

# Compost Tea

**A living solution,  
a tea for the biosphere**



**Microbes  
Recipes  
Brewers  
Biodynamics  
Soil Regeneration  
Applications  
Products**

**2020**

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# Compost Tea and Microbes

Compost Tea is a living solution, a tea, for the biosphere, fortified and concentrated with the gifts of nature. A solution rich in minerals and nutrients for feeding the earth. But what is it in the earth that needs to be fed? Yes, the soils need inputs of minerals because minerals have become deficient, but even in mineral rich soils what needs feeding and why? Why is it not enough to simply add the necessary nutrients and minerals and expect a healthy crop?

When the Earth was still pristine, prior to the age of industry, microbes were proliferous in the air, the water, the soil, the food. They were in us, on us and everywhere, supporting life and keeping the environments clean, healthy and thriving. Since then, their numbers are so severely reduced and imbalanced, it is no longer viable to simply add nutritional inputs to the soils.

It isn't really the soil we are feeding and we aren't really feeding the plants either. We are feeding the microscopic life in the soil because under our feet lies a universe of nearly unimaginable diversity. A symbiotic realm in which life supports life and problems only happen when a part of the symbiosis becomes unbalanced.



This invisible world of microbes sustains all levels of life on our planet with the guiding force of innate intelligence and frequency exchanges within the symbiotic microcosm of environment. In soils, when a seed is planted, it needs the help of fungi for germination. Once sprouted, fungus can become harmful. Bacteria is needed to keep fungus in check. As the plant grows photosynthesis provides energy and the plant vibrates with a frequency that interacts with the microbiome through its roots and root fibers. The plant roots exude sugars to attract and feed microbial life. Microbes, in

turn, similarly exude the enzymes and nutrients that feed the plant.

Microbes alert the microbiome of impending blight or infestation, allowing the plants to activate their defenses. Microbes feed on toxins in the soil and excrete enzymes and fatty acids as food for the environment. Microbes digest food for the plants.

The farming industry got hooked into using chemicals as a matter of convenience and ease while developing mega farms and all the up and coming modern equipment and techniques industrialization was bringing to them. For a time the new and improved man-made nature in the soils and foods seemed to be working, well.

Today, we know what we have to deal with as a result. All pesticides, including herbicides, fungicides and insecticides, along with all other pollutants, spills and the like create the impact of death in the soil. So, today our outdoor growing mediums are more dead than alive and our food quality is a direct result. Propping the systems up by applying and inputting more laboratory produced concoctions serves to make matters worse.

The aggressive members of the microbiome, which need to be kept in check, are the hardiest and survive the poisoning by going dormant or mutating. They become unaffected by the chemicals so that stronger chemicals are developed. Following the same

## Microbe Mind Boggling Stats

- ★ 1,000 bacteria cells will fit on the period at the end of this sentence.
- ★ Based on the rate of discovery it is estimated we now know 5% of bacteria species and 10% of fungi.
- ★ A teaspoon of good compost contains 1,000,000,000 bacteria cells and 800 feet of fungal threads.
- ★ 25,000 average bacteria cells lined up in a row would measure one inch.
- ★ There are 10x more microbe cells living in you than there are of your own cells.
- ★ Some microbes are so small scientists have said they go in and out of existence.

approach, over time, has created a MRSA effect in the farmland. Farmers can no longer raise a healthy crop in conventional agricultural soil without chemical assistance. This is in order to raise a nutritionally compromised, health threatening crop to take to market.

All the while, life underground is severely stressed. The web of life is damaged and the life force interaction becomes distorted. Thus food quality and food poisoning are a serious problem. People are under-nourished and health issues are rampant. It was not always this way.

There are 60 pounds of bacteria in an acre of soil today where that same acre had 2200 pounds in the mid 1960's. That is a huge loss to the land and it only considers the loss of bacteria. The microbiome is incomplete without all the lost life forms.



A terrarium is a closed growing system, usually inside a glass bubble, sealed off from any external exchange or input except sunlight. The concept is that if the plant and animal life and the water and nutrients are just right, a system could regenerate itself perpetually providing itself with all it needs to continue to survive.

The Earth itself is a terrarium. The balance of nature inside our bubble is interdependent across the globe. Regardless of what any of us does or doesn't do, nature will always work toward a homeostasis of natural balance and nature will ultimately win, even if that becomes a challenge for human survival.

The importance of microbes and a healthy rhizosphere cannot be overstated. Raw materials, like minerals on the planet have not gone away.

They are still on Earth, inaccessible or misplaced, so raw materials do need to be restored. Then it requires the microbes to digest rock minerals down to a form the plants can absorb and use, excreted as a colloid, created by microbial digestion.

Without microbes, the world, as we know it, could not exist. Microbes literally create, organize and build the soil that is the foundation sustaining the entirety of life on Earth. Not only via our food sources, but our environment, and our ability to grow and develop beyond our known limitations.

Providing a nutrient rich environment for regenerating microbial flourish provides natural vitality and immune resistance to pests or disease and results in physical, biological, mineral and energetic balance. This translates to a food source for healthy, vibrant animals and humans. Here is where Compost Tea can make all the difference.

## Compost Tea Brewing

Compost Tea in its simplicity is a brewed solution of compost and water. Then there are a variety of recipes and methods to enhance the brew. The oldest, most basic method that has been practiced for centuries is the passive, or non-aerated method. This is simply prepared by soaking a bag of compost in water for up to two weeks.



Aerated compost tea (ACT) is a modern adaptation whereby a mechanism is used for larger scale brews that are aerated for shorter duration and supplemented with oxygen, nutrients, and microbial starter cultures to enhance the biological activity of the tea. This is used and found effective as an alternative to chemical fertilizers, pesticides and fungicides that can also be used as an integrated pest management program. Compost Tea makes soil healthier and increases plant vitality.

The third and most advanced and effective method for making Compost Tea includes the biodynamic addition of the bioenergetic aspects of a living system, meaning potentizing and dynamizing the ingredients using a Vortex Brewer.



<https://www.finegardening.com/article/the-jury-is-still-out-on-compost-tea>

The energetic resonance, or organization of living systems is generally ignored in all but biodynamic



methods. Partly because the energetic life force is beyond the ability of conventional instruments to investigate. The accepted scientific method makes no allowance for the synergistic potentials for increase through the inclusion of biodynamic principals and preparations.

Life is defined by energy because without energy there is no life. There is a name for this energy in all belief systems; "Prana.... is the Sanskrit word for **"life force"**"; ..... the term refers to a cosmic energy believed to come from the sun and connecting the elements of the universe. The universal principle of energy or force, responsible for ... life, heat and maintenance, ..."https://en.wikiquote.org/wiki/Prana This page was last edited on 6 November 2019, at 03:26. The dictionary defines life force as; 1. The hypothetical principle that animates all living organisms and 2. An impulse or influence that gives something life or vitality. In science, the life force is referred to as the measurable zeta potential.

The Vortex Brewer is an actively aerated compost tea (AACT) mechanism that out performs all other compost tea brewing systems in potentizing and dynamizing the brew. It brings the biodynamic concepts of Rudolph Steiner, Viktor Schauburger, Walter Russel and Nikola Tesla into the modern age, allowing for large applications and agricultural use.

Not only does the **Vortex Brewer®** create living, organic compost tea, but it acts as an extractor, it will potentize fertilizer recipes, allow for perpetual brewing, and can stir BioEnergetic concoctions for anything from stimulating soil regeneration to concentrating pest or disease control applications.



All of this is done through respect for the abilities of water. Water is a magical substance that, when used merely to dissolve substances as a delivery system, loses its greatest ability to hydrate cells and facilitate the communication of subtle energies.

The **Vortex Brewer®** is designed and constructed with energizing and enhancing the abilities of water in mind.

Water is allowed a totally unimpeded flow in the **Vortex Brewer®**, no filters or water pumps are involved in the circulation. The unit operates entirely by an influx of air. The **Vortex Brewer®** actually creates its own dynamic vortex flow of water. The **Vortex Brewer®** beckons water to come alive when implosion pulls into it the subtle and powerful life energy forces of the Earth and the products used within. By allowing water to flow in this naturally created vortex motion the **Vortex Brewer®** is able to enliven the vibrational energies manifest in our powerful, proprietary compost tea formulations. This natural process is the backbone behind the concepts of living water, water memory, BioDynamic agriculture and homeopathic medicine.

## What Is In Our Tea?

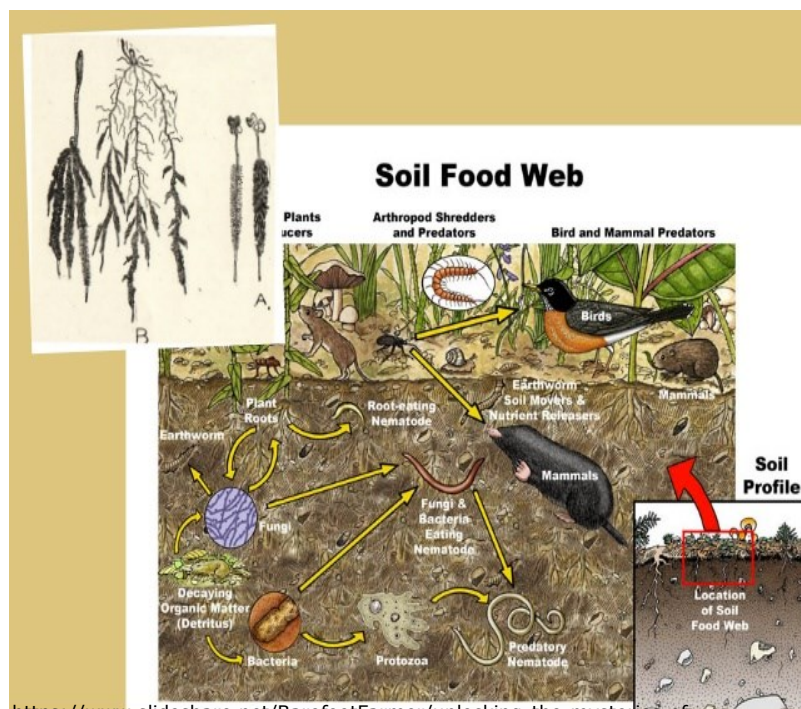
A very good question. Compost tea is basically compost and water. Soaked for two weeks and applied to the garden, it will be an absolute benefit to growth, health and yield. It will increase the microbe and nutrition levels where it is applied and things will improve. It can be mildly potentized by stirring with a piece of wood and creating a vortex in the bucket. Stirring is done briskly enough to form a deep vortex as the water spins. It is stirred first right and then left for an hour before application.

However, the goal is a sustainable microcosm replete with billions of life forms that survive and prosper over time building a stronger, more durable and balanced ecosystem, or what is called The Soil Food Web.

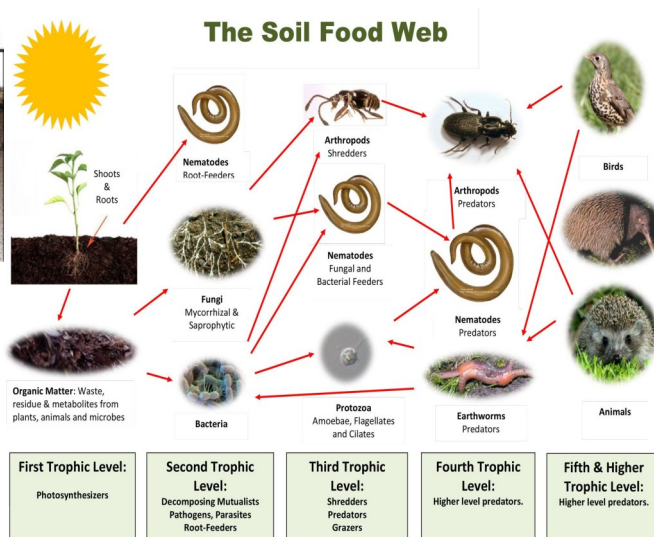


"The **soil food web** is a community of organisms living all or part of their lives in the soil. It represents a complex living soil system and the system's interactions with the environment.

Food webs describe the transfer of energy between species in an ecosystem. While a food chain examines one, linear, energy pathway through an ecosystem, a food web is more complex and illustrates all of the potential pathways. Much of this transferred energy comes from the sun. Plants use the sun's energy to convert inorganic compounds into energy-rich, organic compounds, turning carbon dioxide and minerals into plant material by photosynthesis. Plant flowers exude energy-rich nectar above ground and plant roots exude acids, sugars, and ectoenzymes into the rhizosphere, adjusting the pH and feeding the food web underground. Plants are called autotrophs because they make their own energy; they are also called producers because they produce energy available for other organisms to eat. Heterotrophs are consumers that cannot make their own food. In order to obtain energy they eat plants or other heterotrophs." [https://en.wikipedia.org/wiki/Soil\\_food\\_web](https://en.wikipedia.org/wiki/Soil_food_web)



The Soil Food Web is a delineation to simplify understanding the complexity of the microbiome/Soil Food Web. The name references the interlacing cycles of life taking place, as the miniscule bacteria life forms are population controlled, being consumed by larger forms. Those life forms being consumed by still larger life forms and so on all the way to the surface of the growth medium. From there the process continues above ground in the natural cycles of life we are more familiar with.



<https://www.slideshare.net/BarefootFarmer/unlocking-the-mysteries-of-biodynamic-preparations>

	BioDynamic Preparations
BD 500	Cow Manure Preparation encourages a healthy Soil Food Web and builds soil organization, balances lime-calcium polarity, aids plant digestion, nutrient absorption, nitrogen fixation.
BD 501	Silica Preparation boosts blossoming, fruiting and ripening, increases flavor, extends shelf life.
BD 502	Yarrow Preparation works in soil processes with Sulphur and potassium, supports fluid flows within the plant, replenishes tired, over used soil.
BD 503	Chamomile Preparation supports digestion, calcium, amino acids and nutrient uptake, stimulates growth, moderates fermentation, is zinc friendly.
BD 504	Stinging Nettles Preparation interacts with calcium, proteins, magnesium, iron and phosphorous, works with chlorophyll and haemoglobin, hormones, enzymes and silicon, promotes humus formation.
BD 505	Oak Bark Preparation helps build resistance to fungi and infection, converts nitrates to amino acids using calcium and carbon in both soil and plants, promotes growth and form.
BD 506	Dandelion Preparation allown the interrelationships of nature to become fully effective, works with silica and potassium, can improve fruit size and form.
BD 507	Valerian Preparation is sprayed over the compost pile to form a protective skin, works with phosphorous and the line and silica streams to encourage internal warmth and flowering, may help protect against light or temporary freeze.
BD 508	Horsetail Preparation works with liquid silica to reinforce vessels, cell walls and connective tissues, hardens against weak growth, builds soil mycorrhizal growth, good for ripening.

<http://www.soilfoodweb.co.nz/index.php/what-makes-a-healthy-soil-foodweb-web/>

BioDynamic® preparations are potent and pure and full of life. They are extremely effective for soil regeneration and keeping the microbiome strong and healthy. Biodynamic preparations are blended into many of our products and are integral in our compost tea recipe. The real value in biodynamic inputs is their increasing benefits over time. The producer of these preparations lives on land owned by his family for over 350 years and has never been assaulted with chemicals of any kind. He has been using biodynamic methods on the land for 35 years. Today, his land doesn't flood when the neighbor's land floods and the damaging winds pass him by. 6



## "Biodynamic preparations

*The biodynamic preparations are mixtures of mineral, plant and animal substances that, when exposed to nature over a period of time, are returned to their habitat in an altered state.*

*They nourish and activate different elements that are found in our soils and which are also essential for the good growth of the plant.* © Raventós i Blanc SA, 2020



Biodynamic® Preparations begin with mineral, plant, or animal manure extracts, often fermented and, once prepared, applied in small portions to compost, manures, soil, or directly onto plants, after dilution and dynamizations.

The strength and quality of the preparations are so dynamic, very small amounts over large areas are all that is needed for highly effective results. This is because preparing them in their special formulations gives them a potent homeopathic influence. It's a little bit like being contagious because the homeopathic effect disseminates farther, faster than the nutritional elements.



When weeds are a problem the Biodynamic® farmer will take note of the particular deficiencies in the soil that attracted that specie of weeds. For instance thistle and curly dock show up in mineral deficient soil because their deep roots pull the minerals up toward the surface. Red rooted weeds tell us the iron-magnesium and possibly phosphorous and calcium are out of balance. Compacted soil attracts Chicory, knotweed, dandelion and bindweed. Bitterweed, trumpet vine, broom sedge, stinging nettle, horsetail and wild buckwheat can all indicate a calcium deficiency in the soil. Wild buckwheat signifies low phosphorus and excessive potassium. Burdock indicates low calcium, high potassium soils.

The same principal applies to blight or insect infestations. The microscopic and insect world is very different than ours. It functions, thrives and responds to frequency and vibration. When a plant bears a low frequency, due to lack of vibrancy, insects can literally see it. Insects, infections and blight are drawn to dead, dying and damaged tissue like a moth to a flame. This is nature's recycling method.

Deficiencies defined by weed presence would then be addressed with appropriate nutritional inputs. Strengthen the deficiencies and, it follows, the plant will then be more resistant to attack.

In contrast, pesticide application of any kind will kill the microbes, devastate the microbiome, flatten the frequency exchanges, leaving the plant to fend for itself and weakened. So, weakening the plants by using artificial fertilizers and pesticides is actually a set up for increased pest issues. It is a vicious cycle that will eventually collapse. Today, we are not far from that end.

Nitrogen based fertilizers are among the worst. Force feeding nitrogen to plants causes what would relate to a human as obesity. The plant produces more amino acids than it can use, making them empty proteins. The empty proteins vibrate to a different tune which attracts the insects. Game over.



This perspective applies wherever a plant might grow. Be it a garden, a farm, a pasture, a golf course, football field, greenhouse, pond, hydroponic; If you maintain the natural balance life will flourish.

Healthy soil is like a four legged stool. It sets solid on its four legs when it is, physically(1), minerally(2), biologically(3) and energetically(4), balanced.



## Physical Balance



## Energetic Balance

## Biological Balance

## Mineral Balance



# Our Compost Tea

*"There is new life in the soil for every man. There is healing in the trees for tired minds and for our over-burdened spirits, there is strength in the hills, if only we will lift up our eyes. Remember that nature is your great restorer."* Calvin Coolidge

Our Compost Tea is a plant-luscious feeding solution for the whole Earth! Blended from our extraordinary biodynamic Earth products, plus our Three Part Protocol, this Compost Tea creates a synergy of nutrition beneficial to all that grows from roots as well as for the microbes.

The raw material ingredients in all our products are non GMO, organic, or whenever possible biodynamic.

Our Biodynamic® Preparations are authentically produced and blended into our individual products as well as being an important ingredient in our tea recipes.

The Original Compost Tea recipe includes water, **Earth Tonic**, **Earth Compound**, **Earth Kelp** and **Earth Syrup**. This combination has worked extremely well for many years and continues to improve soil conditions. It is difficult to think that there could be anything to improve upon the tried and true formula that has been proving itself for years. Yet, here it is.

Once the **Three Part Protocol** and the Original Compost Tea Recipe joined forces we were able to add soil borne microbe blends containing 100's of species in billions of numbers, which are no longer, or seldom found in farmland. These microbes are delivered in **Resonator**, a liquid product and **Earth Angels**, a powder. Additionally, **Liquorish** is a potent liquid with a complex mineral array.



**Earth Tonic** is an excellent fertilizer in its own right. Earth Tonic provides 90+ Organic Nutritional Elements, plus six BioDynamic Preparations. This equates to Nutrient Density, Soil Vitality, Strong Immunity, Healthy Vibrant Plants, Resistance to Pests/Blight, Superior Yields, Flavorful Foods, and it is **Ideal for Hydroponics**. **A unique product, like nothing you have used before!**

**Earth Tonic** is a Biodynamically® enhanced sea mineral complex that contains literally ALL earth bound elements. Every element on the Periodic Table has an enzymatic potential represented as a co-factor. Soil microbes use enzymes for digestion. While it is

important for the plants to have the nutrition Earth Tonic provides, it is even more important for the microbes to have access to virtually every element on the periodic table. It takes combinations of minerals and enzymes to process microbial digestion and each specie of microbes has its own specialties and combination. With all potential ingredients available balance is assured.

**Earth Tonic** is made with etherically enhanced and structured deep sea water super saturated with ancient ocean crystal salts, biodynamic® preparations [bd500-bd508], nettles tea and enhanced clay. Our seawater is collected from the open ocean and contains a proprietary blend of sea minerals from Asia, the Pacific, Atlantic and the Deep Sea, in order to obtain the maximum elemental diversity the Earth has to offer.

**Earth Tonic** supplies all naturally occurring ionic minerals, biodynamically charged and enhanced, ready for uptake.



**Earth Tonic** may be used in all types of plant production and is ideally suited for **hydroponic** growing.



Compounding the elements of life, with the wisdom of heritage and modern technology, blended by hand, into a Master Formulation, Potentized and Incubated in the Earth for up to a year to produce a Rich Dark High Quality Biodynamic® Compost.

### The Food Your Soil Needs!

**Earth Compound** is extremely concentrated. A single tablespoon is enough for a 5 gallon bucket applied to a full acre of land. This product is developed on an organic and biodynamically managed farm, owned and worked by the same family for over 350 years! Our microbes have grown up together and remain very close friends.

**Earth Compound** is a compost tea inoculant that works great in any compost tea recipe or any custom or commercial brewing system. It can be used by itself in hydroponics or soil, to inoculate compost, added to a grow mix or as a field spray.

**Earth Compound** is a premium biodynamic **Compost** made from Certified Biodynamic® ingredients prepared on Certified Organic soil, including cow manure, ground eggs and oyster shell, basalt, paramagnetic rock dust, local seaweed, worm castings, crushed biochar, crushed terracotta, and Biodynamic® preparations. Once the material is thoroughly dynamized it is placed in an in-ground fermentation pit and the biodynamic compost preparations are added; preparations bd500 and bd 501, horn manure and horn silica, respectively. Covered with a clay cap, it sits for 6 months to a year until fermentation is complete and it becomes a rich, dark high quality humus rich in beneficial fungi, protozoa, bacteria and nematodes, vibrating with Earthly and Cosmic energy.



Once the material is thoroughly dynamized it is placed in an in-ground fermentation pit and the biodynamic compost preparations are added; preparations bd500 and bd 501, horn manure and horn silica, respectively. Covered with a clay cap, it sits for 6 months to a year until fermentation is complete and it becomes a rich, dark high quality humus rich in beneficial fungi, protozoa, bacteria and nematodes, vibrating with Earthly and Cosmic energy.

This gives the ability to use the preparation as a silica spray when potentized in the morning for application before noon where it will act in a way to promote flowering, fruit and seed production; or as manure spray if used in the afternoon to deepen and promote root growth, balancing the roots with stem, leaf, flower and fruit/seed.

**Earth Kelp is a precious gift from the oceans.** Three times as concentrated as other brands, completely water soluble and enhanced with potentized sea water for an abundance of elemental diversity.



Liquid kelp products are all processed, while how they are processed makes all the difference. We use no chemicals or high heat. **Earth Kelp** is a blended variety of wild harvested kelp from the global oceans. Some types are best cold pressed and others are better when low heat dried and then micronized. **Earth Kelp** is completely water soluble, potentized, dynamized, concentrated and rich with minerals and amino acids.

Kelp and ocean water perfectly compliment each other and the garden will get the praise. Bathe your plants in the ocean harvest and watch them burst with goodness. **Earth Kelp** delivers over 70 important nutrients to plants, including vitamins and minerals, some of which are scarce in soils. **Earth Kelp** reduces summer heat stress in plants, it adds valuable micronutrients, natural growth hormones and vitamins that help increase yields, improves soil structure, reduces plant stress during drought and frost. It is also a bio-activator which improves soil conditions and breaks down compost and plant material.

Use **Earth Kelp** as a plant tonic, foliar spray or add it to compost tea.



BioDynamic mixtures such as **Earth Kelp** maximize the potential for plant growth by recreating the complete and complex **synergy** between minerals, microbes and enzymes present in nature. Biodynamic® farming is the highest level of growing technique which strives to create the best growing environment possible. Biodynamic® farming provides nutrients to plants, in a sustainable way, with great diversity, resulting in a healthier and stronger crop, that does not decrease the quality of the soil. The ultimate Biodynamic® energy creator available is the **Vortex Brewer** used to potentize and dynamize all liquids just before application.

## Earth Syrup



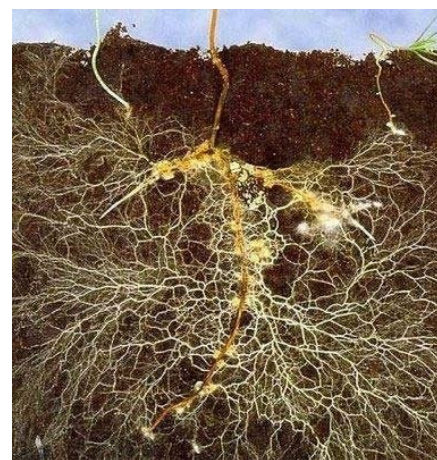
**Earth Syrup** is a beneficial food source for plants, micronized for maximum solubility, perfect for microbes to make perfect plant food. With a unique combination of organic compounds and essential elements directly involved in photosynthesis and primary metabolic reactions, **Earth Syrup** is a carbon based product that ignites the metabolic activity of soil and plants. Over 10 diverse organic ingredients stimulate the growth of beneficial microbes and plants in all stages. **Earth Syrup** encourages higher yields as well as production of primary compounds that cause plants to smell and taste better.

**Earth Syrup**, (2-2-1), is dry natural and organic plant nutrients blended to create the premium, hand-crafted food that will delight your plants. Not only is it beneficial for your garden, it also serves as a source of

energy for hungry microbes in compost tea. **Earth Syrup** has been proven to promote vigorous plant growth, strengthening both indoor and outdoor plants through all stages of life.

**Earth Syrup** is perfect for plant growth stimulation, microbe food, carbohydrate sweeteners and micronutrient delivery systems. It contains high quality molasses plus soil amendments including fish meal, rock phosphate, whey, yucca, rock dust, humates, silicones and more. It is an ideal food source for microbes to make perfect plant food.

**Earth Syrup** is micronized below 500 microns for maximum solubility and plant uptake.



Use as an ingredient in compost tea, as a component in custom soil blends or directly into the soil or **hydroponic** system.

### Adding the 3 Part Protocol

To date, mankind has not done the Earth any favors, or perhaps it is that mankind has done no favors for mankind. *"The Earth has a skin and that skin has diseases, one of its diseases is called man."* Friedrich Nietzsche If humanity has any desire to enjoy their life experience on planet Earth, and especially a desire to know the children and the grand children will still have clean air, water and food, then there is a lot of work to be done.

The largest disaster humanity has achieved is the incredible loss of microbial life. Microbes are the stalwart force behind the curtain, beneath the visual field, that sustains our sustenance (food) as well as our



subsistence (life itself). They feed the underworld and what we eat is a direct result of microbe activity via the Soil Food Web. The Earth's natural populations are severely diminished in numbers and, more importantly, in species. There are many species that are no longer found in nature. There are libraries of preserved species in the laboratories where genetic experiments are performed. Currently, a large percentage of the "wild" air borne microbes, that lots of folks are fermenting their foods with, are genetically modified (GMO).

That means the microbes counted on to proliferate throughout the microbiome, as we work to regenerate the microflora, are, to a large degree, modified or mutated. The Three Part Protocol offers two distinct products loaded with a total of over 500 strains of soil borne microbes, many of which are listed as endangered or extinct.

Natural microbe strains will support the natural frequencies of nature within the biome, so that with enough input of the natural and broad diversity, the microbiome can overcome genetic modification. After all, it is not a mistake that agricultural fields are chemically sterilized before planting GMO crops.

### 3 PART ELEMENTAL PROTOCOL

#### LIQUORISH • EARTH ANGELS • RESINATOR

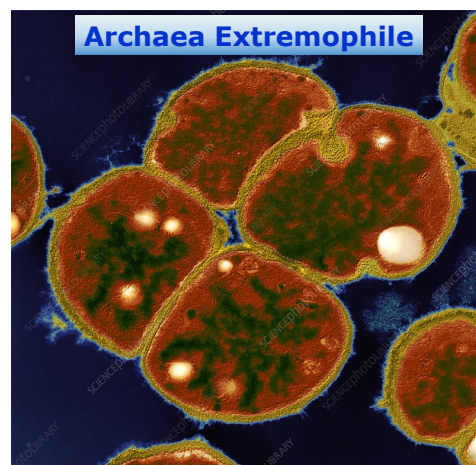


Earth Angels offers a broad spectrum of billions of over 230 different strains of soil borne microorganisms in a dormant powdered state which activates on contact with liquid. They facilitate the assimilation and chelation processes, consuming impurities and recycling them into beneficial raw material.

Natural, broad spectrums of microorganisms, minerals and amino acids in electrically bio-available form allows the plant to uptake what it needs when it needs it. With the help of microscopic angels cleaning and preparing for its needs nature assures the plant is healthy, immune and vibrant.

Replace what has been lost, in the same natural balance in which it once occurred, add some love and then trust in nature's design. Using the **3 Part Elemental Protocol** replaces the lost elements of plant health. It provides full capacity for natural immunity and ancient vibrant health bursting with flavor, beauty and life. All the while, neutralizing the negative pathogenic effects of E coli, Streptococcus, Salmonella, Mold, Fusarium, Mildew, Clostridium, Listeria, Campylobacter, Calicivirus, Botulism, Klebsiella and the like.

**Earth Angels** is an enzymatic mixture of active hydrocarbon oxidizing natural single celled microorganisms called Archaea. These are probably the most proliferous type of microorganisms on Earth. Extremely beneficial to the environment in their ability to clean up. Archaea keep the balance in microbial communities by limiting overgrowth of unwanted microscopic life forms and undesirable substances. The many strains offer a diversity of characteristics beneficial to life. Some strains consume toxins and heavy metals, others consume ammonia, some eat salts, etc. Archaea are now recognized as a major part of Earth's ability to keep life in balance and may play roles in both the carbon cycle and nitrogen cycle. No examples of archaeal pathogens or parasites are known but they are often mutualists or commensals, since their presence is so beneficial to other life forms.



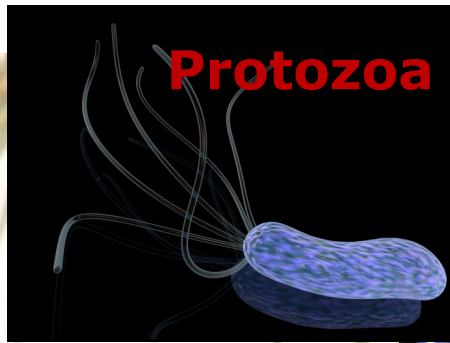
Bacillus Laterosporus is an organic soil inoculant that works by accelerating the photosynthetic process, releasing high energy nutrients to supplement essential nitrogen for optimum growth. Stabilizes the pH by releasing carbonate and other products. Increases nitrogen, potassium and phosphorous and withholds ammonia, converting it to nitrate nitrogen which is more readily assimilated by the plants. Potassium and phosphorous become "fixed" and are prevented from leaching. Rejuvenates and conditions the growing medium. Produces healthier plants, greater production, lower cost, safety, consistent brighter color, larger, fuller plants, less water, retards algae, controls fungus and balances soil or growing medium.

A 2019 field trial study on tomatoes showed Brix readings increase from 5 to 5.8; 27.8% increase in overall yield, increased uniformity of fruit at harvest by 5.9%, thicker skin and improved sweetness of the flavor. Parallel study with **Earth Angels** and **Resinator** showed a significantly larger increase in overall yield at 42.7%, an 8.3% increase in plant uniformity, 5.8 BRIX increase and a bolder sweetness.



## More About Microbes

- ◆ Some of our microbes are extremophiles. Science has found them surviving inside the chimneys at Chernobyl nuclear accident site.
- ◆ We have lost about half of the topsoil on the planet over the last 150 years. According to University of Sydney Scientific Director, Dr. John Crawford in an interview in Time Magazine
- ◆ Oregon is home to a honey mushroom which is a fungi covering nearly 4 square miles and is about 2,400 years old.
- ◆ Only 5% of the food plants produce is consumed by animals, including humans. The rest fed to the microbes.
- ◆ The tips of small plant roots move through the soil with a twisting screw-like motion. Mature trees can have as many as 5 million active root tips.
- ◆ The air in the upper 8 to 10 inches of well drained soil is completely exchanged about once an hour.
- ◆ It takes 4,000 to 6,000 pounds of crop residue per year to maintain the content of organic matter in the soil. This is to prevent depletion. Improving and growing the soil takes something more.
- ◆ Fungal filaments not only channel nutrients and water to the plant cells, they actually function as an information relay system that enables communication and setting up defense systems.



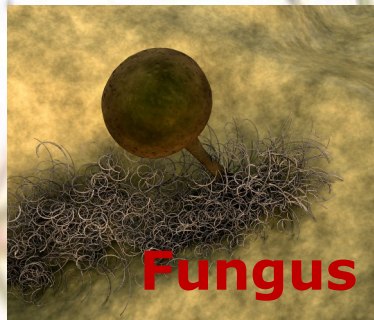
Protozoa



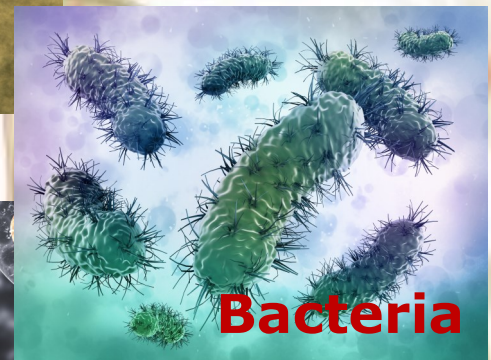
Mildew



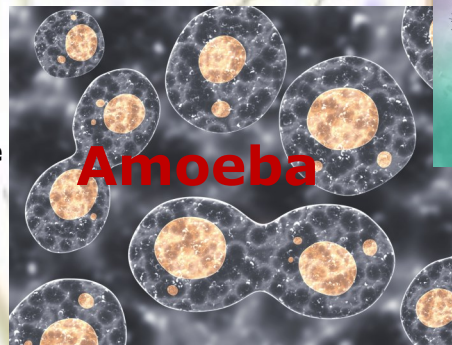
Mold



Fungus



Bacteria



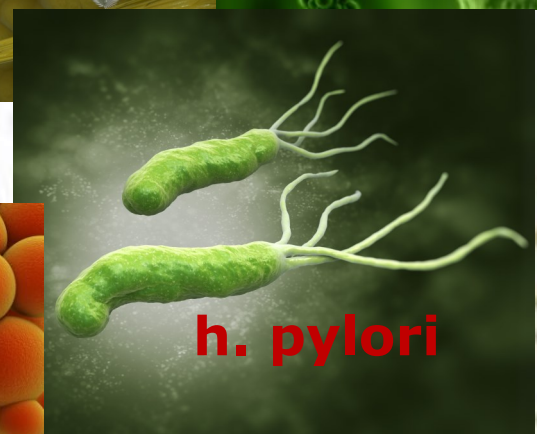
Amoeba



Bacteria



Protozoa



h. pylori



Bacteria





A broad spectrum of billions of over 125 strains of soil borne microorganisms in a dormant state and an amino acid base. Activation occurs upon mixing into water. This is a balanced and harmonious solution to increase nutrient absorption and broaden parameters of immunity.

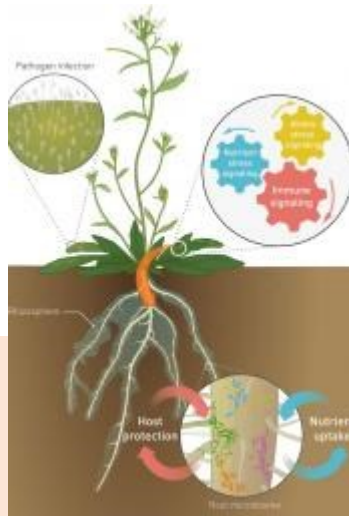
An organic enzyme bacterial combination used for soil, greenhouses, gardens, turf, pastures, water, aquaponics, **hydroponics**, pond and lagoon treatment, **RESINATOR** is bio-degradable, non-polluting and creates no phytotoxicity against vegetation and foliage. The microorganisms produce antibiotic and antifungal compounds and hormones that keep roots

healthy and help them grow as the microbes produce enzymes and vitamins.

The **Resinator** microbes control odors, and fungi, break down solids, heavy metals, pesticide residue and reduce waste. As natural chelators these microorganisms act on pathogenic bacteria like *Escherichia coli*, *Vibrio cholerae* and *Salmonella* and fungi like *fusarium* as well as most blight. Coincidentally, they are environmentally safe and literally breathe life back into polluted and contaminated soil and water.

Microorganisms are community animals that work best in large numbers and broad spectrums of strains and species as they are excellent at supporting a natural balance of symbiotic exchange with one another as well as their environment and surrounding life forms.

Many *Bacillus* species in **Resonator** are able to secrete large quantities of enzymes and are the source of a natural antibiotic and antifungal protein, barnase. *Arthrobacter* strains are used in bio-remediation because of their "clean-up" abilities. *Pseudomonas* are used to protect plants from a wide variety of pathogens and disease. *Rhodococcus* are especially good at metabolizing harmful pollutants and the ability to break nutrients into usable elements for plants.



<https://www.uu.nl/en/news/plants-modify-microbial-communities-on-their-roots-to-warn-their-offspring-of-attack>

Without microbes, minerals in the soil remain locked and unavailable, forcing the plants to uptake heavy metals and industrial waste in an effort to survive. The lack of microbes allows pesticide chemical residue to remain in the soil. Healthy populations of microbes would consume and neutralize the damaging chemical and heavy metals. Additionally, genetic integrity in plants and soil depend upon microbial balance. **Resonator** provides the correct environment for life within the biome. Genetic expression is caused by the environment and in a healthy, balanced environment genetic modification would not be recognized or supported by nature.

A 2019 field trial study on tomatoes showed Brix readings increase from 5 to 5.8; 27.8% increase in overall yield, increased uniformity of fruit at harvest by 5.9%, thicker skin and improved sweetness to the flavor. Parallel study with **Earth Angels** and **Resinator** showed a significantly larger increase in overall yield at 42.7%, an 8.3% increase in plant uniformity, 5.8 BRIX increase and a bolder sweetness. View the report on page

Advanced, effective bioremediation is absolutely necessary in order to regenerate the soil. Plant life has been severely stressed so that, at this point, we need to stress in reverse. Diversity needs to be restored and the process of nature allowed to recover.





**Liquorish** is a rich concentration of the most complete spectrum of pure plant derived colloid minerals we can find. Plant minerals are mined from prehistoric deposits and are water soluble making them far more available for absorption and health in plants than metals or rocks. **Liquorish** Boosts Immunity & Growth Rate, Increases Plant Oil Potency, Enhances Nutrient Density, Boosts Foliage, Buds



& Root Size. Liquorish naturally bears ancient organic minerals and amino acids, along with viable beneficial soil organisms. This product is Environmentally Healthy.

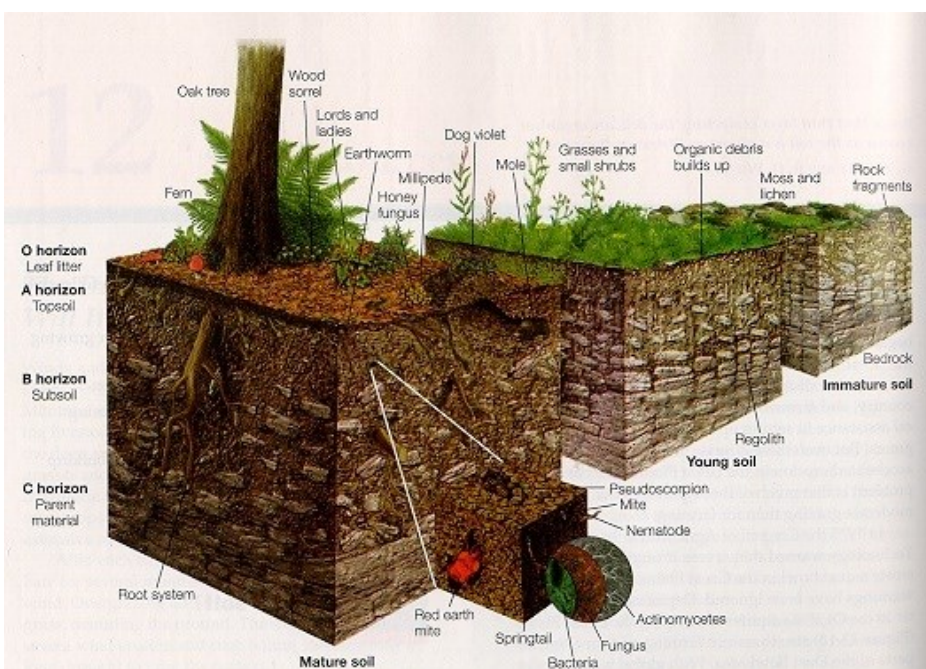
When used in our **Three Part Protocol** the benefits are even greater with potential to; Reverse Genetic Modification, Remediate Pesticide Residue, including Glyphosate, Reverse Salt Lock, Discourage Root Rot, Reduce Odor & Buildup, Boost Immunity & Growth, Increase Plant Oil & Potency, Increase BRIX readings, Improve Flavor and Aroma, Increase Natural Fruit Sugars, Decrease Fertilizers & Other Inputs.

**LIQUORISH** has a natural negative electrical charge with two very important benefits. First, the negative charge greatly enhances the availability for uptake to the plant of the minerals as well as other soil nutrients. Secondly, this negative electrical charge is the source and the cause of natural chelation of heavy metals and toxins from the plant by natural design.

*"This unique mineral formula enhances the de-poisoning ability of the plant in a very positive way. It activates and speeds the healing process, especially in the case of chronic illnesses,"*

Dr Michael Zimmerman, Chief of Staff, CCITRP Uberlingen, Germany.

Dr Fritz-Albert Popp, biophysicist and Noble Prize nominee from Germany concludes, *"this mineral formula is completely non-toxic and increases the life/electrical energy output of cells"*, beyond what he had previously established as optimum. He also states this mineral formula assists in removing heavy metals which have remained for decades.



Bio-electrically available plant colloid minerals in a humic and fulvic amino acid base, Liquorish provides over 75 macro, micro and nano trace minerals blended with paramagnetic magnetite and high carbon biochar. Nature's perfect blend for life in the soil.

Let's not forget the importance of microbes needing access to every mineral in the correct balance for nature. Minerals are necessary for microbes to produce and digest enzymes and minerals. This is one way the microbes feed the plants, as the plants release sugars that feed the microbes.



# Understanding Organic VS Biodynamic®

If you are new to the term biodynamics®, or you've been hearing the term, picking up on the context, but can't really define it in words, that is like most people. Biodynamics is a 100 year old concept that few have taken the time to appreciate. Convention has not yet embraced the concept of farming with the awareness of the dynamic influences.

These influences increase in affect the longer they are practiced. They bring the a primal strength and resilience to the land. Then the land begins to offer capacities not considered possible. For instance, we were able to generate up to eight inches of topsoil on the sand flats in upper Minnesota, in a matter of three years. Another biodynamic® farm does not flood when the region floods, while the geography has no special features to explain why that would be. There is much information online about biodynamic® farming and living, it literally can become a way of life. The following is an excerpt from Molly Kimbal, RD, CSSD from thriveglobal.com;

<https://thriveglobal.com/stories/biodynamics-farming-that-nourishes-our-soul/Community//October 8, 2019>

## ***"Biodynamics: Farming that nourishes our soul***

***The principals of Biodynamic farming serve to connect more deeply to the world around us.*** Registered Dietician, Molly Kimbal explores how we can incorporate these principals into our own gardens, no matter how small the footprint.

*The concept of Biodynamics is fascinating to me, and also incredibly daunting. The idea of creating a farm – or even a garden – that is entirely self-sustained seems almost unattainable. The more I learn about it, however, the more I realize that it's something within our reach. It also doesn't have to happen – and in fact, can't happen – all at once.*

*A Biodynamic farm is something that we can approach in stages. Biodynamic practices encompass a way of life, a holistic approach that looks at the farm or garden as part of a something bigger than we are, factoring in influences like planetary and lunar cycles. Many of these Biodynamic guiding principles are beneficial for our body, mind and souls – things that are good for us anyway – connecting us more deeply to the world around us.*

## ***What is Biodynamics?***

*Biodynamics, which literally means 'life forces,' was introduced in 1924 when philosopher and scientist Dr. Rudolf Steiner gave a series of eight lectures to a group of farmers who were looking for a new way to integrate science with nature.*

*A simple way to explain Biodynamic is that the outputs of the farm – what's produced, harvested or otherwise comes from the farm – are put back in to nourish the farm. This means that everything from bugs to compost to other natural fertilizers and methods of pest control come from within the farm itself, rather than being brought in from the outside.*

*In the United States, the term 'organic' is regulated by the government, but the concept of 'Biodynamic' is not. It does have a rigorous certification process, though, and the principles of Biodynamic are even more stringent than organic.*

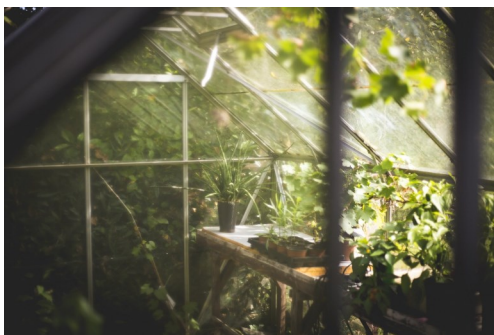
*Organic means that food is grown or raised without synthetic pesticides or additives, among other conditions. Biodynamics is like organic farming in that neither use synthetic chemicals. However, Biodynamic farming takes it much further, looking at the farm entirely as a self-contained, and self-sustaining, ecosystem.*

*Specific herbal and mineral preparations are used, composting is essential, and livestock is allowed to graze within the farm. Biodynamic has strict guidelines for things like soil fertility management, crop protection and animal welfare."*



A chart of the biodynamic® preparations is found on page five. Ultimately, what Biodynamic® farming is all about is for the grower/farmer to develop a deeper love of the land and appreciation for the ways of mother nature, including the subtle ways. When we do that our lives as human beings, become more precious to us. We tune in to what occurs beneath and upon the surface growth. We become proud of the harvest. We are grateful to

preserve our own food. Food that has grown rich with flavor and nutrition as we watched over it.





# Making Compost Tea

Making compost tea is pretty simple once you have your set-up, set up. As we've said, there are a variety of ways to make the tea and wider variety of ingredients. The one thing they do have in common is the compost, and the water.

The simplest and easiest method is to put a pound or two of compost in a cloth sack and suspend it in a five gallon bucket of water. After about two weeks remove the bag and dilute the compost tea sufficient to apply on one acre. There may be some stagnation which is simply microbial overgrowth. The compost that was soaking can be returned to the compost pile or the garden to recycle.

The next best method is to add aeration, converting the passive system to an aerated compost tea (ACT) system. An aquarium air pump, an air stone, some tubing and an electrical outlet will do the trick.

There are a large selection of ACT brewers available on the market from five gallon bucket brewers to 1000 gallon tanks.

Aeration is important for the soil. This is the concept behind tilling the soil and turning the compost pile. Aerating provides oxygen to the soil, improves the flow of nutrients, encourages root growth and prevents runoff.

Compost tea is an excellent delivery system.

The absolute best, most impactful and beneficial compost tea is brewed in a vortex brewer. While there are several vortex brewers available, the original design and still by far the most effective brewer is the **Vortex Brewer®**.



The vortex is the path of natural energetic flow of life force. This is the funnel that forms in the water above the drain when you pull the plug in the bathtub. When water flows it is inclined to follow the vortex energy, or Fibonacci directive.

Viktor Schauberger and others have done extensive research and study on the properties of water. This vortex design pays respect to all of them. The electrical components are located at a distance from the **Vortex Brewer®** and grounded to the earth to avoid electrical interference and the system circulates using an air influx system designed to create an intense natural vortex. Not only does the **Vortex Brewer®** create living, organic compost tea, but it acts as an extractor, it will potentize fertilizer recipes, allow for perpetual brewing, and can blend BioEnergetic concoctions for anything from stimulating soil regeneration to concentrating pest or disease control applications.

The **Vortex Brewer®** is a micro-cosmic model of the natural motion of the multi-verse. Natural motion is quadri-partite and comprised of four components; orbital motion as the planetary movement around the sun, rotational motion as in the spin of the planets, circulation motion as demonstrated by the



pattern and movement of the electro-magnetic field generated by the rotational motion, or spin. These three motions come together to create the forth, creative, formative motion. This is the **Vortex Brewer®**. *This creative, formative motion is open, goal oriented, structured, concentrated, intensifying, condensing, dynamic, self organizing, self-divesting of the less valuable rhythmical, cyclical, sinuous, pulsing, in-rolling/centripetal and out-rolling/ centrifugal. This motion occurs along the "Cycloid Spiral Space Curve" and is a fractal of the movements within our greater cosmic environment.* This energy is imbued into the water and preparations of the **Vortex Brewer®** system and creates a unique, powerful and perfect fertilizer in every batch. In this way through this mechanism the **Vortex Brewer®** is actually an environmental harmonizer, cleaning and reorganizing the etheric environment, allowing the physical to manifest in its perfection.

## About Biodynamic® Farming

In about 1861 Justis Von Liebig asked some plants and upon analysis found the major minerals to be nitrogen, phosphorus and potassium, or N-P-K. Our agronomic system is still based on this information. We have learned much about the short sighted vision of this chemical view or chemical mentality which has been inflicted on nature and humanity.



Biodynamic® farming is maximizing the potential for plant growth by recreating the complete and complex synergy between minerals, microbes and enzymes present in nature. Biodynamic® farming is the highest level of growing technique, and biodynamic® farmers strive to create the best growing environment possible.

Biodynamic® farming was the very first response to chemical farming, as a way to rejuvenate soil that had been poisoned by chemical fertilizers which address the basic needs of plants and eventually leaves a buildup of chemicals and salts, poisoning the earth. Biodynamic® farming provides these same nutrients to plants, and more, in a sustainable way, with greater diversity, resulting in a healthier, stronger crop, that does not decrease the quality of the soil.

List of biodynamic® farming principles based on The Agriculture Course by Rudolph Steiner.

1. Use a Diverse source of microbes and minerals while maintaining their balance and purpose. A diverse growing medium supports plant growth in a more balanced way, allowing the plant an option of nutrients to use ensures every plant can have what it needs, when it needs it.
2. Dynamize every input possible, don't just use water, use energized and fully oxygenated water. Maximize beneficial bacteria growth for fertilizer.
3. Pay attention to the solar, lunar and planetary cycles and their impact on plants.
4. Your mineral uptake increases with enzymes, your enzymes increase with bacteria, your bacteria increases with the right humidity, oxygen levels, heat, and a food source.

Instead of adding bulk nutrients, Biodynamic® farmers add systems that connect minerals and compounds with the bacterial enzymes plants need to break them down. These system preparations are based on the natural systems that have created and sustained life on our planet.

"In creating preparations, we're dealing with very specific biological and energetic processes," he said. "We end up with highly concentrated preparations that combine cosmic, seasonal, animal and plant energies." – Steve Storch





Steve Storch, inventor of the **Vortex Brewer®** is a renaissance man, of modern times, but retains a wealth of historical and spiritual wisdom. Exposed to the realities and potentials of the natural world from an early age, Storch has developed a healthy respect for the mechanisms of living systems and a penetrating insight into how to work with them.

He now creates and lives with his family on a certified organic and Biodynamic® farm in East End Long Island that has been farmed undisturbed for over 350 years.

Storch utilizes the teachings of philosopher and scientist Rudolf Steiner, who in 1924 gave a series of lectures outlining biodynamic® farming principles that can now be found in a work called The Agriculture Course, a must read for anyone interested in plants or gardening or any affiliation with agronomy.

To breathe new life into dead soil, biodynamics combines pragmatic organic farming practices with mystical, astrological and energetic influences.

"Even on the worst chemically abused soil, I can make a difference in one year," said Storch. You'll see the biology increase, you'll start to get some soil structure back from increased microbial activity. This compost and 'the 500' are like biological nuclear bombs."



Storch is a longtime Biodynamic® practitioner with deep experiences regarding the potentials of water and the production of compost and compost teas.

Plants are not inanimate; they are vibrant, energetic beings with inherent intelligence. The Biodynamic® farmer lives in communion with his surroundings, not in dominion over them.

Storch has studied Steiner's comments and combined them with contemporary experience and insight to produce compost teas beyond compare.

He invented the Vortex Brewer® in 2002 with inspirations from Steiner and the work of Viktor Schauberger, Nikola Tesla, Wilhelm

Reich, Walter Russell and others.

The Vortex Brewer® is a profound means of potentizing compost tea solutions, stirring the Biodynamic® 'preps', or in working with and respecting the abilities of water.

While the composts and mineral products he creates are beyond "organic", Storch doesn't label them as such because of the way in which the federal government recently began to control the process.

In order to be allowed to use the organic label, farmers must prove their compost has been turned at regular intervals and that compost tea has been brewing at a constant temperature.

"They make you make compost on a farm the way you have to treat sewage sludge," Mr. Storch says, adding that every time compost is turned, the biological processes that are taking place are disturbed.

As he taps scientific biology, ethereal mysticism, and profound respect for life, Storch realizes Biodynamic® farming's ultimate purpose...**So the earth may be healed.**

"We have a Vortex Brewer®. Our customers get a free gallon with every purchase, or they can purchase a gallon. They keep coming in and it really works." Pueblo Hydroponics and Organics, Pueblo CO.



## Q & A

### What is compost tea?

Compost tea is a concentration of the microbes found in nature. The concentrated bacteria and microbes in compost tea increases the plants ability to use compost beyond what nature can ever muster. It allows you to grow your soil rather than just your plants. Brewing compost tea is absolutely the best thing you can do to enhance the results of any garden, farm, or landscape – organic, hydroponic, aquaponic, conventional, biodynamic, you name it.

### What, exactly, do microbes do?

Simply put, microbes turn soil into plant food. They perform countless beneficial jobs in the garden such as suppressing pests and diseases, helping plants eat, and generally working to improve soil and operating symbiotically to aid and protect plants by increasing the health and nutrient cycling capacity of soil and the over all ecosystem. The end result of their activity is the creation of humus, or finished compost. Humus is the part of soil that plants “eat”. Microbes are the digestive system of the plant world and the catalysts for converting soil nutrients into a form usable by the plants.

**Increased fertility:** Microbes make plant food. That’s how soil works. You can call them miniature fertilizer factories making perfect meals for growing plants.

**Use Less Water:** Microbes increase a plant’s ability to retain water and in many cases can eliminate the need for irrigation in landscapes.

**Higher Yields:** Improving the fertility and maturity of the soil automatically enhances the garden or farm’s ability to grow larger and more abundant crops.

**Treat Disease:** Disease organisms are merely microbes out of balance. A broad diversity of soil microbes will maintain a natural balance, avoiding most diseases.

**Mitigate Pests:** Many soil microbes seek protein, and the exoskeleton of pests is protein. Consistent applications of compost tea have shown to have pesticidal properties. However, the most effective pest control is healthy, biologically diverse soil and a healthy plant.

**Reduce Weeds:** Weeds are indicators of biological and nutritional imbalance in the soil. Clover grows to regenerate nitrogen in the soil. Nitrogen-fixing microbes work with clover.



### What is BioEnergetic Agriculture?

This term is synonymous to Biodynamic® Agriculture. BioEnergetic Agriculture is the only growing method on Earth that approaches the entirety of life through agriculture. Conventional growing is physical and mineral, as farmers plow and fertilize. Organic growing addresses the biological realm while both conventional and organic fail to address the life force.

### Why is Earth Compound superior to other biological inoculants?

Earth Compound is BioEnergetic humus. It is not heated or pasteurized in any way and comes directly from the earth processes to your garden. Earth Compound ingredient is OMRI and Demeter certified.

### What does Earth Tonic do for Compost Tea?

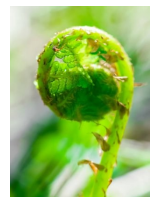
Earth Tonic is a bioenergetically enhanced mineral catalyst. Derived from 100% organic materials it is seven times more concentrated than sea water alone while its natural balance allows for heavier concentration without burning the plant. Earth Tonic boosts the benefits of fertilizers, soil amendments and other biocatalysts.

### What is Earth Syrup?

Earth Syrup is the perfect balance between growth stimulator, microbe food, sweetener and micronutrient delivery system, increasing the surface area over a million times.

### Why is Earth Kelp the best liquid kelp on the market?

Earth Kelp is triple concentrated. In combination with Earth Tonic it becomes oscophyllum nodosum, a kelp that cannot be beat. The kelp is extracted without heat or caustic chemicals but by a proprietary cellular infusion extraction that breaks down the cell wall, releasing cytokinins, auxins, phlorotannins and gibberillins not found anywhere but from kelp.





### Can your compost tea ingredients be used in any brewer?

Yes! Earth Compound, Earth Tonic, Earth Kelp, Earth Syrup, Earth Angels, Resinator and Liquorish are all premium stand alone products. Each has its own contribution to compost tea or other application, with superior results every time.

### What is the difference between compost tea and compost extraction?

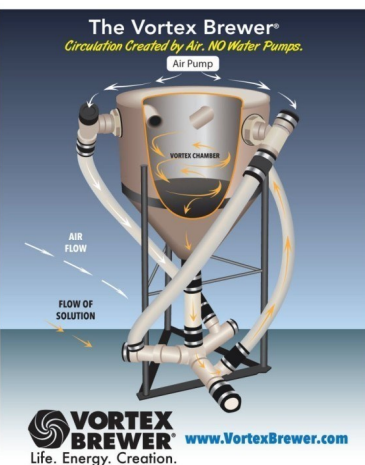
Compost tea is extracted by extractors, many of which are available on the market, which can produce a large amount in a short time by pushing water through the compost, attempting to extract the microbes. Extraction does not require at least 12 hours for brewing but it is inconsistent and often destroys as many microbes as it is able to extract. Compost tea is merely brewed as it is methodically moved by air or stirring through vortex action.

### How long will compost tea keep once it is made?

Obviously, it is best if used immediately and it should be used within three days. After three days without food and aeration the microbes will go dormant. Compost tea has been used even after weeks with no adversity, however the solution may well have become anaerobic and possibly stagnant. In this case it should not be wasted, but offered up to any neglected areas or bushes.

**Note:** If aeration is continued, microbial activity remains vigorous for five days with no additional inputs.

### How will environment affect compost tea?



Temperature, humidity and evaporation will all impact the brew. That is nature. Biologic reproduction slows in colder water and while they grow and reproduce at higher rates when it is warm, too warm reduces oxygen and excessive evaporation could present a problem. The higher the temperature, the less dissolved oxygen it can hold. In cold weather it may be prudent to use a heat element

### Can the compost tea be customized for my growing needs?

Absolutely. Our recipe is hard to beat, however, so we would suggest using our tried and true combination as a base. Then it becomes a starting point based on years of experience and designed to keep concentrations below a range that could be potentially harmful.

Compost tea will increase the absorption of your current organic or hydroponic fertilizer and nutrient solutions. In fact you may be able to reduce the amount of primary fertilizer needed once you begin applying compost tea.

You can even use the artificial base hydroponic nutrients to complete your nutrient program for a complete system. Either add to your brewer toward the end of the brew or add the finished brew directly to your reservoir.

### Can certain organisms be encouraged in a brew?

Yes, by adding specie appropriate food to the brew mix. Sugar sources such as Earth Syrup and Earth Vigor encourage bacterial dominance. Earth Kelp will encourage fungal dominance. Neither product will discourage the other specie's growth. It is important to maintain a natural balance in the tea over all. Dominance is not a lead-in to exclusivity without losing nature's balance.

### Does the pH of compost tea need to be adjusted?

It does not. The pH conversation is reserved for hydroponic nutrient solutions and the hydroponic grower is familiar with how to manage pH. Those practices are no different with compost tea in hydroponic systems. In nature, pH values rise and fall naturally, maintaining a general balance without external contributions.

### Is it safe to consume plants that have been sprayed with compost tea?

Once washed and properly prepared for consumption, if grown biodynamically or organically, you will have the safest, most nutritious food available. The rays of the sun have a strong impact on microbes above the microbiome and ultraviolet rays can mildly sanitize plant surfaces. There is no health risk eating compost treated food if it has been cleaned. Compost tea is the best food security system on the planet.

### What are the best choices for water?

Clean water is essential and purified water is not recommended. Spring, well, rain and mountain stream water are the best. Just be sure the source is away from fracking, mining and conventional agriculture operations. Collecting rainwater from the roof can garner a lot of free water if you don't have a well. If using "city" water, run it through the brewer for an hour or longer before adding recipe ingredients.



# Compost Tea in a Box

Do you really *have* to gather up all those products and mix everything yourself to make compost tea? Actually, you do not because we have done it.

The microbiome is a universe unto itself, teaming with life in a quantity and diversity that boggles the mind. It is the natural balance of broad spectrums of diverse microscopic life in the soil that manifests the strength and health of the ecosystems we rely on as humans on Earth. **Compost Tea in a Box** is a ready to make compost tea kit and is a power source of nutrition and goodness. Compost tea is made with soil microbes in an aerated solution fortified with compost and organic food sources like fish, molasses, and kelp. In the presence of food and aeration, the microbes grow to extraordinary concentrations.

**Ingredients:** **Compost Tea in a Box** is a plant-luscious feeding solution for the whole Earth! Blended from four extraordinary biodynamic Earth products, this Compost Tea creates a synergy of nutrition beneficial to all that grows from roots.

Compost Tea in a box is prepared with **Earth Compound**, **Earth Tonic**, **Earth Kelp** and **Earth Syrup**. This is our basic recipe all in the right proportions, in one box, in a variety of sizes.

## Concentrated Liquid Humus, Minerals and Nutrients

Powder & Liquid	25 gal . . . . .	\$ 28.00
	50 gal . . . . .	\$ 40.00
	100 gal . . . . .	\$ 70.00
	200 gal . . . . .	\$ 100.00

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## Our Basic Recipe

	Earth Compound	Earth Tonic	Earth Syrup	Earth Kelp	Frequency	Coverage
<b>5 gallon Clean Water</b>	<b>0.5 oz.</b>	<b>0.5 oz.</b>	<b>2 oz.</b>	<b>1 oz.</b>	<b>Weekly / Monthly</b>	<b>2500 sq. ft.</b>

## What to Expect of Your Compost Tea

- 1. Compost Tea inoculates and diversifies the Soil Food Web** by adding a highly active concentration of widely diverse beneficial aerobic soil microbes and sufficient microbial food/sugars to grow soil microbes to extraordinary concentrations. Growing plants matures soil, but only when soil microbes are present in appropriate concentration and diversity.
- 2. Compost Tea breaks down plant residue faster**, converting crop waste into beneficial humus/organic material. Repetitive applications of Compost Tea can increase organic material in the soil by as much as 1-2% a year subject to a range of other specifics. For soils which are deficient in organic material, we recommend adding bulk organic humus, biochar, and/or planting intensive cover crops depending on scenario.
- 3. Compost Tea provides most of the essential and non-essential nutrients** plants and people need in an ionic/elemental form. Mineral nutrients perform a variety of essential functions in the plant growth process and are ideally delivered through the digestion of soil microbes. Some minerals form the co-factors for enzymes and metabolites (amino acids, proteins, vitamins, etc.) required for healthy plants. Others, like iron and potassium, are absorbed/transferred directly into the plant.



**4. Compost Tea improves plant resistance to disease and pests in three primary ways:** **A.** Plant diseases are spread 80% by air and 20% through the soil. Beneficial soil microbes are stronger, they check the parasitic activity, and will balance out and consume most harmful soil diseases and pests. **B.** Pests feed on unhealthy plants by digesting incomplete proteins. A complete balanced mineral nutrient diet in bioavailable form will allow the plant to manufacture healthy, balanced protein, removing the food sources pests feed on. **C.** Stronger, healthier plants literally have thicker healthier outer cell walls making them more resistant to air borne diseases and pests. Depending on environmental conditions and other mitigating factors, Compost Tea may not eliminate the need for targeted disease or pest control programs.

**5. Compost Tea reduces competition from weeds and grasses.** Shade is the cheapest form of natural "herbicide" by slowing photosynthesis. Less known is that weeds and grasses, generally speaking, are "weak" competitors for nutrients and water than healthy plants. Bigger, stronger, faster growing plants reduce competition from unwanted plants by depriving them of nutrients and water. Also, many plants and "cover crops" contain natural herbicides. Compost Tea may not eliminate the need for other targeted weed and grass control programs.

**6.** Compost Tea will reduce water/irrigation requirements by 15-25% over the crop cycle depending on season by way of increasing life in the soil, enhancing soil structure, and holding water in the root zone longer. This water savings generated by Compost Tea increases proportionally with the percentage of humus/organic material in the soil. This "water savings" can be enhanced through the utilization of "highly efficient" activated (vortexed/ imploded) water that can be accomplished automatically using the Vortex Brewer® compost tea system. Activated water is more readily absorbed by plant roots, leaves, and cells.

**7. Compost Tea will improve the efficiency** of the total nutritional program by 10-20% by moving nutrients/fertilizer components into plant cells faster and more efficiently. Plus, Compost Tea has small amounts of NPK in each application that are more bioavailable than conventional fertilizer. Multiple applications of Compost Tea will add significant nutrients to the soil and, over time will allow the grower to mitigate the requirement for NPK-based fertilizer, in some cases, completely.



**8.** In cases where multiple products are being used to minimize the number of trips to the field, keep in mind that a mixture too rich with ions delivered to the root zone or leaf can "burn" the plant. Our compost tea recipe is around 400ppm and will contribute a relatively small amount of ionic potential that should be factored into the other products that you may be using. Small trial tests of all custom mixes using Compost Tea as the base liquid are strongly recommended.

**9. Compost Tea contains nitrogen-fixing bacteria** that allows the living system to manufacture the required amounts of nitrogen desired by growing plants, thereby reducing the need for excess Nitrogen in the total plant nutritional program. Food grown using Compost Tea tastes "better", as the plant literally contains more sugars instead of starches. Food grown using Compost Tea is more nutrient dense and has more minerals, amino acids, enzymes, proteins, and vitamins.



**10. Our Compost Tea is made from 100% organic and natural sources** and when properly brewed and applied does not hurt or harm the soil or plants in any way, even when used at concentrate. Unfiltered Compost Tea may contain small particles of organic matter which may cause application issues through sprayers or watering cans. In these cases, compost tea bags and/ or 50-100 mesh filters are strongly recommended.

**11. The optimal brewing time for Compost Tea is 12-48 hours.** Under no circumstances should the brewing process be voluntarily stopped for long periods of time nor should compost tea 'sit' in an application tank for unnecessary lengths of time as this deprives the aerobic microbes of oxygen, resulting in microbe die-off or dormancy. When unforeseen or unavoidable circumstances delay the field application of Compost Tea, add 2 tbsp of Earth Compound and 12 tbsp of Earth TKS, per 10 gallons of mix and brew for another 12 hours.

## How to Use Compost Tea

Compost tea is generally used as a soil conditioner at the rate of one gallon compost tea to 250 to 500 square feet, regardless of concentration.

A gallon of our compost tea should not be diluted beyond one cup per gallon or 1:16 for all applications.

Apply compost tea weekly for best results. Use at least monthly.

Poor soils or soils that have been treated chemically (artificial fertilizers, pesticides, herbicides, etc.) should be treated more intensively to start.

Some additional compost tea applications:

**Compost pile inoculant:** Use a gallon of compost tea in enough water to drench the whole pile. Repeat monthly.

**Hose and sprayers:** Fill the reservoir with concentrate and open the sprayer to the highest dilution. Repeat weekly.

**Foliar spray:** Mix one gallon concentrate with four gallons of water and apply weekly.

**Seed coat:** Soak seeds in the concentrate for at least an hour or a maximum of 12 hours. For smaller seeds use a saturated paper towel.

**Plant cuttings:** Dip cuttings into the compost tea concentrate.

**Diseased plants:** Spray with undiluted compost tea (concentrate) daily until resolved.

**Tree root soak:** Mix one gallon of concentrate to two gallons of water and drench weekly.

**Transplanting:** Mix one gallon of concentrate to two gallons of water. Wet the hole before planting and drench with the remainder after planting. If roots are exposed, dip them into the concentrate.

**Houseplants:** Mix one cup concentrate to a half gallon of water. Apply monthly.

**Raised beds:** Mix one gallon of concentrate to eight gallons of water and apply weekly.

**Overwintering:** Apply compost tea full strength (concentrate) to recycle biomass.

**Lawn care, landscape, playing fields, golf courses, and all similar growing areas:** Apply a 4:8 dilution monthly or use the 1:16 mixture weekly.



Watering daily with compost tea will only feed your soil and plants. If using our recipe, the only way it could be overused is by overwatering. Optimal results are achieved with weekly application.

	Gallons / acre	Minimum Dilution	Maximum Dilution	Frequency of Application
Gardens	80	1:16	1:2	Weekly
Lawns	80	1:8	1:1	Monthly
Farms	20	1:4	1:1	Bi-monthly
Hydroponics	Per reservoir	1:5	1:8	1 - 2



## Compost Tea and Hydroponics

Hydroponic systems often gain greater benefit from adding compost tea than soils gain. Conventional hydroponic solutions are void of microbes and micronutrients.

Additionally, the majority of hydroponic fertilizers are synthetic or man-made. They provide high amounts of soluble nitrogen, phosphorous and potassium (N-P-K) in order to perform as a crutch for growth in the absence of soil. Our recipe contains all nutrients, but lacks sufficient N-P-K to drive production in water alone. This is quite complimentary. Thus, the addition of our compost tea springs the life force into action.



Our recipe is not a complete hydroponic nutrient. Depending upon the water source, it will measure between 400-700ppm on the 700PPM scale. This is 1EC (electrical conductivity), far below normal hydroponic fertilizer concentrations.



## Disolved Oxygen

Dissolved oxygen or  $O_2$ , is a separate, distinct molecule from  $H_2O$ . It is oxygen that has literally dissolved, in our case, into water. Dissolved oxygen requirements for most animals is five parts per million. Hydroponic levels are best between 6-9ppm. At 68°F water is at saturation with dissolved oxygen at nine ppm.

Dissolved oxygen will cause many heavy metals to solidify and sink, while otherwise they would remain free floating and a significant health threat. Environment plays a significant role in dissolved oxygen levels as temperature, elevation and salinity are the three determining factors. As these three conditions rise, concentrations will fall, likewise, as they reduce, the dissolved oxygen increases. Dissolved oxygen is measured, for our purposes, with a field probe submerged in the solution. Compost tea needs adequate dissolved oxygen to keep the microbes lively. Otherwise there is the risk of anaerobic microorganisms taking over and domination.



Regularly monitoring the dissolved oxygen levels, especially in

*Maintaining a high level of dissolved oxygen in a hydroponic nutrient solution is one of the most important steps an indoor gardener can take. After all, it is the dissolved oxygen that determines the health and vitality of the beneficial microorganisms living in and around the plant's root zone.*

<https://www.maximumyield.com/defend-your-roots-dissolved-oxygen/2/3863>

in warmer weather, will help avoid stressing your microbes and weakening your tea. Compost tea chillers are a growing interest to compost tea producers. Keeping the solution cool to about 68° assists optimal dissolved oxygen levels.

An aeration pump with an air stone will move the solution and cause more oxygen absorption. New electrolysis devices are designed to separate the oxygen from the hydrogen in the water, making more dissolved oxygen available to the solution.

Creating a vortex in a bucket using a stick, or even in a larger vessel, by stirring in the right hand direction to create a deep vortex and then reversing the motion by stirring to the left hand direction and creating a deep vortex. Continuing in this way for an hour will add aeration and potency.

A very effective method for increasing dissolved oxygen is using the Vortex Brewer®. The difference in the dissolved oxygen readings between an aerated bucket and a Vortex Brewer® was 1.69ppm higher in the Vortex Brewer®. This was using the same pump and the same amount of water. The dissolved oxygen meter reading on the bucket was 6.97ppm, while the Vortex Brewer® reading was 8.66.

Research demonstrates higher levels of dissolved oxygen in the root zone produces denser root mass. This means the plant is healthier and growing faster because the roots are the primary source of uptake for the plant from the environment.

## In Summary

By now we trust we have a shared understanding, and we appreciate the value of compost tea. As Dr Wil Spencer has explained, compost tea is, "Creating food into medicine as nature intended". So, how do you begin to have it make a difference for you? If you have never used compost tea, your best early experience will come from a brew made from a proven recipe with tried and true ingredients. If you don't have a local hydroponic shop or a garden store with a Vortex Brewer®, where you can purchase it by the gallon, you are probably better off making it yourself. We can help.

For starters, we have Compost Tea in a Box. This is a kit that comes in four sizes with enough ingredients to make either 25, 50, 100 or 200 gallons of our original recipe compost tea. You can begin making compost tea in a five gallon bucket. You will need a long stir stick and/or an air pump and bubbler, with tubing and valves. You will need an electrical outlet for the air pump. Mix the measured ingredients with the stick in the five gallon bucket full of water - with three inches of head space at the top of the bucket. Stir in the measured ingredients. Connect your air hose to the bubbler, e.g. air stone, and to the pump. Make sure you have a one way valve in your line that exits air from the pump. If water washes back up the air tube it can ruin the pump. Allow the mixture to sit for 12 to 24 hours. Shortly before application remove the aeration system and stir the compost tea with the stick rotationally, first right and then left to create a deep vortex in each direction. Stirring is best by creating alternating right and left vortexes, repeating for up to an hour.

This is a great way to get started and a great way to save time and money if you want to do smaller batches. It is all measured out and ready to start brewing. Instructions included.





Graduating from the five gallon bucket system, one can step up to several options. There are larger ACT brewing systems, extraction systems, which really aren't brewers at all, or you can consider the Vortex Brewer®.

ACT brewers come in many sizes. They are a larger version of the five gallon bucket with an air pump.

ACCT brewers include a vortex action. The vortex demonstrates a powerful force of nature. According to science, a vortex is capable of causing liquids to transform from one set of physical properties to another.

Biodynamic® growers, sorcerers and alchemists appreciate the etheric qualities and subtle energies, absorbed from planetary and universal sources applied to water in the vortex.

Which ever way you look at it, the vortex is a powerful force of diverse energies.

Used in agriculture the vortexial effects bond oxygen and ionic minerals to water. This action also serves to soften surface tension on the water molecule, making the water hydrophyllic and more absorbable by plants.

Farmers/growers/gardeners whom have used compost tea and may have their own ideas about various additions to the mix and understand the pitfalls, especially biodynamic® and organic farmers/growers, really appreciate the Vortex Brewer® and how it improves the whole growing environment.

The Vortex Brewer® was invented by Steve Storch, a pioneer in modern day biodynamic® care taking of the land. Steve bears a lifetime of interest and commitment to honing the skills of watching, listening and understanding the complex simplicity of the BD Preparations he makes. This intentional, intensive effort and awareness has led Steve to being able to produce a vortex machine that outshines because it is designed and built to honor all the aspects of subtle frequencies in the air, water and land as well as the synergistic contributions from the universe at large.

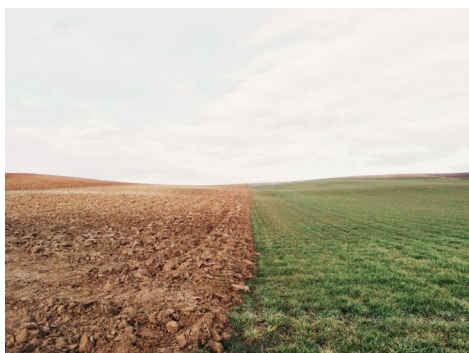


## Attention Farmers, Growers, Hydroponics Shops, Garden Shops, Golf Courses:

Not only is the Vortex Brewer® the top of its class, there is a business model for the shops that sell it by the gallons. It becomes an attraction in the store and once a gardener or hydroponic grower tries it, they're coming back. It does draw business and it works surprisingly well. Some shops offer a free gallon with purchase. Customers will ask a lot of questions and you'll be coaching them on other things as well. Also, ask about our Seller's discount program, visit us on the web at [Environotics.com](http://Environotics.com).



Contact us at [info@Environotics.com](mailto:info@Environotics.com) or call 304-940-8218.



Farmers and golf course grounds keepers, when you are treating on a regular schedule you want products that are cost effective, and actual-ly effective. Something that will not only maintain the turf, but enliven it, make it stronger, more durable and beautiful. Compost tea, from the Vortex Brewer® just gets better over time. The product ingredi-ents go a long way as they are potentized, dynamized and homeo-pathic in effect. A little goes a long way so that once you invest in a Vortex Brewer® and have the pleasure of experiencing the benefits every time you use it, you will agree the value outweighs the cost. Plus the convenience and savings in having your own brewer operation on sight.

# Compost Tea Brewing

**Good**



**Better**



**BEST**

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**Environotics.com**  
**info@environotics.com**  
**304-940-8218**  
 call for a catalog

**Our Recipe Blend**



**Bucket Gear**



**Our Recipe**



**Hearty Additions**





## Who we are

Environotics Unlimited, created in December 2009, was borne of a passion for regenerating the majesty of life on Earth. Realizing we had accessed the broadest diversity of natural, native soil borne microbes to be found and understanding that all life suffers the same core issues our microbes would address, (in appropriate combinations for specific applications) we went to work developing products to remediate, regenerate and proliferate the quality of life. To date we have highly effective categories for people, pets, horses, farm animals, farming, soils, plants, honey bees, water, air, mold, remediation. These products have been sold and used successfully for ten plus years with excellent results. This year, documented testing has begun.



**“Growing the Future”**  
for a **Better World through**  
**Agriculture.**

The food chain has been severely deficient of minerals for over 100 years. The natural balance of beneficial microorganisms is all but destroyed. The understanding of what constitutes a healthy diet has long been corrupted along with the innate wisdom of the body to know what is good.



We take a stand for the return of healthy balance across the globe and we look for ways to impact all areas of environment, food and health. We ask questions, listen to nature, make products, sell products, raise pigs, ducks, chickens, honey bees and worms. We raise fodder for feed and design fodder systems for sale.

We regenerate soils, clean and restore the environment. We make food more nutritious and it tastes better.



We use **Beyond Organic** methods

Formulate superlative **Farming** and **Bioremediation** products

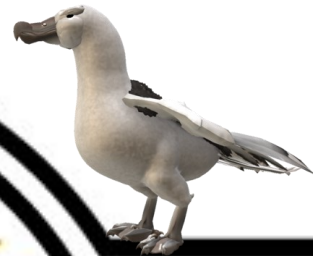
Pioneer leading edge **Agricultural** and **Consulting** services

Our goal...  
Humanity thriving on abundant, energetic, and economically available 'food as medicine' for the renewal of ecology and the environment.



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