhizae.

IDEAL FOR: All Indoor house plants, pothos, philodendron, palms, ferns, herbs and vegetables. Excellent for use in all container sizes including Patio Containers and Hanging Baskets.

Root Zone® STARTER MIX

Purpose: To help seeds sprout, increase success of transplants, establish plants quickly

DESCRIPTION: Root Zone® ProBiotic® Seed Starter Mix promotes germination of seeds; helps plants become established as quickly as possible.

IDEAL FOR: Sprouting Seeds and Transplanting Cuttings for a quick and healthy start.

Seed Starting: Excellent for use in seed start flats and containers.
Establishing Cuttings: Root Zone® enhances rooting.
Compost Tea: Use as soil drench or foliar spray.

Home Grown® POTTING SOIL

Purpose: To meet the exacting requirements of organic growers of medicinal plants

Description: Home Grown® potting Soil creates the perfect soil conditions to promote plant health, abundant plant growth, maximum yields, maximum weight gain and double the size potential! Size and quality matter! When looking to maximize crop and yield production – no other soil in America will deliver as promised.

Rich in: Forest Humus, Fir Bark, Peat Moss, Pumice, Bat Guano, Earthworm Casting, Kelp Meal, Alfalfa Meal, Soybean Meal, Concentrated Seaweed Extract, Aloe Vera, Yucca Extract, Oyster Shell & Dolomite Limes. We have also included ProBiotic® beneficial soil Microbes plus both Ecto and Endo Mycorrhizae. This is our most advanced and potent soil designed to outperform any soil on earth.

Ideal for: Indoor & Outdoor Organic Medicine & Herb Gardens for maximum production.

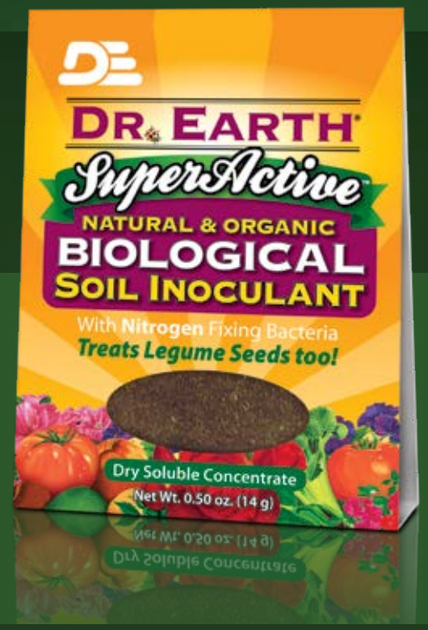
Natural Choice® COMPOST

Purpose: Mulch, seed cover, amendment at planting time, break up clay & improve texture

Description: Natural Choice® All Purpose Compost creates the perfect soil conditions to promote plant health and optimum growth. Natural Choice® All Purpose Compost can be used for many projects in the garden: amendment for planting trees, shrubs, bare root planting, flowers, vegetables & over seeding lawns.

Ideal for: Garden Mulch, Planting Amendment, Seed Cover, Helps Break Up Clay Soil & Improves Soil Texture

It's All About The Soil

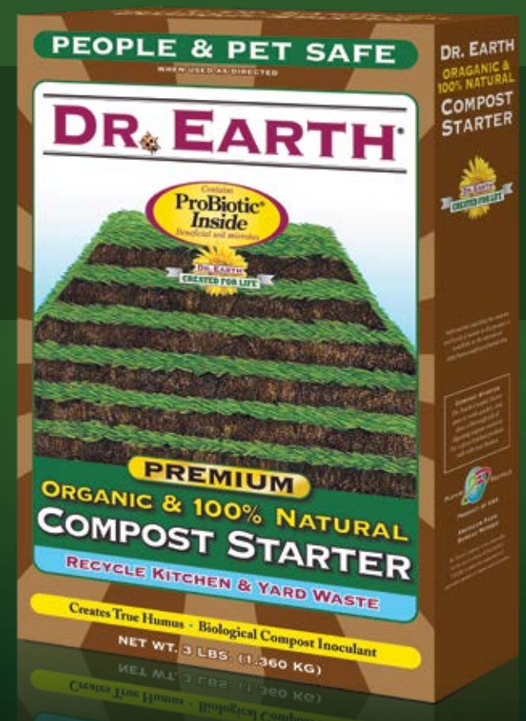


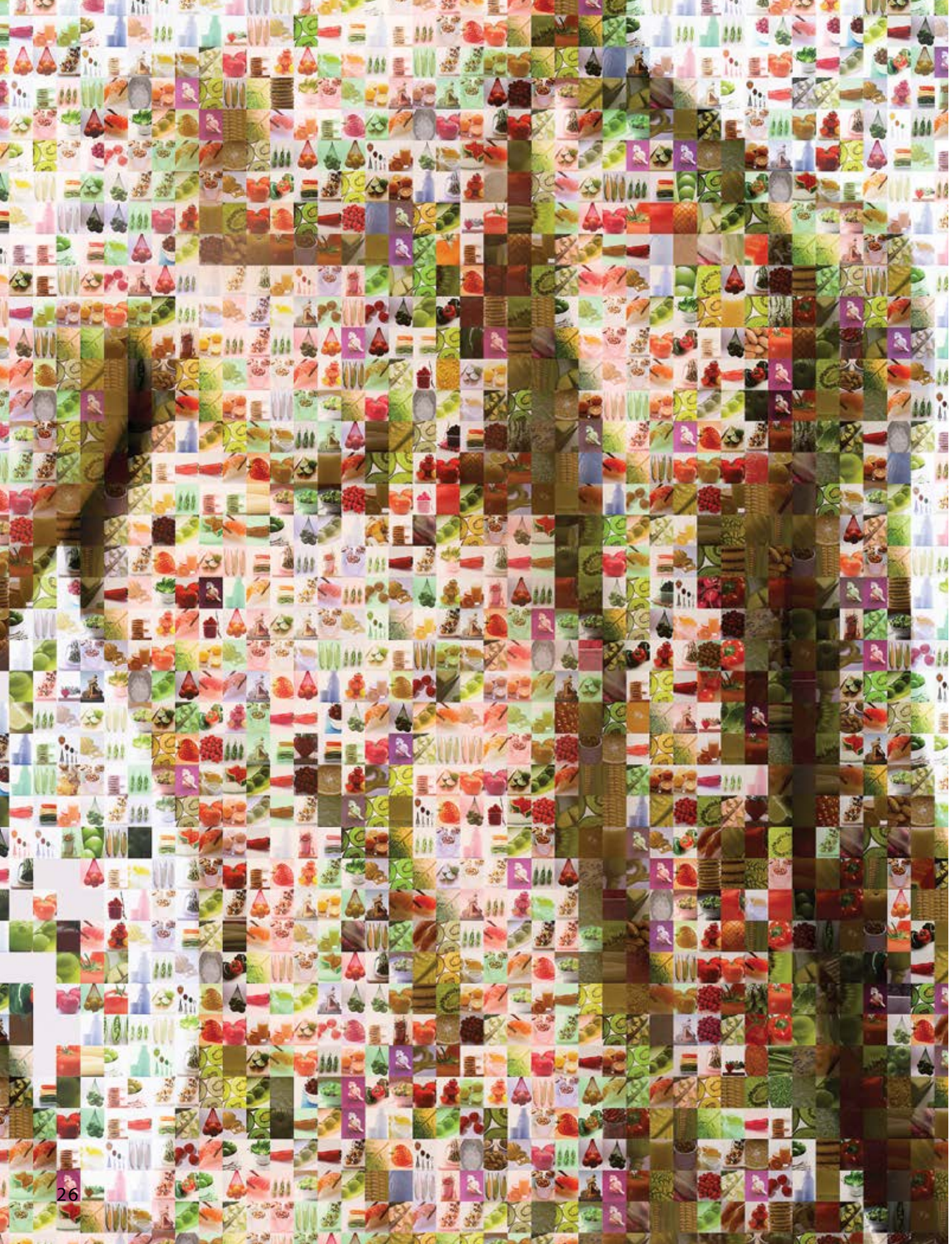
SuperActive™ BIOLOGICAL SOIL INOCULANT

RETURN LIFE TO YOUR SOIL and inoculate legume seeds for maximum germination and transplant success with SuperActive™ Soil & Seed Inoculant. Simply mix as an inoculant "tea" that will travel deep into the soil structure for maximum root coverage and soil penetration, giving remarkable results.

Dr. Earth COMPOST STARTER

Description: Environmentally responsible gardeners will be impressed by our Compost Starter. Unlike any other brand of compost starter, it has "ProBiotic® Inside," meaning it contains several species of living beneficial microbes. And like all Dr. Earth® products, it contains NO CHICKEN MANURE! Helpful instructions included on the box.





You Are What You Eat.

The Gift of Health

Forget not that the earth delights to feel your bare feet and the winds long to play with your hair.

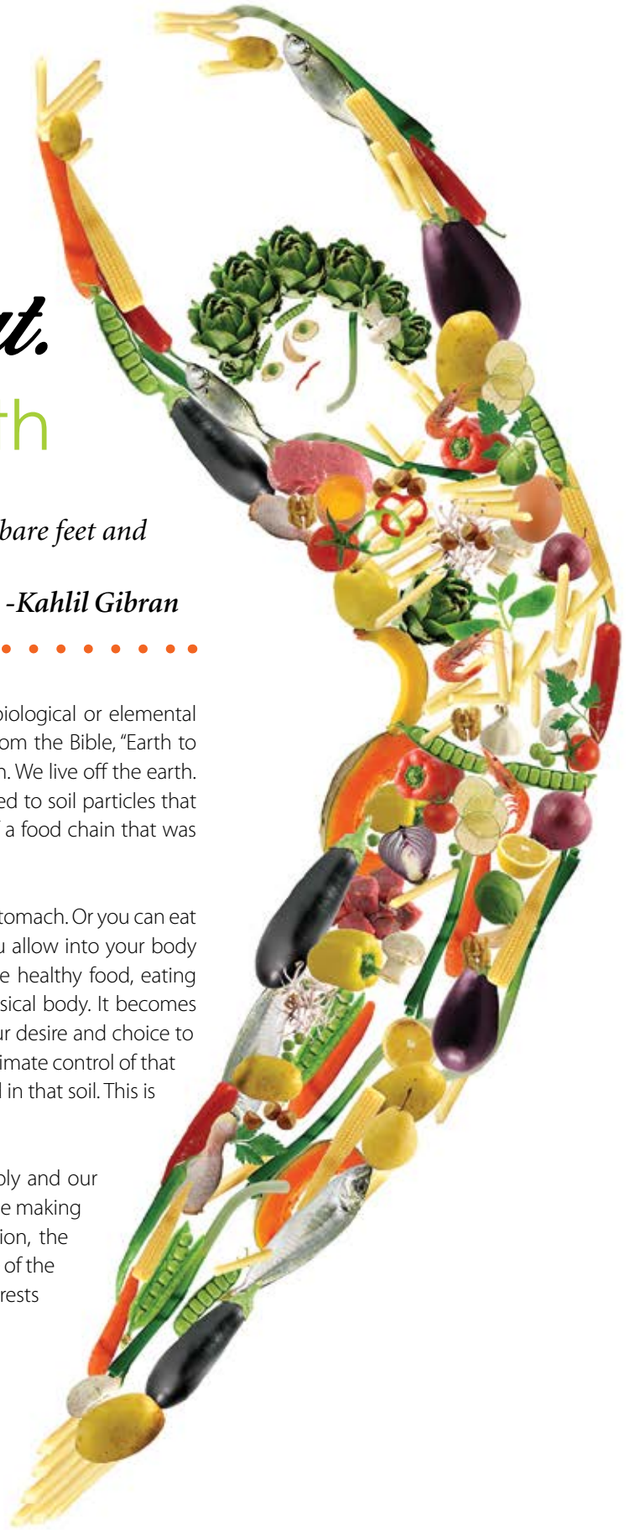
-Kahlil Gibran

Every fiber that makes up the human body was once a biological or elemental part of the soil, air and water. We have heard the saying from the Bible, "Earth to earth, ashes to ashes, dust to dust." We come from the earth. We live off the earth. We return to the earth. The food we eat is inextricably linked to soil particles that existed millions of years ago. What you eat today is part of a food chain that was here before our species walked the earth.

Eating can be such an arbitrary act, simply a way to fill your stomach. Or you can eat consciously, with awareness, and insist that everything you allow into your body must be healthy and pure. When you intentionally choose healthy food, eating becomes more than a practical action to sustain your physical body. It becomes a lifestyle, a way of being in the world, an expression of your desire and choice to live longer and healthier. The only one way you can have ultimate control of that decision is to nurture the soil and then grow your own food in that soil. This is the basis of healthy living.

The large corporations that control most of our food supply and our farmland are set up to produce large quantities of food while making huge commercial profits. Sadly for the health of our nation, the quality of that food has been left far behind. And the quality of the food we eat, its ability to nourish us and sustain our health, rests simply on the quality of our soil.

The health and balance of our ecosystem also depends on the vitality of our soil. (Notice that word vitality. My dictionary defines it as "of or manifesting life." It comes from the Latin word vita, which means "life.") "Vital soil" has life in it and gives life to everything that grows in it.



Humans and animals depend on the health of the soil. Along with the other ancient elements (air, water and fire), earth-soil is the main thing supplying our plants with the sustenance they need to properly develop into naturally thriving, insect-resistant, nutrient-packed produce. When we eat a piece of a living plant that came out of living soil, our body draws out the life from it (nutrients) we need to stay alive. Looking at this life process in reverse, we stay alive by extracting the life from living plants that depend on "lively" soil.

As part of the movement to gain more life and health from our food, many people over the past 15 to 20 years have tried to buy or grow organic food. Organic has finally become mainstream. We see the number of organic goods multiply in stores, ranging from foods and clothing to household items and cosmetics. It's cool to be organic!

Many high-profile celebrities and activists support this movement. They have fostered a more positive image through their association with green goods. For many large companies, the term organic is part of successful marketing strategies. Just 10 years ago, you really had to convince many nurseries that organic products are the future. Today, we have to make sure we are constantly in stock.

we stay alive by extracting the life from living plants

Commercial agriculture supplies our grocery stores with all the produce we can imagine, organic or not. Some is grown locally, some on the other side of the nation, or even imported from other continents. The National Sustainable Agriculture Coalition says that much of our produce travels 1,500 to 2,500 miles to arrive at our tables. Aggressive marketing and efficient transportation networks enable us to eat fruits and vegetables from all over the world all year round. (If you're willing to pay the price, you can eat summer fruit from the Southern Hemisphere in the dead of winter in the frozen North.)

If you want to eat organic food, do you need to care about certification? A careful consumer may ask, "What gives a farming operation the ability to say they're organic? How does that change the treatment of their food? Does it matter if it is organic as long as it is healthy and does not contain chemical residues?"

What makes gardening for personal use organic is somewhat ambiguous for those of us growing our own produce. In essence, there are no policies or rules for home gardeners. We have no manual to follow. Our instinctive compass must guide us. If what we grow seems healthy and good enough for our bodies, we are generally free to grow it. Home growers have freedom of action but need to understand what they are doing and the probable consequences. Many prospective organic gardeners agree on the need to avoid synthetic pesticides, fertilizers, herbicides and genetically modified organisms. Beyond those popular conventions, we find a variety of gardening strategies. Some people take it to the extreme, believing that to be organic, a plant must not receive any type of nutritive treatment other than what is naturally found at hand. Others, slightly more involved, treat the soil and feed the foliage only certified organic materials.

For your growing and mine, this is not needed. If you use your neighbor's leaf litter as compost and are positive they don't apply any chemicals to their soil or plants, you don't need to worry about the quality of the leaf litter. Certification is more important to commercial growers who must prove they are growing by accepted public standards or a set of rules in order to truthfully label their produce organic. For the home gardener, certified is a useless term.

However, if you do not understand the techniques of organic practices, you cannot claim to know the effect your plants have on people, pets, children, health or the surrounding environment. Before you assert, "Organic is good," you should understand how and why. Otherwise, you may easily fall into the trap of believing, and paying to consume, someone's deceitful marketing scheme.

Organic gardening, growing and farming are all highly beneficial. The benefits, however, depend on the organic methods you use. Many who practice organic growing techniques want to conserve the beautiful biological diversity on our planet, while giving people and animals the resources they need to enjoy a comfortable, healthy life. However, some organic practices (discussed later) are not necessarily beneficial to people, animals or the environment. Saying "Natural is good" is too simple, as are claims that synthetic pesticide or weed control is good. We must understand the effects of our treatments before using them, so that we can properly apply them to gain the benefits while avoiding their adverse effects.

Whether planning quaint home gardening projects or large plantations, we must focus our energy on nurturing the soil, which serves as the basis for healthy sustainable growth. Look deeply into your particular situation to understand how and why the practices you choose meet your needs while protecting yourself and your soil.

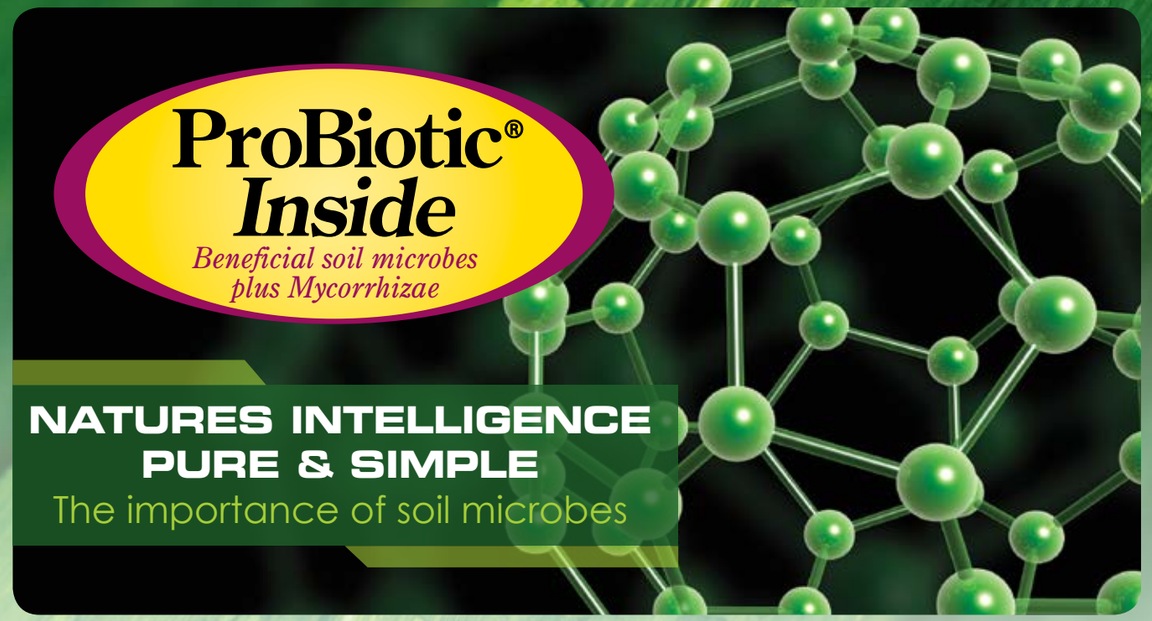
I grow as much of my own food as I can. The rest I buy from my local farmers market and a good local produce market that stocks organic produce. Only when I buy produce from a market that the word certified matters to me. I know what I do in my backyard is healthy and pure. This is why it is so important to grow your own just as humans first did long ago.

The Living Soil

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 products 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 that 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.



The soil is alive! Below our feet and invisible to the naked eye, tiny microbes—the great digesters of the earth—constantly break down organic material into a more usable forms that plant roots can identify, absorb, and ultimately incorporate for new growth. This material includes complex organic compounds, such as tannins, lignins, proteins, carbohydrate, cellulose, pectin, etc.

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. While the plants are actively growing—and requiring more nutrients—so do the microbes in the soil. As the weather warms, both the plant and microbes respond at a similar rate. The microbes become increasingly active in their role of breaking down organic materials into forms more readily absorbed by the growing plants that need extra nutrition. As the weather cools—and plants require less nutrition—so do the microbes. The reduction in their activity means fewer nutrients in the soil are being released to the plants. In this way, the soil can rebuild food reserves. This self-regulating cycle has occurred for millions of years as part of the wisdom of nature.

Microbes also help to stabilize the soil by physically binding soil particles together; they release a by-product called glomalin that acts as a "glue," binding mineral particles and organisms to each other. This contributes greatly to soil aggregation. All of these processes happen naturally in a healthy, productive soil.

FEED THE SOIL

When we feed our plants instead of our soil, we lose all the benefits that microbes contribute. When we say "feed the soil" it means feed the microbes in the soil, because it is the microbes that make nutrients available for the plants. The way you feed microbes is through the addition of organic material. If you feed with a synthetic chemical fertilizer, you are feeding the plant, not the soil, or the microbes. Adding petrochemical synthetic fertilizer also drives up the salt index in the soil and changes the pH, which can have adverse effects on plants.

More importantly, chemical fertilizers only feed for a short period of time; organic fertilizers offer continual feeding because the microbes cannot digest all of the organic fertilizer at once. With chemical fertilizers, we also lose the microbes' contribution to soil aggregation. Good soil aggregation leads to improvements in tilth, water retention, the rates at which water penetrates the soil, the amount of oxygen in the soil, and the reduction of runoff. All of these desirable soil conditions can be achieved by adding organic material. As you can see, microbes are immeasurably important and essential to the health of all productive soils.

To elevate the microbial colonies in your garden, use Dr.Earth® organic fertilizers and soils. They contain ProBiotic®, a broad-spectrum soil and seed inoculant, already mixed into the products. Two things will happen when you use Dr. Earth®:

- The organic fertilizer and soil will become the food source for the microbes, providing almost immediate nutrition for your plants, which means fast results.
- Your soil will contain the proper number of microbes to truly benefit your plants because—unlike most organic fertilizers and soils—Dr. Earth® products have various species of beneficial microbes already included as components.

Increased biological activity in the soil, and the buildup of existing bacterial populations, will help make your plants and garden resistant to diseases, frost, and insects, while maximizing the potential for growth and health. Remember: your soil is alive. **DO NOT TREAT IT LIKE DIRT!** Learn to work with, and nurture, the natural bio-system of your soil.

DR. EARTH FERTILIZER BLENDS

BULB FOOD FERTILIZER

Description: Bulb Food produces remarkable results because nutrients are released quickly, yet continue to feed for several months. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. The result is bigger, more abundant blooms, naturally. Loosens and improves soil structure so bulbs can reach maturity more quickly.

Ideal for: Growing all bulbs, tubers and rhizomes.

STARTER FERTILIZER

Description: Starter fertilizer produces remarkable results because nutrients are released quickly yet continue to feed for several months. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. ProBiotic® ensures organic nutrients are thoroughly broken down and then released in the soil for plant roots to absorb them as they are needed. Feeds for several months. Great for every plant in the garden.

Ideal for: Providing balanced and fast nutrition for transplants. Feeds all vegetables, trees, shrubs, all plants in early vegetative stages of growth, drought tolerant plants (e.g. cactus and succulents) and all plants that require a low N-P-K.

ORGANICALLY OPTIMISTIC

ROSE & FLOWER FERTILIZER

Description: Rose and Flower fertilizer produces remarkable results because nutrients are released quickly, yet continue to feed for several months. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. ProBiotic® ensures that organic nutrients are thoroughly broken down and then released in the soil for plant roots to absorb them as they are needed.

Ideal for: All flowering plants—English teas, hybrid teas, climbing roses, miniature roses, perennials, annuals.

RHODODENDRON, AZALEA & CAMELLIA FERTILIZER

Description: Infused with ProBiotic®—consisting of "Seven Champion Strains" of beneficial soil microbes and eight select strains of ecto & endo mycorrhizae—which contributes to drought tolerance, enhanced nutrient availability and increased plant performance. The Dr. Earth® probiotics are a most complete "broad-spectrum" bio-active package designed to work synergistically with the raw organic nutrients that make up the acid lovers formula. This spectacular blend builds soil health, promotes superior bushes and flowers with larger and more abundant colorful blooms.

Rich in: Nutrient-rich Cottonseed Meal, Wild-caught Alaskan Fish Bone Meal, Valley Grown Alfalfa Meal, High Country Feather Meal, Cold Water Kelp Meal, Mined Potassium Sulfate, Concentrated Micronutrient-rich Seaweed Extract (synergistically boosted with micronized humic acids for maximum bioavailability.)

Ideal for: All acid lovers, maples, camellias, azaleas, hollies, gardenias, hydrangeas, evergreens, ferns, shade plants, tropical plants and all berries.

THE ESSENCE OF ORGANIC LIVING

TOMATO, VEGETABLE & HERB FERTILIZER

Description: Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. This spectacular blend builds soil health, promotes a superior harvest, with larger and more abundant, nutritious and tasty crops.

Rich in: Wild-caught Alaskan Fish Bone Meal, High Country Feather Meal, Cold Water Kelp Meal, Valley Grown Alfalfa Meal, Mined and Micronutrient-dense Colloidal Soft Rock Phosphate, Wild-caught Alaskan Fish Meal, Naturally Mined Potassium Sulfate, Micronutrient-rich Seaweed Extract (synergistically boosted with micronized humic acids for maximum bioavailability.)

Ideal for: Organic vegetable gardens. Excellent for use in raised beds during transplanting, sowing seeds, or even mid-season for a nutritional boost to maximize your harvest.

FLOWER GARDEN FERTILIZER

Rich in: Wild-caught Alaskan Fish Bone Meal, High Country Feather Meal, Valley Grown Alfalfa Meal, Naturally Mined Potassium Sulfate, Mined and Micronutrient-dense Colloidal Soft Rock Phosphate, Micronutrient-rich Seaweed Extract (synergistically boosted with micronized humic acids for maximum bioavailability.)

Ideal for: Annuals, bedding plants, impatients, begonias, petunias, marigolds, daylilies, geraniums, lavender and every flower in the garden.

Raised Beds: Excellent for use in raised beds during transplanting or feeding mid-season for a nutritional boost to maximize flower health and production.
Planting: Apply a generous helping as directed to existing gardens or at time of planting or transplanting. Apply any time mid-season to supply a continual nutritional supply to maximize your healthy and beautiful flower garden.
Containers: Feed container plants every 6 weeks to keep plants stay healthy, strong and fully producing.

ALL PURPOSE FERTILIZER

DESCRIPTION: All Purpose fertilizer produces remarkable results because nutrients are released quickly, yet continue to feed for several months. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. ProBiotic® ensures organic nutrients are thoroughly broken down and then released in the soil for plant roots to absorb them as they are needed. Feeds for several months. Great for every plant in the garden.

IDEAL FOR: Providing balanced and fast nutrition for all vegetables, flowers, bedding plants, potted plants, all trees, shrubs, annuals, and perennials.

BUD & BLOOM BOOSTER

DESCRIPTION: Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. ProBiotic® ensures organic nutrients are thoroughly broken down and then released in the soil for plant roots to absorb them as they are needed. Infused with ProBiotic®—consisting of "Seven Champion Strains" of beneficial soil microbes and eight select strains of ecto and endo mycorrhizae—which contributes to drought tolerance, enhanced nutrient availability, and increased plant performance. The Dr. Earth® probiotics are a most complete "broad-spectrum" bio-active package designed to work synergistically with the raw organic nutrients that make up the bud & bloom formula. This spectacular blend builds soil health, promotes superior buds and blooms with larger and more abundant plant production.

IDEAL FOR: All flowering plants, budding plants, roses, vegetables, fruit trees, vines, bougainvilleas, citrus, tropical's and every flowering plant in your garden.

FRUIT TREE FERTILIZER

DESCRIPTION: Fruit Tree fertilizer produces remarkable results because nutrients are released quickly, yet continue to feed for several months. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. ProBiotic® ensures organic nutrients are thoroughly broken down and then released in the soil for plant roots to absorb them as they are needed. The Dr.Earth® probiotics are a most complete "broad-spectrum" bio-active package designed to work synergistically with the raw organic nutrients that make up the fruit tree formula. This spectacular blend builds soil health, promotes a superior harvest with larger and more abundant, nutritious and tasty fruits.

IDEAL FOR: All fruit trees, citrus, avocado, vines & berries.

PALM, TROPICAL & HIBISCUS FERTILIZER

DESCRIPTION: Palm, Tropical & Hibiscus fertilizer produces remarkable results because nutrients are released quickly yet continue to feed for several months. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. ProBiotic® ensures organic nutrients are thoroughly broken down and then released in the soil for plant roots to absorb them as they are needed. Infused with ProBiotic®—consisting of "Seven Champion Strains" of beneficial soil microbes and eight select strains of ecto and endo mycorrhizae—which contributes to drought tolerance, enhanced nutrient availability, and increased plant performance. The Dr. Earth® probiotics are a most complete "broad-spectrum" bio-active package designed to work synergistically with the raw organic nutrients that make up our tropical formula. Rich in magnesium a needed palm nutrient.

IDEAL FOR: All tropical and sub-tropical plants, palms, hibiscus, plumerias, ferns, bougainvilleas and every flowering plant.

SINGLE INGREDIENT FERTILIZERS

BLOOD MEAL

Benefits:

- An excellent source of organic nitrogen
- Contains Dr. Earth ProBiotic® soil and seed inoculant
- Promotes growth of all types of plants
- Can be used as a fertilizer tea to feed plants
- Helps to repel deer

Description:

Kiln-dried blood meal infused with seven strains of Probiotic® beneficial soil microbes

Uses:

Vegetables
Roses and flowers
Trees and shrubs
Containers plants
Tropical plants
All plants in vegetative growth

BONE MEAL

Benefits:

- An excellent source of organic phosphorous and calcium
- Contains Dr. Earth ProBiotic® soil and seed inoculant
- Provides both long & short term benefits.
- Great for root and fruit development
- Contains trace elements

Description:

Bone Meal Infused with seven strains of ProBiotic® beneficial soil microbes

Uses:

Bulbs
Flowers
Roses
Vegetables
Trees and shrubs
All blooming plants

FISH MEAL

Benefits:

- Contains Dr. Earth ProBiotic® soil and seed inoculant
- 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

Description:

Fish meal Infused with seven strains of ProBiotic® beneficial soil microbes

Uses:

Vegetables
Flowers
Trees and shrubs
Annuals and perennials

KELP MEAL

Benefits:

- An excellent source of potash
- Contains Dr. Earth ProBiotic® soil and seed inoculant
- Promotes health in all planting applications
- Contains minerals, growth regulators, vitamins, hormones, and enzymes
- A potent all around ingredient that will benefit all plants

Description:

Cold water Norwegian kelp Infused with seven strains of ProBiotic® beneficial soil microbes

Uses:

Vegetable gardens (especially important for supplying trace minerals to crops that will be consumed)
Roses
Trees and shrubs
Tropical plants

ALFALFA MEAL

Benefits:

- Contains Dr. Earth ProBiotic® soil and seed inoculant
- Acts fast because it decomposes fast
- Excellent for roses because it contains magnesium which your roses love
- Contains triaconatol which helps boost growth of all plant types

Description:

Alfalfa Meal infused with seven strains of ProBiotic® beneficial soil microbes.

Uses:

Roses
Vegetable gardens
Trees
Shrubs
Annuals and Perennials
Tropical plants

BAT GUANO

Benefits:

- An excellent source of fast acting nitrogen
- Contains Dr. Earth ProBiotic® soil and seed inoculant
- Promotes growth of all types of plants
- Can be used as a fertilizer tea for all applications

Description:

Bat Guano Infused with seven strains of ProBiotic® beneficial soil microbes

Uses:

All indoor plants
All outdoor plants
Plants that love nitrogen
Plants in vegetative growth
Vegetables
Herbs

COTTONSEED MEAL

Benefits:

- Contains Dr. Earth ProBiotic® soil and seed inoculant
- Fast results due to the microbes
- All around source of primary nutrients
- Makes soil more acidic

Description:

Cottonseed Meal Infused with seven strains of ProBiotic® beneficial soil microbes

Uses:

Acid loving plants.
Roses
Trees and shrubs

FISH BONE MEAL

Benefits:

- An excellent source of organic phosphorous and calcium
- Contains Dr. Earth ProBiotic® soil and seed inoculant
- Benefits plants in all stages of growth
- Especially beneficial for roots, buds, blooms
- High in trace elements

Description:

Pasteurized Fish Bone Meal infused with seven strains of ProBiotic® beneficial soil microbes

Uses:

Roses
Bulbs
Trees and shrubs
Vegetable gardens
All fruiting plants
All flowering plants

SOFT ROCK PHOSPHATE

Benefits:

- Contains Dr. Earth ProBiotic® soil and seed inoculant
- An excellent source of natural phosphorus and calcium
- Great for feeding flowering trees & shrubs
- Stimulates root growth.

Description:

Colloidal phosphate infused with seven strains of ProBiotic® beneficial soil microbes.

Uses:

Bulbs
Vegetables
Roses and flowers.
Trees and shrubs
All fruiting and flowering plants

Healthy Garden

9 VEGGIES

Tips On Growing 9 Common Vegetables
From Milo's Book "Healthy Garden, Healthy You"

Healthy You

growing your own veggies

TIPS FROM MILO'S BOOK "HEALTHY GARDEN, HEALTHY YOU"

This article focuses on 9 popular garden vegetables.

TOMATO

+ Health Power: A great supporter of overall health. Tomatoes have a lot of vitamins C and A, plus beta-carotene and the pigment lycopene, all super antioxidants that help prevent cell damage by free radical oxygen molecules. These phytonutrients work in synergy with other vitamins and minerals in tomatoes to promote heart and bone health and protect against inflammation and a number of cancers. (The cardiovascular benefits come from helping to regulate blood pressure and reduce damage to blood vessels from oxidative stress, plaque buildup and elevated homocysteine levels.) Regularly eating tomatoes can lower cholesterol levels, promote proper fetal development and regulate blood sugar. The B vitamins help make use of the energy in food.

↑ Vitamin and Mineral Content:
Vitamins – C, A, K, B1 (Thiamin), B6 (Pyridoxine), B9 (Folate), B3 (Niacin), B2 (Riboflavin), B5 (Pantothenic Acid) and E
Minerals – Molybdenum, Potassium, Manganese, Chromium, Copper, Magnesium, Iron and Phosphorus

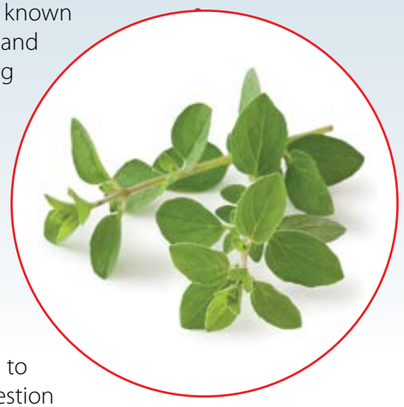
⃠ Disease Prevention: Tomatoes reduce the risk of cardiovascular disease, rheumatoid and osteoarthritis and asthma. They also help prevent cataracts and lower the risk of prostate, breast, lung, stomach, pancreatic, colon, rectal and endometrial cancers.

❦ How to Grow: Plant in full sun, amend the soil well with a good compost or planting mix. They prefer a pH of 6. Tomatoes grow and produce best outdoors. They can also grow in containers (minimum 15 gallons of potting soil) but not to their full potential. More soil volume is best. Start from seed indoors 6 weeks before the last frost, or buy transplants from a local nursery. Plant seedlings or transplants in space at least 2 feet square. Keep the fruit from drooping onto the ground by growing the upright varieties against canes or wire cages. Pinch out the tops after they make 3-4 groups of fruits. For bush varieties, cover the soil underneath the plants (using bark or similar) so fruits develop off the ground. They are heavy feeders and can take copious amounts of fertilizer. Keep plants moist but not sopping wet to avoid fungal diseases.

✕ Insect Control: Tomatoes are susceptible to tomato hornworm. Spray foliage with Bt (Bacillus thuringiensis) for natural control. You can also remove worms by hand early in the morning. Worms are usually on top of the foliage and are easy to remove and discard. As a general measure, you can spray with a botanical insecticide-fungicide for natural control of most insect pests and diseases, such as early blight, gray leaf spot, late blight, Septoria leaf spot, Southern blight and verticillium wilt.

✓ Tips: Pick or buy tomatoes fully ripe, the redder the better. Ripe tomatoes may have 4 times more beta-carotene than green, immature ones. This makes backyard tomatoes the best. You know they were not picked green and shipped to ripen weeks later.

OREGANO



+ Health Power: Contains the potent volatile oils thymol and carvacrol, known to have antibacterial action stronger than some prescriptions. Thymol and rosmarinic acid are effective antioxidants, helping to eliminate cell-damaging free radicals. Oregano is also a great source of some minerals and vitamins, especially vitamin K. This often-overlooked vitamin may help promote heart health by helping to keep calcium from forming plaque in arteries. It also promotes bone health and blood clotting.

↑ Vitamin and Mineral Content:
Vitamins – K, A and C
Minerals – Manganese, Iron and Calcium

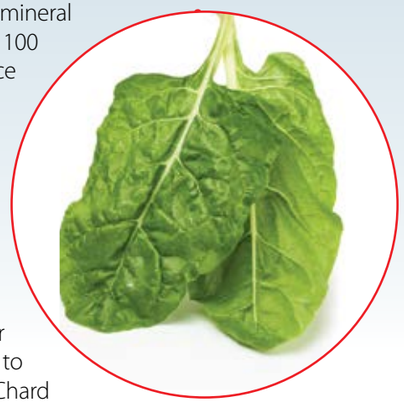
⃠ Disease Prevention: The high fiber in oregano makes it a good way to reduce cholesterol, defend against colon cancer and promote healthy digestion by absorbing good nutrients and eliminating toxins. Also, omega-3 fatty acids are polyunsaturated fats that also help create the healthier HDL form of cholesterol. It may help prevent high blood pressure associated with heart disease. Oregano's essential oil helps prevent many bacterial, viral and fungal infections. It also helps digestion and calms the nerves.

How to Grow: Many species of oregano, some not suitable for cooking. Watch out for O. vulgare, which has a purple flower. It is tasteless and sometimes mistakenly sold for cooking. The most aromatic and common one for cooking is O. heracleoticum or, confusingly, O. vulgare subsp. hirtum. These produce white flowers rising a foot above the leaves. Oregano is a perennial that grows best with full sunlight in well-drained soil. The low-cost way is to start from seed or get healthy labeled transplants from a good local nursery. After the last frost, loosen the soil up with garden spade. If the soil is shallow or needs some amending to help drainage, create a raised bed by mixing in some fine gravel, grit or sand. Plant the transplants outdoors 14-18 inches apart. If starting from seed, plant these 6 inches apart about 1/2 inch deep. If planting more than one row, space them out 18 inches. When seeds sprout up, thin out the plants to one foot apart. Keep the soil moist for the first couple months. After that, it tolerates dry weather and only needs water when soil dries out. As the plant grows, trim back straying stems and pinch off flower buds to encourage optimal growth and desired shape. When the plant reaches 5-6 inches tall and/or has more than a dozen leaves, harvest as needed for cooking. When the season ends, cut the plants all the way down and mulch around them before winter to insulate roots from freezing temperatures. If you have too many leaves to use, dry them in a cool, dark place, chop up and store in an airtight container.

✕ Insect Control: Oregano deters some common garden pests and can be planted methodically to help protect other plants. Since we eat the leaves, if pests become a problem, avoid using chemical pesticides or sprays. Although unlikely, sometimes aphids or thirps will attack. If the problem is not serious, let the pests do a little damage rather than introduce chemicals. If needed, try an organic treatment such as insecticidal soap.

✓ Tips: Avoid using fertilizer to promote stronger flavor in the leaves. Oregano seeds can be sown in containers and transplanted 12 inches apart after the last frost or just left to grow spaced out in containers. When harvesting, cut the leaves off in the morning just after dew recedes. They have the most flavor and aroma before the sun causes oils to move into the shoots. Replace the plant after 2-4 years when it starts to become woody. Eat fresh oregano as much as possible to get all the beneficial oils. Oregano is a great source of omega-3 fatty acids.

SWISS CHARD



+ Health Power: Chard is off the high end of the chart with its vitamin and mineral content. One cup gives 700 percent of the RDA of vitamin K, more than 100 percent of vitamin A and 50 percent of vitamin C. It is also an excellent source of magnesium, potassium, iron, fiber and more. The health potential of chard seems endless. The vitamin K, magnesium and calcium in chard give a great boost for more bone building and less bone loss. Vitamin A supports healthy vision, immune system function, lung health and protects thin membrane layers around organs and blood vessels. Minerals in chard can also help keep normal blood pressure while vitamins A, C and E do the same by preventing the build up of plaque and the blockage of blood flow in arteries. Magnesium and potassium are the main minerals that help with blood pressure and heart function by supporting muscle and nerve function. Iron is needed to deliver oxygen to tissues all over the body. Eating chard regularly also has the potential to lower high levels of cholesterol and blood sugar, mainly from its fiber content. Chard also helps the body activate crucial antioxidant molecules from the liver to help get rid of potentially dangerous metabolic wastes. Studies also suggest regular eating of vegetables like chard can slow down age-related cognitive decline. The long list of benefits shows chard is a flat out supporter of overall health.

↑ Vitamin and Mineral Content:
Vitamins – K, A, C, E, B2 (Riboflavin), B6 (Pyridoxine), B1 (Thiamin), B9 (Folate), B3 (Niacin) and B5 (Pantothenic Acid)
Minerals – Magnesium, Manganese, Potassium, Iron, Copper, Calcium, Phosphorus and Zinc

⃠ Disease Prevention: Regularly eating chard may reduce the symptoms or the onset of osteoporosis, asthma, rheumatoid and osteoarthritis, anemia, hypertension, cardiovascular disease, diabetes, lung cancer, colon cancer and potentially many other cancers due to its antioxidants and detoxifiers, vitamins and minerals.

How to Grow: Relatively easy to grow, Swiss chard is loaded with nutrition and seen as a delicacy in some parts of the world. You can grow two distinctly colored varieties: red and white stemmed. Although red stem is more attractive, it has no better flavor than the other. Chard needs highly fertile soil that retains moisture yet drains well. Work some organic matter into the site, like compost or planting mix, to create a nice loamy soil. The pH must be above 6.5; add lime if needed. Plant chard in mid-spring. In warmer climates, a late summer or early fall sowing works, too. Sow seeds in groups of 3 in shallow drills spacing each cluster out by 1 foot and each row by roughly 1.5 feet. Later thin out to leave the strongest seedling per cluster. Once the seedlings emerge, keep the soil moist and the bed weed free. Harvesting can begin in mid-summer. Pull, do not cut, leaves off the plant. (Cutting makes them bleed.) It is a "cut and come again" plant. Harvest from around the outside of the plant as you need and they grow right back. They are cold hardy enough to handle light frosts, so you can harvest into the fall/winter.

✕ Insect Control: Slugs, caterpillars, cucumber beetles and mealy cabbage aphids may try snacking on chard. Slugs can be controlled by embedding a wide cup of beer in the soil. Slugs are attracted to it, slide in and drown. You can also remove by hand and destroy mornings and evenings. Remove caterpillars by hand, too. Watch for their eggs on the leaves and wipe them off. If infestation is uncontrollable, spray with Bt. Cucumber beetles can be removed by hand, too, but if they are too resilient, spray with rotenone. Cabbage aphids cluster on the underside of leaves. Control them by companion planting French marigolds or another smaller flowering plant. They will attract hoverflies and ladybugs that consume aphids by the score.

✓ Tips: Chard germinates easily. You might enjoy starting from scratch by sowing seeds directly into an outdoor planting bed. This also gives you more choice among varieties. Sow seeds in early spring, and find a recipe that works for you.

ROSEMARY

+ Health Power: Rosemary adds wonderful flavor and aroma to potatoes, pork, lamb and chicken. It also adds helpful substance to a meal by exciting the immune system. It increases circulation (especially to the brain) and improves digestion. It has anti-inflammatory agents that might moderate the severity of asthma attacks or other conditions. The essential oil of rosemary, obtained by steeping in boiling water or steam distillation of all parts of the plant, may help improve memory and support healthy adrenal and lymphatic functions. Some people say its role in aromatherapy is unmatched. Some students use it at exam times to help with memory, mental stimulation and calming the nerves. It has also been noted to relieve headaches, soothe sore muscles, clear out nasal passages and help treat skin conditions like eczema, acne and rashes. Users derive these benefits by adding a bit to topical oils/creams, rubbing a few drops on directly or adding to bath water. A couple of drops have been added to shampoos and conditioners to help condition hair. The oil also has some antiseptic properties and is used to treat respiratory allergies, sore throat and flu.

↑ Vitamin and Mineral Content:
Vitamins – traces
Minerals – Iron and Calcium

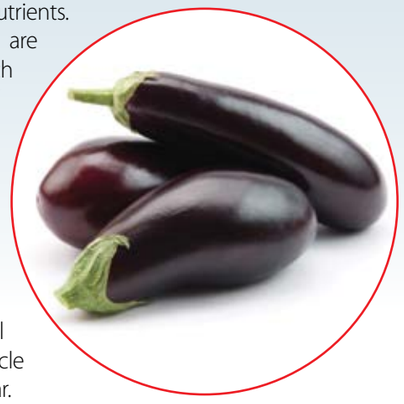
⃠ **Disease Prevention:** Given the amount of rosemary included in meals, it is not likely to have a large role in preventing disease. It does add some healthy nutrition to a meal, and the essential oil may prove to be effective in our overall natural health.

How to Grow: Rosemary is an attractive, fuzzy little herb that grows up to 3 feet tall and produces fragrant blue flowers. Great for borders and a generally good plant to have in the garden, as it attracts beneficial insects for pollination and predation. Rosemary does best in a sunny site with soil that has good drainage and plenty of organic matter worked in. It also grows well in containers. Grow them as you like; hedges spaced 1.5 feet apart or individuals 2-3 feet apart. Trim the bushes after flowering, as they will spread along the ground more. If they do, time to replace them. Rosemary is an evergreen. It supplies fresh greens all year round unless temperatures get too cold (as in cold northern climates). To conserve trimmings you cannot eat, dry in a shady, well-ventilated shed. Then put them in airtight jars.

✕ **Insect Control:** Virtually no pests threaten rosemary. Use its fragrance to advantage. It repels moths and, in many cases, can attract pollinating insects like bees.

✓ **Tips:** Growing rosemary in a container, put pebbles on the bottom for good drainage. Repot container-grown rosemary each year to help the roots spread equally with the plant above ground. Fertilize again each spring.

EGGPLANT



+ Health Power: Eggplant has a nice mixture of vitamins, minerals and phytonutrients. Many of the phytonutrients, like phenolic compounds and flavonoids, are antioxidants. One flavonoid, nasunin, protects the membranes around each cell. Especially important because cell membranes control traffic in and out of each cell, contain receptors for messenger compounds that tell the cell what to do and are the protective barrier between inside and outside. Among phenolic compounds, chlorogenic acid is a potent antioxidant in highest concentrations. With flavonoids, these compounds disarm free radicals in many locations to help stop oxidative cell damage (which could develop into cancer), help relax blood vessels, lower cholesterol and plaque buildup, help ward off microbes and viruses and reduce free-radical stress in joints, a primary part of arthritis development. Eggplant also has fiber, potassium and several B vitamins to help promote healthy metabolism, digestion and nerve/muscle function. All these benefits are low-cost, because eggplant is low in fat and sugar.

↑ Vitamin and Mineral Content:
Vitamins – K, A, C, E and B (Riboflavin)
Minerals – Calcium, Iron, Manganese, Potassium, Magnesium and Copper

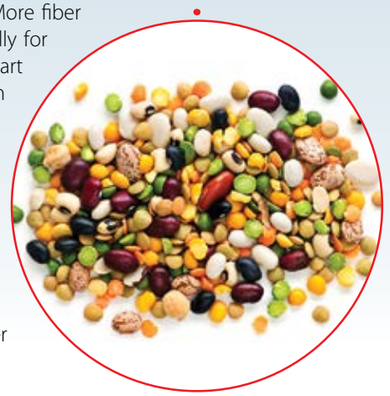
⃠ **Disease Prevention:** Eggplant may help reduce risks for, or symptoms of, rheumatoid and osteoarthritis, heart disease, cancer cell development, type II diabetes and others.

How to Grow: Eggplants are native to the tropics and do not produce through cold winters. Grown as annuals in cooler climates and perennials in warmer ones. Can be found as seeds or bought as young plants. An earlier variety will produce longer. Choose a sheltered site with full sun and well-drained soil. Amend the soil with aged compost, manure or planting mix. Grow best in soil with pH 6.5. If you live in a cooler region, you may need to warm up the soil by covering with black plastic weeks in advance. In cool climates, sow seeds indoors on a windowsill or under fluorescent light in early to mid-spring. A week or two before planting out, harden them off by bringing outdoors for increasing periods. In late spring, plant out 2 feet apart in rows underneath plastic row covers. In warmer climates, row covers not needed. Eggplants get bulky for stems to hold, so tie main stem to a stake in multiple places to provide weight support and keep them off the ground. Water when needed and monitor regularly to see how they grow. If they do not branch out from the main stem when they are 10 inches high, pinch out the growth tip. Also, limit fruits to about 5 per plant to ensure all get loaded with nutrients and grow in a healthy way. Remove extra flowers after about 5 have fruited and begun to develop. Treat soil each week with nutrient-dense liquid fertilizer like compost tea, manure tea or liquid seaweed. Begin harvesting eggplants in late summer when they are fully mature and shining.

✕ **Insect Control:** Aphids, whitefly and red spider mite are common pests of eggplants. The spider mites thrive in dryness, so keep the plant moist by spraying regularly. Control aphids by planting French marigolds, which attract predators like hover flies and ladybugs that eat them by the thousands. White flies can be trapped in an old-style flytrap. They are attracted to the color yellow, so construct a trap by covering some yellow material with a sticky substance. Hang it near the plants at risk or under attack. Whiteflies fly into trap and get stuck in adhesive.

✓ **Tips:** Harvest before eggplants lose their shine or they will taste bitter.

BEANS



+ Health Power: Among many varieties, pinto beans are surprisingly nutritious. More fiber than most foods. Excellent at lowering cholesterol, regulating blood sugar (especially for those with insulin resistance) and smoothing out digestion. Crucial contribution to heart health. High content of folate, potassium and magnesium. Folate lowers concentration of amino acid homocysteine. (When elevated in the blood, can seriously damage blood vessels.) Potassium an essential component of nerve cell communication, muscle contraction (especially heart) and blood pressure regulation. Magnesium helps maintain blood flow through vessels by blocking calcium channels. Iron optimizes oxygen attachment to hemoglobin molecules, which transport oxygen in blood. Copper and manganese help protect energy-producing cell bodies (mitochondria) by activating superoxide dismutase, which knocks out free radicals. Copper also needed to form hemoglobin. Vitamin B1 (thiamin) contributes to energy production and healthy brain function by helping produce neurotransmitter acetylcholine. Excellent source of protein at low calorie cost.

↑ Vitamin and Mineral Content:
Vitamins – B9 (Folate) and B1 (Thiamin)
Minerals – Molybdenum, Manganese, Phosphorus, Iron, Magnesium, Potassium and Copper

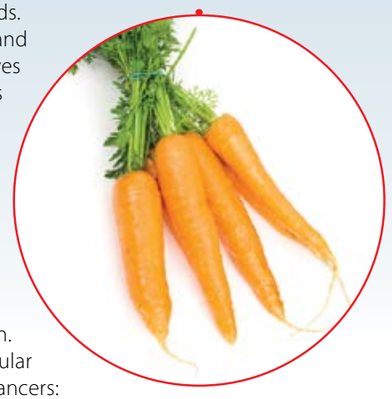
⃠ Disease Prevention: Reduces risk of heart attack, stroke, cardiovascular disease, irritable bowel syndrome, diabetes, colon cancer and Alzheimer's disease.

How to Grow: Part of the Leguminosae family. Hundreds of different cultivars. You can find a variety that will grow in your location. Two main types: shell beans used for seeds and snap/bush beans grown for their pods. Two types of growth patterns: self-supporting and others (pole and runner beans) that grow on stakes or suspended strings. Most beans grow best in warmer temperatures (about 75˚F) and are very sensitive to cooler temperatures. Prefer sheltered sunny site with well-drained soil and lots of organic matter. Prepare rows by amending soil with aged compost or planting mix rich in organic matter. If soil is heavy, use more compost to loosen. For seeds to sow properly, soil should be above 60˚F and near pH 6.5. Beans do not easily transplant, but if warm season is short, you may have no choice. Start beans indoors in pots about a month before frost. Sow seeds outdoors about two weeks after the last frost. Place them about 1 inch under the soil and pat the soil down over top. Place bush beans 4-6 inches apart in rows and space rows about 2.5 feet apart. Pole beans are more sensitive to cold. Plan on planting a week or two later and harvesting a week or two earlier. Yield about three times as many beans per area as bush types. Sow seeds 2 inches deep and 10-12 inches apart in single rows spaced about 3.5 feet apart or double rows spaced 1 foot apart. A bean teepee makes nice addition to garden. Water beds evenly and keep soil moist. Letting soil dry out may hurt yields. Bush types germinate in 1 week; pole types in 2 weeks. After seedlings are a few inches tall, apply a thick layer of mulch to retain moisture, deter weeds and buffer the soil against temperature fluctuations. Light application of fertilizer containing micronutrients mid-season produces high yields. Snap beans and shell beans ready for harvest when soft and a little longer than index finger. Harvest all as soon as they are ready to stimulate re-growth. If you see outlines of seeds on pod, you have waited too long. Eat or freeze them immediately to preserve the fresh flavor. Both unshelled beans and those in pods preserve for about a week in refrigerator. To dry shell types, let them sit in pods on plants until pods turn brown and dry out. If weather is wet, cut plant and hang upside down in dry area. Dried beans last about one year.

✕ Insect Control: Common pests are aphids, corn earworms, cabbage loopers, corn borers, Mexican beetles and Japanese beetles. Aphids can be handled by inter-planting French Marigolds, which attract their predators. Hoverflies and lady bugs eat tons of aphids. Corn earworms grow roughly 2 feet long and grub on bean plants. Not a large threat, but if you get a manually uncontrollable infestation, apply the insecticide Bacillus thuringiensis (Bt). Cabbage loopers feed on leaves and eat twice their body weight a day. If they are uncontrollable by manually picking, use an insecticide like Bt. Mexican beetles will ravage the bean plants if they infest in numbers. The first sign is small yellow groups of eggs, which hatch into larvae that look like small yellow caterpillars. Adults look like larger, darker ladybugs. Remove eggs and larvae and smash adults when you see them.

✓ Tips: In order to get continuous harvest, successively sow every two weeks until 2 months before first frost. Be careful not to knock off blossoms when watering.

CARROTS



+ Health Power: Many health benefits. Great source of antioxidant compounds. Rank among highest carotenoid contents. Help regulate blood sugar levels and reduce insulin resistance, a common cause of diabetes. High vitamin A helps eyes adjust to changing brightness and promotes good night vision. Vitamin A reduces risk of emphysema from exposure to cigarette smoke.

↑ Vitamin and Mineral Content:
Vitamins – A, K, C, B6 (Pyridoxine), B1 (Thiamin), B3 (Niacin), B9 (Folate)
Minerals – Potassium, Manganese, Molybdenum, Phosphorus and Magnesium

⃠ Disease Prevention: One daily serving of carrots or squash cuts in half risk of heart disease among elderly. Beta-carotene from carrots converts to Vitamin A in liver; travels to eye where it helps produce chemicals needed for night vision. Beta-carotene has antioxidant properties that help prevent cataracts and macular degeneration. High levels of carotenoids with falcarinol defend against many cancers: postmenopausal breast, bladder, cervix, prostate, larynx, esophagus, colon and lung. Carotenoids in carrots may work only when grouped into biochemical team, since supplementation of only one carotenoid, beta-carotene, is not as effective.

How to Grow: Easy to grow with quality soil. Varieties differ in maturation timing and size. Plant in less dense, finer soil. Need well-aged compost or mature organic matter to grow well. (Fresh manure or compost causes deformed root growth and atypical tastes.) Lacking light soil, grow in raised deep beds. Some smaller types will grow in shallower soil, but larger crop demands deep raised beds or deep sandy loam soil. To create a deep raised bed, dig a trench of desired width and one spade deep. Break up the bottom soil layer to create room for roots to explore. Mix in couple inches of well-aged, disease-free manure, compost or planting mix. Fill trench half way and add another couple inches. Finish by filling the trench with the remainder of the soil dug up. For good measure, throw over the top a few handfuls of planting mix containing alfalfa, fish bone or kelp meal. Needs pH near 6.5; add lime to raise. Sow seeds directly into permanent rows in late winter for warm climates and mid-spring in cooler areas. Place a pinch or about 5-6 seeds per inch of the row. Cover the row with a thin layer of topsoil (roughly ½ inch or slightly more in dry areas). Water softly, but keep seeds moist so they germinate and sprout in 1-3 weeks. When tops reach a few inches high, mulch around plants to help retain moisture. Ready for harvest when big enough to eat. Moisten soil to make it easier to pull out.

✕ Insect Control: Carrots usually problem free. Common pests include carrot fly, parsley worms and nematodes. Biggest threats are gophers, deer, woodchucks and rabbits. If these are large risk, erect large barriers or fences to block entry. Block gophers with underground fence or flood them out of their holes. Interplant with onions to repel carrot flies or cover rows with plastic lining. Crop rotation helps prevent nematode infestation. Plant marigolds year before to remove them from soil.

✓ Tips: Crowded carrots interfere with each other and grow deformed. When the sprouts are 2-3 inches high, thin the rows so plants are separated by 1inch. Repeat in several weeks to make them 4 inches apart. Carrots respond well to container planting if you want to grow just a few carrots and avoid effort of creating deeper bed of lighter soil.

The tips contained in these articles are exerpts from Milo's book, "Healthy Garden, Healthy You".

CABBAGE

+ Health Power: Similar to Brussels sprouts, cruciferous vegetables like cabbage increase the production and action of enzymes that detoxify the body. Beyond antioxidant action that removes dangerous free radicals, crucifers make DNA produce more detoxification and anti-cancer enzymes. Enhance natural defenses by stimulating production of antioxidant compounds like glutathione. Supply sulfur compounds like sinigrin and sulforaphane that catalyze production of anti-carcinogens. Also affect the expression of cancer-related genes. Amino acid glutamine helps restore stomach lining after peptic ulcer. See Brussels Sprouts for more on the health power of crucifers.

↑ Vitamin and Mineral Content:
Vitamins – K, C, B6 (Pyridoxine), B1 (Thiamin), B2 (Riboflavin) and A
Minerals – Manganese, Calcium, Potassium and Magnesium

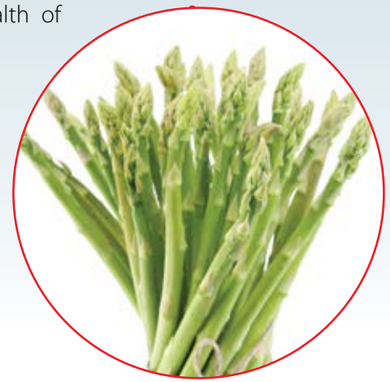
⃠ Disease Prevention: Reduces risk, symptoms and proliferation of cancer more than any other fruits or vegetables in prostate, colon, lung, stomach, breast, ovaries and bladder. Possibly occurs through increasing levels of isothiocyanate after eating crucifers. A potent anti-cancer molecule that binds to toxins inducing their removal, stimulates cancer cell death, prevents excess cellular dividing and promotes the healthy metabolism of hormones like estrogen.

How to Grow:: Cabbages come in dense versions, with green, red and purple heads, and loose leaf versions including bok choy. Can be harvested all year long in a mild climate with moist winters. Three divisions among varieties based on harvest time: spring, summer and fall/winter. For spring cabbages, sow seeds in seed beds with shallow drills spaced 6 inches apart in mid- to late summer. Don't make the drills very long, as you only need 1.5 feet to produce 60-90 plants. Plant them out beginning early fall. Spring cabbages grow in moderate climates only. For summer cabbages, sow seeds in trays near the end of winter. These need to be transplanted indoors into a bigger container and kept under light or in a greenhouse. Or you may wait longer and sow them outdoors in the spring when air and ground temperatures rise. For autumn/winter cabbages, which include red cabbage, sow seeds in a bed with shallow drills in mid- to late spring with the same spacing as spring cabbages. For all varieties, transplant when seedlings have grown roughly 3 inches. Soften the seed bed with water the evening before. Fill a small dirt hole with water and soak the seedling roots until they are covered in muddy water. Plant each seedling in holes 6 inches deep and 18 inches apart in rows spaced out 18 inches as well. Keep weed-free and watered. Harvest when hearts feel solid. Cut at the base of stems. You can preserve some varieties in a cool shed hung upside down.

✕ Insect Control: Cabbage is affected by a number of common garden pests, including cabbage butterflies, club, cabbage root maggot, cabbage moth, cabbage loopers and cabbage worms. Handpick and dispose of pests as they appear. Morning and evening are best times to remove. If infestation is uncontrollable manually, use insecticidal soap. Bt works in some instances. Sink shallow cups of beer in soil to induce slugs and snails to climb in and drown. Floating row covers protect against birds. If uncertain what to do, capture some pests and ask your local nursery for advice on best organic treatment.

✓ Tips: Spring cabbages need a handful of fertilizer per plant in late winter to keep them growing. Cook lightly to retain more phytonutrients. Choose organic varieties, which have more phytonutrients that reduce cancer risk.

ASPARAGUS



+ Health Power: Improves digestion by increasing number and health of good bacteria in large intestine that suppress harmful bacteria. Promotes overall health with wide range of nutrients. Amino acid asparagine is a natural diuretic. Used to reduce swelling; may help diminish premenstrual water retention. Contains B vitamin folate (more than 50 percent RDA), a crucial nutrient for normal fetal development during pregnancy. Helps avoid birth defects by helping DNA synthesize and replicate properly. Pyridoxine promotes heart health by lowering homocysteine levels in the blood stream.

↑ Vitamin and Mineral Content:
Vitamins – K, B9 (Folate), C, A, B1 (Thiamin), B2 (Riboflavin), B6 (Pyridoxine) and B3 (Niacin)
Minerals – Manganese, Copper, Phosphorus, Potassium, Iron, Zinc, Magnesium, Selenium and Calcium

⃠ Disease Prevention: High Vitamin B9 (folate) concentration helps reduce risk of heart disease by lowering high levels of homocysteine in the blood; converts homocysteine to cysteine. Asparagus also has phytonutrients that may prevent growth of many cancer cell lines (notably colon cancer).

How to Grow: A perennial plant needing initial investment but offering valuable returns. Choose plot with plenty of sunshine and exceptional drainage. Amend soil with compost or quality planting mix for loam with good air space, drainage and nutrient availability. In heavy soil, work in more compost or planting mix to raise bed slightly. Soil pH should be above 6; add lime as needed. Start from seed or buy plants with one-year-old root crowns from a reliable nursery, saving the first year of effort. Dig a trench 6 inches deep and 1 foot wide, with center raised a little. Soak root crowns in water for 1 hour. Plant one foot apart, making sure to spread roots around the slightly raised center of trench. First year, water well, never depriving plants of water. Each spring, apply more mix rich in organic matter and micronutrients. In fall, mulch around plant with compost or balanced planting mix. Full harvest comes two years from crown stage or three years from seed. Begin harvest in second year (after planting crowns) when shoots grow more than 5 inches. Harvest all but a few shoots by cutting or snapping them just below ground shortly before tip opens. Be careful not to hurt crowns when you cut.

✕ Insect Control: Asparagus rust, slugs and asparagus beetles are most common pests. Beetles controlled by hand removing. If seriously infested, spray or dust with rotenone. Avoid asparagus rust (rust-colored spots on leaves and stems) by buying resistant strains from trusted nursery. Slugs controlled several ways. Physically remove and dispose each morning or night. Sink saucers of beer into soil to attract and drown. When plants are still small, cut off plastic bottles and secure over plants. Spread a thin layer of lime or soot around plant to repel slugs.

✓ Tips: To preserve soil balance, start new bed every 10 years. (Three years before discontinuing old one to avoid missing a season of tasty, fresh, homegrown asparagus.) To avoid crown rot, do not let crowns lie in bed of water. Slightly raised beds help prevent this.

Healthy Garden

3 FRUITS

Tips On Growing 3 Common Fruits
From Milo's Book "Healthy Garden, Healthy You"

Healthy You

growing your own fruit

TIPS FROM MILO'S BOOK "HEALTHY GARDEN, HEALTHY YOU"

This article focuses on 3 popular garden fruits.

APRICOTS

+ Health Power: Good source of Vitamin A and beta-carotene. Antioxidant properties prevent free radicals from oxidizing the bad form of cholesterol (LDL), a first step in forming plaque in blood vessels. One form of Vitamin A, retinol, essential to light sensitivity. Impaired night vision early sign of deficiency. Good source of dietary fiber to support digestion, elimination and regulation of blood sugar.

↑ Vitamin and Mineral Content:
Vitamins – A and C
Minerals – Potassium, others in trace amounts

⃠ Disease Prevention: Reduces risk of macular degeneration, cataracts, heart disease, lung cancer, perhaps colon cancer. Vitamin A associated with reduced risk of cancer in organs lined with epithelial tissue.

❦ How to Grow: Many types of apricot cultivars; dwarfs and standard. Best depends on climate and space available. Dwarfs grow near 6 feet tall. If fan trained, grow to 15 feet. With minimal pruning, standard cultivars can reach 30 feet. If planting only one tree, use self-fruiting cultivar. Need sunny spot sheltered from wind. Soil should be well drained and fertile, with pH near 6. Prepare soil by working in plenty of organic matter and some plant mix two spades deep in radius as far as you think roots will spread. Be careful not to over fertilize with nutrients, which causes rapid growth and makes tree more susceptible to pests and disease. During growth, thin out branches that crowd the tree. Thinning heavily grouped fruits on a branch increases size of remaining fruits and prevents excess weight on branches. Produces fruit 2-3 years after sprouting. Ready to pick when soft. For dried apricots, pick while firm and split them.

✕ Insect Control: Apricot pests include red spider mite, aphids, birds, sawfly, green fruit worm and peach tree borers. Tiny red spider mites problematic in dry weather, causing yellow spots on leaves and visible webs. Spray leaves regularly with insecticidal soap. Control aphids by planting French marigolds to attract predator ladybugs and hover flies. Also spray off with strong water stream. Repel birds by surrounding trees with netting. Distract birds by planting more appealing mulberry trees. Caterpillar stage of sawfly makes fruit inedible by boring holes. Control sawfly pupae by hoeing around bottom of tree to expose them for birds to eat. If large infestation, spray insecticide like Bt (Bacillus thuringiensis) or pyrethrum. Bt also controls green fruit worms. Look for small sawdust-like buildups next to holes. Probe into holes to kill borers.

✓ Tips: When selecting trees, choose one grafted to a seedling apricot rootstock. Generally grows better than ones grafted with other rootstocks. When thinning fruits, pick out central fruit first, as they tend to be odd shaped.

PEACHES

+ Health Power: Peaches are an excellent source of vitamins A and C. Vitamin A is an antioxidant that stabilizes free radicals associated with cancer and other diseases. It also aids proper vision in low light. Vitamin C is famous for its many benefits: healing cuts and abrasions, building connective tissue for muscles and bones, protecting immune system, preventing bruising and helping build new red blood cells. Peaches also contain other vitamins and minerals, including fiber, that aid in proper digestion and help enhance skin color.

↑ Vitamin and Mineral Content:
Vitamins – A, B1 (Thiamin), B2 (Riboflavin), B6 (Pyridoxine), C, B3 (Niacin), B9 (Folate), B5 (Pantothenic Acid), C, E and K
Minerals – Potassium, Phosphorus, Magnesium, Calcium, Iron, Selenium, Manganese, Copper and Zinc

⃠ Disease Prevention: The anti-oxidant glutathione, with vitamins A and C, correlates with preventing cancer cell development. Eating peaches reduces the risk of heart and cardiovascular disease.

❦ How to Grow: A gorgeous addition to the backyard, peaches work miracles in summer. They grow throughout the U.S. but do best in warm summers. They thrive in healthy, well-drained soil. Pick a transplant from your nursery and put it in a fairly sunny spot. Amend the soil with plenty of compost or organic planting mix. Plant the tree deep. The first few years set the stage for the tree's shape and size. Stake the tree after it grows taller than a foot to help it grow straight up. In spring, when growth buds appear, cut the central growth down to two feet above the ground right above the bud. Remove all the lower shoots except for the top 3-4. Later, remove any shoots under those top 3-4 branches. Before fruit bearing age, mulch widely around the trunk with compost or organic planting mix twice a year, once in March and again in May. After that, one application a year is good unless you see signs of deficiency. Keep soil moist. Water thoroughly if the soil might dry out. If soil stays too dry too long, fruiting suffers. When peaches are about cherry size, remove some, leaving 1-3 peaches per stem. If clusters form on branches, remove all but one to avoid stunting growth. When they are the size of golf balls, check the branches again and remove enough to ensure branches withstand the weight. They are ready to pick when skin softens to the touch.

✕ Insect Control: The most serious pests are peach tree borers. Aphids and spider mites are also common. Borers enter on the lower trunk and leave sticky sawdust around their entry. Prevent by keeping the lower trunk uncovered. Kill them by sticking something in the hole such as the end of a wire coat hanger. Or cut out damaged areas until you see healthy wood. Treat with a 1:1 mix of lime-sulfur and latex paint. Aphids are a common garden pest. Control aphids by companion planting marigolds to attract their predators (hover flies or ladybugs). You can also wipe or spray off with a strong stream of water. If infestation is too great, spray an organic insecticidal soap. Red spider mites are barely visible, but their webs are easy to see. They succeed in dry conditions, so keep plant regularly sprayed with water. For a bad infestation, spray with an organic pesticide like rotenone.

✓ Tips: The more peaches on a tree, the smaller they are. After a few growing seasons, you can determine the size that yields the best fruit to your taste. Quickly remove any shoots emerging from the roots. Also, completely remove any infested peaches or branches damaged during the previous year. This restores vigor to branches and fruit growing. Many vitamins are in the skin, so eat peaches whole.

NECTARINES

+ Health Power: Nectarines have high content of carotenoids and flavonoids, including phytonutrients lutein and lycopene, both supporters of healthy vision, heart health and the fight against carcinogens. Vitamins C and A also support immune system response to unwanted bacteria, viruses and fungi. Vitamins E and A help protect skin from UV or free radical damage and helps maintain elasticity in the inner lining of blood vessels. Nectarines give a good dose of dietary fiber, which works to promote healthy digestion and nutrient absorption from food and drink. Fiber helps balance cholesterol levels and prevents buildup of bad cholesterol. Very low in total calorie content, fat free and great source of natural sugars.

↑ Vitamin and Mineral Content:
Vitamins – C, A, B3 (Niacin) and E
Minerals – Potassium, Copper, Phosphorus and Manganese

⃠ Disease Prevention: Phytonutrients in nectarines help reduce risks of atherosclerosis, heart disease, macular degeneration and many cancers.

❦ How to Grow: See Peaches on the lefthand page. Cousin to the peach, nectarines are often called "beardless peach." During a break on a warm summer day, not much beats biting into a cool, juicy nectarine. Trees take 2-3 years to produce delectable fruit. Can be grown as a bush tree, fan tree or standard. Prefers sunny site with well-drained soil not overly nutrient rich. Note: If flowering occurs before pollinating insects arrive, you may need to hand pollinate from one flower to the next. Use soft-bristled paintbrush or similar device.

✕ Insect Control: The most serious pests are tree borers. Aphids and spider mites are also common. Borers enter on the lower trunk and leave sticky sawdust around their entry. Prevent by keeping the lower trunk uncovered. Kill them by sticking something in the hole such as the end of a wire coat hanger. Or cut out damaged areas until you see healthy wood. Treat with a 1:1 mix of lime-sulfur and latex paint. Aphids are a common garden pest. Control aphids by companion planting marigolds to attract their predators (hover flies or ladybugs). You can also wipe or spray off with a strong stream of water. If infestation is too great, spray an organic insecticidal soap. Red spider mites are barely visible, but their webs are easy to see. They succeed in dry conditions, so keep plant regularly sprayed with water. For a bad infestation, spray with an organic pesticide like rotenone.

✓ Tips: Needs great drainage to get nutrients and grow disease free. If soil is thicker, in addition to amending with organic matter, sprinkle a layer of broken-down bricks or sediment into the bottom of hole to help create space for draining.

The tips contained in these articles are exerpts from Milo's book, "Healthy Garden, Healthy You".

4 FACTORS

4 Factors To Consider When Growing Roses

Sun • Water • Feeding • Pruning

GROWING ORGANIC ROSES
4 EASY STEPS TO RICH REWARDS

Few flowers can compete with the elegance and beauty of roses. Throughout history, and throughout the world, roses have been associated with beautifully maintained estate gardens. The good news is that you don't have to be born rich, or own a large estate, to be able to enjoy a gorgeous rose garden. All you have to do is go to your local independent garden center to find a wide variety of roses you can plant at home and then learn the basic principles.

When you grow your roses organically, they are free of pesticides, herbicides and other chemicals that may be harmful to our family and pets. Organically grown roses offer us the option of using the pedals and other parts of the plant in our food arrangements, making rose tea, distilling rose water, blending potpourri and even concocting homemade cosmetic products. Just the peace of mind that comes with knowing that we are not exposing ourselves to anything potentially toxic is the most important thing. But just as the "organic life" is healthier for us, so is it for the roses too.

EASY STEPS TO RICH REWARDS

Organic roses are fun & easy to grow. We just need to understand their four basic requirements: sun, water, feeding & pruning.

1 SUN

Full sunlight is best, although some varieties still perform well in less sunlight. If you do not have a lot of sun in your garden, the experts at your local independent nursery will be able to recommend varieties better suited for your location. Another advantage you gain by visiting independent nurseries is that they usually offer selections of roses that are not available at the big box stores. Also, I have experienced that they are usually more knowledgeable about roses in general

2 WATER

Providing roses with the correct amount of water is very important. Please do not use sprinklers to water your roses, even in the morning! I have seen too many diseased roses that have been watered this way. Try to pay close attention to the wetness of your soil. Water if it is dry to the touch two inches below the soil surface.

Higher quality soil will be better able to retain water. Rich soils consist of a variety of organic components such as redwood, compost, peat moss and organic fertilizers. Wet the soil to the point that it looks and feels saturated at a depth of six inches. People often make the mistake of watering too frequently and not deeply enough. This approach will promote shallow root growth, which will make your rose plants less drought tolerant and susceptible to drought stress more quickly.

Deep roots, encouraged by deep watering, have access to more water, primary nutrients, and minerals and will support the production of more blooms in general. Deep roots also develop a more productive association with endo-mycorrhizae.

3 FEEDING

Roses are heavy feeders. They love their nutrients! Try to add as many organic amendments to the soil as you can. Your roses will show you their gratitude by producing an abundant crop of blooms.

It is best to add both amendments and fertilizer to your soil. Amendments come in the form of planting mixes, composts, soil conditioners, mulches, and other coarse organic materials that will directly improve the texture of the soil. They have some nutritional value, but not nearly enough to maximize your roses' growth potential. Dr. Earth® Rose and Flower Fertilizer will contribute greatly to the nutrition in your soil. Dr. Earth® Total Advantage® Rose and Flower Planting Mix creates the ideal soil texture & structure, but more importantly, combined, they contain high levels of nitrogen, phosphorous, potassium, secondary nutrients, micronutrients and ProBiotic®, a champion biological soil inoculant that is perfectly formulated for rosarians who expect the best and demand the most.

Use Dr. Earth® Rose and Flower Fertilizer for a completely balanced diet that contains everything a rose plant will require. Try to work the organic components (amendments and fertilizer) deep into the soil— at least 2 inches to 8 inches for maximum results. Organic nutrients are released slowly, as the beneficial soil microbes digest and decompose the nutrients and convert them into a form that the plants roots can absorb. This is the way nature indended.

Dr. Earth® Rose and Flower Fertilizer contains mycorrhizae, a beneficial soil fungus that develops a symbiotic relationship with the roots of roses and other flowering plants, enabling them to absorb more water and nutrients. Mycorrhizae also contribute to good soil structure and help plants to resist soil-borne diseases. All of this happens when we are organic gardeners; we do not have to apply chemicals to our soil to achieve maximum plant potential.

4 PRUNING

Proper rose pruning is essential for a beautiful rose garden. I recommend that if you do not know how to properly prune your rose plants, take a rose pruning class at your local independent nursery. Many nurseries will offer these classes on weekends, free of charge. The more knowledgeable you are on proper pruning techniques, the more successful you will be.

THE REWARDS

Being an organic rosarian is a very rewarding experience. Organically grown roses are easy to achieve, especially after you have built a rich and nutritious soil. Organically grown roses can be more drought tolerant and disease resistant, and require fewer applications of fertilizers, pesticides, and fungicides, because they have been grown steadily without the typical unnatural growth spurts that they experience with chemical fertilizers.

Please consult with your local independent nursery for more advice and tips on growing organic roses.

In many instances, physical and biological controls won't be enough to remedy a pest problem. In these cases you will face the choice of losing your harvest, flowers, and valuable plants or using organic insect sprays.

Organically acceptable pesticides and fungicides have 3 characteristics:

- **They are derived from natural substances.**
- **They are generally less toxic to humans than synthetic pesticides.**
- **They break-down in the environment to harmless substances.**

KILL, REPEL, AND CONTROL NATURALLY

Final Stop® products provide the home gardener with an effective alternative to chemical sprays. Dr. Earth® is unique in it's formulation with components that quickly kill and control the target naturally.

FAST AND EFFECTIVE RESULTS

Formulated with essential oils and garlic extract to knockdown and kill insects and fungus quickly, the results can be seen anywhere from immediately to over a period of several minutes. Octopamine is a chemical neurotransmitter that controls body movement and metabolism in insects and mites. The ingredients in Dr. Earth® 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. We also include several oils and molasses that will naturally stick to plant foliage. This "gummy" carrier causes the insecticide to adhere to plant foliage for a long period of time, creating effective control.

DYNAMIC COMBINATION

We designed the dynamics of our essential oil blend, garlic extract, and specialized inert ingredients to work synergistically, killing insects and fungus within minutes. They also have the ability to repel insects for weeks. Dr. Earth® Final Stop® effectively controls a broad spectrum of insects and fungus's through several active killing agents.

UNIQUE FINAL STOP® BONUS

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

DR. EARTH PROFESSIONAL KILLER SPRAYS

FINAL STOP®
NATURAL & ORGANIC
YARD & GARDEN INSECT KILLER

IDEAL FOR: Killing and controlling insects on vegetables, fruit frees, turf, ornamentals, walkways, driveways and in every part of the yard and garden.

CONTROLS: Aphids, whiteflies, mites, caterpillars, fleas, spiders, stink bugs, flies, ants, mosquito's, leafhoppers, beetles, wasps, mealybugs, scale, centipedes, earwigs, gnats, silverfish, chiggers, cockroaches, ticks, pillbugs, crickets and other nasty insects.

FINAL STOP®
NATURAL & ORGANIC
VEGETABLE GARDEN INSECT KILLER

IDEAL FOR: Indoor herb gardeners love this formula! Use to kill and control insects on vegetables, both indoors and outdoors, and in every part of the yard and garden.

CONTROLS: Aphids, whiteflies, mites, caterpillars, earwigs, sowbugs, beetles, scale, spiders, ants, leafhoppers, mealybugs, pillbugs, crickets and many other nasty insects that threaten your precious harvest.

CHOOSE YOUR WEAPON & SHOW NO MERCY

FINAL STOP®
NATURAL & ORGANIC
WEED & GRASS HERBICIDE

IDEAL FOR: Killing and controlling a broad spectrum of weeds and grasses. Use both directly on plants and walkways and every part of the yard and garden, wherever you want weeds dead. (Remember not to spray weeds in your lawn).

CONTROLS: Crabgrass, foxtail, all broadleaf weeds, poison ivy, poison oak and every [non-desired] plant you want to kill from the top down.

FINAL STOP®
NATURAL & ORGANIC
ROSE & FLOWER INSECT KILLER

IDEAL FOR: Killing and controlling insects on roses, flowers, flowering shrubs, ornamentals, and every part of the yard and garden.

CONTROLS: Aphids, beetles, whiteflies, mites, rose chafers, scale, caterpillars, earwigs, spiders, ants, leafhoppers, mealy bugs, crickets and many other nasty insects.

THE HIT MAN HAS BEEN HIRED...

FINAL STOP®
NATURAL & ORGANIC
DISEASE CONTROL FUNGICIDE

IDEAL FOR: Killing and controlling diseases, molds and fungi on vegetables, fruit trees, roses, turf, ornamentals, trees, and shrubs in every part of the yard and garden.

CONTROLS: Powdery mildew, rust, black spot, peach leaf curl, shot hole fungus, leaf blotch, scab, dollar spot, brown rot, fusarium blight, botrytis, downy mildew, scab anthracnose, phytophthora blight and many more plant diseases.

FINAL STOP®
NATURAL & ORGANIC
FRUIT TREE INSECT KILLER

IDEAL FOR: Killing and controlling insects on all fruit trees, citrus, avocados, deciduous trees and every part of the yard and garden.

CONTROLS: Aphids, scale, whiteflies, mites, earwigs, caterpillars, spiders, flies, ants, leafhoppers, beetles, mealybugs, pillbugs, crickets and many other nasty insects.

...AND HIS NAME IS DR. EARTH

FINAL STOP®
NATURAL & ORGANIC
PEST CONTROL KILLER SPRAY

IDEAL FOR: Killing and controlling insects under sinks, walkways, driveways, basements, between plants on soil, foundations every part of your home, yard, and garden.

CONTROLS: Ants, cockroaches, spiders, fleas, wasps, stink bugs, moths, silverfish, mosquitos, centipedes, earwigs, gnats, chiggers, ticks, pillbugs, crickets and other nasty creepy-crawly insects

FINAL STOP®
NATURAL & ORGANIC
SNAIL & SLUG KILLER SPRAY

IDEAL FOR: Killing and controlling snails, slugs, and their eggs. Use on both plants and walkways and every part of the yard and garden.

CONTROLS: Snails and slugs, including their eggs.

The Importance of Plant Health

We see so many good reasons to grow plants organically for our health. First, the taste is far better than any retail or conventionally grown fruits or vegetables. Corporate agriculture has commoditized our produce for the sake of profits not taste. This loss of quality in favor of profits has been demonstrated in hundreds of different types of food fairs, taste comparisons, farmers markets and your local supermarket. Organic produce is more appealing and flavorful because of the variety and abundance of available nutrients it absorbs.

Second, and most important, organically grown plants are nutrient dense; they have every nutrient available to them as they grow and develop. This nutrient density is the quantity and quality of nutrition plants contain from having consumed all their needed nutrients. You could say people are well nourished when they eat fruits and vegetables from plants that were well nourished themselves.

A third distinction between organic and artificially fertilized plants is the bioaccumulation of toxins in chemically treated plants. This is a fancy way of saying plants grown in conventional soils pumped full of synthetic fertilizers, pesticides and herbicides are detrimental to a living, healthy body. Toxins accumulate in our bodies as we age and consume more contaminated food. The older a plant, animal or human becomes, the more it will accumulate metals and other toxins in the body. Eating organic produce from your own backyard garden is your best insurance against accumulating toxins in your body.

The fourth reason to grow organic is to promote a better environment. When you grow your backyard garden in a healthy, organic way, you contribute to environmental health on an interconnected global level. If you consume healthy foods and apply only natural and organic soil amendments and fertilizers, you have made a conscious decision to care for the environment. These actions have a far greater reach than you might imagine. When everybody employs organic methods, the benefits become global.

THE HEALTHY CYCLE

Plants need a naturally well-balanced and dense variety of nutrients for healthy growth and to yield their fullest potential. Healthy plants strive to remain top competitors for their sustenance. Their well developed, more robust roots, stems and leaves are naturally more resistant to pests and diseases. If you minimize weeds in your garden by removing them by hand, you allow your fruits and vegetables to compete against and prevent other, non-desirable plants from becoming established. This ensures your desired plants absorb all of the nutrients.

Most importantly, healthy plants pass on essential nutrients to the next generation of plant growth. After a plant dies, do not put it into the garbage. Instead, do one of two things. Either compost it or turn it back into the soil to allow microbes to digest it and release nutrients the living plant once consumed. Living organisms break down the dead plant into a plethora of nutrients for future plants grown in that soil. This is how nutrient dense plants lead to healthier soil for the next generation. Ideally, this positive loop continues until soils can sustain healthy plant growth with minimal use of fertilizers. There will always be a deficit, simply because as something is always being taken out of the soil, even in minute amounts, whatever is lacking must be replenished. Nutrients are like a bank balance. When you pull money out of your account, you have to make a deposit to restore the original account balance. Whenever you borrow from the soil, you need to reinvest in it.

Conversely, if you directly feed plants water-soluble, synthetic fertilizers that contain only primary macronutrients and micronutrients, the soil account is depleted without being replenished. This depletion undercuts the living soil organisms that degrade organic matter. This practice may eventually lead to the complete depletion of microbes, leaving nothing in the soil to digest dead plant matter and excrete nutrients for new plants. Plants grown this way then have to rely on nutrients applied as fertilizer, with much lower nutrient density. A plant grown in oversimplified N-P-K fertilizer cannot match the nutritive quality of a plant grown in nutrient rich organic soils. Without a constant supply of organic nutrition, plants have no way to obtain trace elements for strong healthy growth. Consequently, they will not be able to contribute as much to the overall nutrition of the consumers of the plants, the animals we consume and ultimately us.

Healthy plants provide a high concentration of nutrients to the food web. All living things benefit from healthy plants, starting with the microorganisms that live in the soil. Life benefits every time we work a healthy plant into the soil and till it under. The next generation of plants benefits because the soil they are grown in is healthy and contains an abundance of nutrients for its continual growth. Animals are healthier because they are consuming healthy plants. Ultimately, humans are the greatest beneficiaries of this cycle, because we are the highest on the food chain. The entire cycle simply translates to human health.

THE GLOBAL GARDEN

The healthier the plant, the more carbon dioxide it uses, which leaves less in the atmosphere to contribute to the greenhouse effect and global warming. Through plant respiration, more oxygen goes into the atmosphere so we have better air quality. Plants use CO2 and provide us with the oxygen we need for motor functions and metabolism. Every time you choose to make a healthy decision for yourself or your family, chances are good that the environment will benefit from it. Even if you did not grow all of your food, and most people in modern countries do not, you can help the health of the environment and further perpetuate your own health. When you buy organic produce from a farmers market, you get your produce via a truck that transported it over a short distance As a result, feeding you requires less fuel and creates less pollution.
When you buy a packaged product in a store, (tea as an example), even if it was grown in India, if it was grown organically, you have helped the environment since chemical fertilizers or pesticides were not applied.
When you apply an organic fertilizer or soil to your backyard, you aid the recycling of organic materials that would have been thrown away. Ask your neighbor for his leaf litter, and build a compost pile in your backyard. I grew up in an urban setting and still managed to maintain a regular compost pile. I even added chicken manure from the few chickens I raised in the middle of the city. There is no reason not to compost unless you live in an apartment.

Consider the popular phrase, "Think globally. Act locally." Global health starts with human health. If you care for yourself and your family and make conscious choices daily, if your garden is healthy and you care for it naturally, you have just made a global environmental impact.

Think globally. Act locally

NATURAL LAWN CARE

The way to a lush green lawn begins with an understanding of how lawns grow and a respect for the needs of the grass plants. Misunderstanding and mistakes abound, especially in the areas of mowing, watering, and fertilizing. Let's take a look at these aspects of lawn care.

MOWING

How high or low you set the mower blade is based on the needs of the grass plants at the time, and that can change with the seasons. But one of the biggest mistakes people make is setting the blades too low. Their theory is that by cutting the grass very short they won't have to mow as often. What actually happens is that they are putting the health, and maybe even the life, of their lawn in jeopardy.

For one thing, photosynthesis takes places in the blades of the grass, creating sugar as a food source for the roots. When the blades are cut too short, the plants are stressed in their attempt to make an adequate supply of sugar and must work harder. The result is actually faster growth. And the way to thicken the turf is to be sure the plants are allowed to make not only enough, but more than enough, sugar. That excess goes into the production of new plants, called rhizomes.

Another factor to consider is the competition between the grass and the weeds. Whichever one gets the most sun will shade the other. Without enough sun plants can't carry on photosynthesis and they die. You want to give the grass the advantage. Longer blades mean better health, and their length and density will allow the grass to outcompete with weeds. With too much shade, weed seedlings, especially, won't stand a chance. Therefore, during the growing season, set your mower as high as it will go. (That is probably 3 to 4 inches.) As temperatures cool and winter rains begin, it's a good idea to then lower the blades a little. The lower lawn height will allow the grass blades to "dry off" faster, helping to prevent fungus and disease.

When you do mow, leave the clippings right on the lawn. As they break down, they add nutritious organic material that helps prevent thatch and feeds the plants.

WATERING AND SOIL pH

As counter intuitive as it may seem, you should water your lawn LESS often for better results, BUT WHEN YOU DO, WATER DEEPLY. That helps to develop grass roots that go farther down into the soil. Grass watered frequently and shallowly develops shallow roots and the many horizontal runners that make up a mat of thatch. If the grass doesn't show any signs of drought stress, it may not need watering. If the lawn has become quite dry, it works better to give it only ½ inch, wait for about 90 minutes, and then give it another ½ inch. Add organic mulch in late spring to help reduce heat stress in the summer. Dr. Earth® Natural Choice® Compost makes an excellent top dressing or mulch.

You can check to see how much water your lawn really receives, by putting a cup in the zone of the sprinkler and running it for the normal length of time. You should see at least an inch of water in the cup. Have the pH of your soil professionally tested because the inexpensive kits you can buy are often inaccurate. Your local county extension will sometimes test samples for free or for a minimal charge. Add lime, if pH is below 6.0, and add soil sulfur, if above 7.0. A higher number is more favorable to weeds, like dandelions. Grass prefers a pH of about 6.5 - so accuracy matters.

FERTILIZING

Grass consumes high levels of nitrogen. Weeds like clover, which are legumes, can draw nitrogen from the air but grass cannot, so their presence could mean your soil needs more nitrogen. If your lawn needs fertilizer, apply Dr. Earth® Super Natural® Lawn Fertilizer as recommended on the package. This will feed it and supply organic material to the soil for 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® Super Natural® Lawn Fertilizer 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.

SUPER NATURAL® LAWN FERTILIZER

A Safe Place To Play!

100% Organic & Natural Hand Crafted Blend

NO GMOs – Chicken Manure – Sewage Sludge ("Biosolids") to taint the cleanliness or safety of our hand crafted blend.

DESCRIPTION:

Super Natural® is a true pelletized and homogenous organic all-purpose lawn fertilizer that produces remarkable results, because nutrients are released quickly, yet continue to feed for several months. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. ProBiotic® ensures organic nutrients are thoroughly broken down then released in the soil for grass roots to absorb them as they are needed. Promotes a hardy root system and adds life to your lawn. Feeds for several months.

Infused with ProBiotic®—consisting of "Seven Champion Strains" of beneficial soil microbes and three select strains of endo mycorrhizae— which contributes to drought tolerance, enhanced nutrient availability, and increased plant performance. The Dr. Earth® probiotics are a most complete "broad-spectrum" bio-active package designed to work synergistically with the raw organic nutrients that make up the Super Natural® formula. This spectacular blend actually digests problematic thatch, builds soil health, promotes disease resistance and assists the growth of lush, super-green healthy lawns.

RICH IN:

Wild-caught Alaskan Fish Meal, Wild-caught Alaskan Fish Bone Meal, High Country Feather Meal, Naturally Mined Potassium Sulfate, Valley Grown Alfalfa Meal, Calcium Sulfate (gypsum) and MicroActive™ Micronutrient-rich Seaweed Extract.

IDEAL FOR:

Providing balanced and fast nutrition for all lawn types, including new lawns, fescue, bluegrass, ryegrass, St. Augustine, Bermuda grass and both cool season and warm season grasses.

PreBiotic® Inside

Super Foods For ProBiotics

What if you could apply the latest scientific knowledge of human nutrition—the newest, most revolutionary concepts— to your garden?

We mean breakthrough technology on a microscopic level. Now you can.

You've heard of "probiotics," and how they benefit human health. Just as these microbes break down food in our digestive tracts—making nutrients available for absorption—they also break down organic matter in soil and make its nutrients available to plants. ***But what provides food for the living microbes, or "probiotics?"***

The answer: Prebiotics

Prebiotics are full-spectrum green super foods for probiotics. The web site of the International Scientific Association for Probiotics and Prebiotics (http://www.isapp.net) offers the following definition:

"A prebiotic is a selectively fermented ingredient that results in specific changes in the composition and/or activity of the gastrointestinal microbiota, thus conferring benefit(s) upon host health. (Gibson et al. 2010. Food Science and Technology Bulletin: Functional Foods 7 (1) 1–19.) Unlike probiotics, a prebiotic targets the microbiota already present within the ecosystem, acting as a 'food' for the target microbes with beneficial consequences …"

Welcome to PreBiotic®, Milo's greatest innovation since ProBiotic® & ProMoisture Hydrate®. It works as a food for the probiotics, kicking them into high gear for better performance & maximum results immediately.

Dr. Earth® now offers PreBiotic® in two NEW liquid products: **Nitro Big®**—a high-nitrogen formula to promote green vegetative growth, and **Golden Bloom®**—a high phosphorous formula used to promote humongous buds and blooms, both formulas containing ProMoisture Hydrate® and. Try them with our soils all of which contain ProBiotic® protected by ProMoisture Hydrate®. Or try it in existing garden soil, or even with our competitors' products to make them effective. Remember: **a prebiotic targets the microbiota already present within the ecosystem." This means any soil, from potting soils to backyard garden soils!**

No one else can offer genuine PreBiotic®, ProBiotic®, or ProMoisture Hydrate®, ***all exclusive and protected*** Dr. Earth® brand names and patents, based on nature's intelligence!

Prebiotic supplement for soils and fertilizers is Dr. Earth patent pending technology serial No. 61/541,275

HIGH NITROGEN FERTILIZER

Picture the ultimate in plant health: lush, green growth with thick plant cell walls. Dr. Earth® Nitro Big® with PreBiotic® and ProMoisture Hydrate® reaches that objective by feeding plants the perfect diet through a formula that accelerates robust and vigorous vegetative growth. This formula goes to work in the soil with incredible speed because of the purity of the green-based Prebiotic® ingredients. It works quickly, but not so quickly that it could potentially burn plants. Help your plants reach their full potential! Treat them to Dr. Earth® Nitro Big® for the biggest, tallest and thickest leaves. Use for all garden plants during the early stages of growth or in early spring.

HIGH PHOSPHOROUS FERTILIZER

When your plants enter the budding and flowering stage, proper feeding makes all the difference. Dr. Earth® Golden Bloom® with PreBiotic® and ProMoisture Hydrate® is formulated to feed plants during this critical stage of their lifecycle, when size, quality, and abundance of buds and flowers are the objectives. Golden Bloom® delivers the purest, highest quality nutrients available. Those buds and flowers lead to fruits that thrive in great health until the day of harvest. Pick your tomatoes right off the vine and eat them with confidence, because of Dr. Earth®. Are these results pure luck? No. Pure science.

PREMIUM LIQUID FERTILIZERS
ADVANCED PLANT NUTRIENTS

100% Organic & Natural Liquid Blends Handcrafted with Micronized Essential Nutrients. Loaded with bioavailable multi-minerals. Juiced-up for maximum Growth.

Advanced - Liquid Solution™ and **SEAWEED EXTRACT** are powerful liquid fertilizers formulated to work fast anytime of the year. DELIVERS bioavailable liquid blends, they are not dependent on temperature for effectiveness. Micronization ensures that organic nutrients are thoroughly available for root absorption on the microscopic level. Gardeners love our easy-to-use liquid solutions; you simply mix with water and apply to the soil, foliage, or hydroponic systems.

LIQUID SOLUTION™

Micronized Essential Nutrients loaded with bioavailable multi-minerals

Liquid Solution™ is a powerful liquid fertilizer formulated to work fast anytime of the year, regardless of temperature. Nutrients are released quickly, yet continue to feed for several weeks. Ultra-premium scientific formula provides optimum levels of primary essential plant nutrients, including micronutrients and multi-minerals. Micronazation ensures that organic nutrients are thoroughly available for root absorption on the microscopic level. Very easy to use; just mix with water and apply to the soil or foliage.

DR. EARTH® SEAWEED SUPER CONCENTRATE

Micronized Seaweed loaded with OVER 70 bioavailable multi-minerals

Dr. Earth® Seaweed Super Concentrate is a powerful liquid fertilizer formulated to work fast anytime of the year, regardless of temperature. Nutrients are released quickly, yet continue to feed for several weeks. Ultra-premium concentrated formula provides optimum levels of potassium and naturally occurring multi-minerals (synergistically boosted with micronized humic acids for maximum bioavailability and superior bud production.) Micronization ensures that organic nutrients are thoroughly available for root absorption on the microscopic level. Very easy to use; just mix with water and apply to the soil or foliage.

Available in Pint, Quart or Gallon Containers

THE SYNERGY OF 3

DR. EARTH HAS COMBINED THREE GROUNDBREAKING TECHNOLOGIES INTO ONE INCREDIBLE PRODUCT

INNOVATION – It took research, ingenuity and inspiration to produce our liquid concentrates. The initial challenge was how to best capture the vital essence of prebiotics at peak freshness and deliver it to you in a bottle. We have succeeded! Milo Shammas cracked the plant nutrient code. This changes everything!

PreBiotic® Inside
Super Foods For ProBiotics

FEEDING THE INTELLIGENCE

THE POWER OF PREBIOTIC®

FULL-SPECTRUM GREEN SUPER FOODS FOR PROBIOTICS

Prebiotics (soluble sugars) and other micronized exotic super foods—full of life-giving energy—stimulate the living soil microorganisms to digest and breakdown the maximum amount of organic matter in the soil. This action releases essential nutrients in a directly accessible soluble form that actively growing roots can absorb to produce incredible growth. The more energy the living soil has available, the more rapidly the microorganisms will multiply. This means even more life in the soil, which directly influences the soil's ability to perform at peak levels.

ProMoisture Hydrate®

KEEPING THE INTELLIGENCE ALIVE

THE POWER OF PROMOISTURE HYDRATE®

CONTAINS ALOE VERA INFUSED WITH FERTILIZER AND SOIL

This cutting-edge biotechnology—the science of keeping soil organisms alive—is available ONLY in Dr. Earth® fertilizers and soils. Our food grade ProMoisture Hydrate® coats and protects the life in the soil with a "slimy layer" that allows living organisms to stay hydrated and protected against temperature extremes. It also soothes the soil biota cell walls very much like it protects and moisturizes human skin.

RAW

VITAMINS, MINERALS & GROWTH BOOSTERS

THE POWER OF RAW

ADVANCED ORGANIC® RAW MEAL SUPER FOODS

Premium whole foods deliver nutrients the way nature intended, giving the full benefit of fresh whole food concentrates. Just as this principle applies to human health, it also applies to providing the best support for microbial and mycorrhizal life in every type of soil. Raw is always the best source, because it has not been adulterated by any synthetic processes.

Recipe for Success

ORGANIC VEGETABLES

3 EASY STEPS FOR A HEALTHY HARVEST

STEP 1 - PLANT
MIX SOIL

One bag of soil mix will amend approximately 35-50 square feet of garden for healthy plants, maximum yield & old-fashioned flavor.

STEP 2 - PROVIDE
FERTILIZE

Feed your vegetables at time of planting and every 6 weeks, nourishing them so they can better nourish you with delicious "homegrown health."

STEP 3 - PROTECT
SAFEGUARD

Bring ALL of your abundant harvest to the table in a wholesome & appetizing state. Our super-safe spray easily controls pests and diseases.

DR. EARTH®

P.O. BOX 460, Winters, CA 95694 • For more information contact us at: 707-448-4676 or visit us online at www.drearth.com