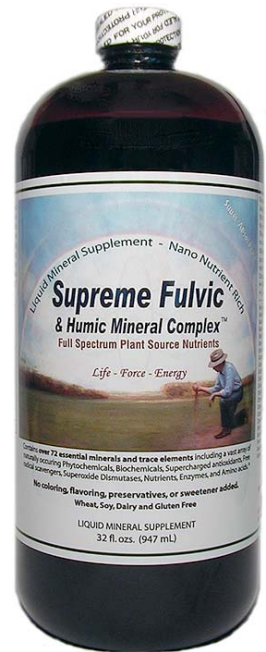


# PASCAS CARE

# Fulvic



# NEW BIOSPHERE AGRICULTURE

“Peace And Spirit Creating Alternate Solutions”

PASCAS FOUNDATION (Aust) Ltd  
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Queensland, Australia

Pascas Foundation is a not for profit organisation

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## PASCAS INTRODUCTION:

Documents assembled by Pascas are provided for your individual assessment and exploration. The contents are sourced from a variety of avenues and publications. Every endeavour is made to determine that the contents are of the highest level of truth and veracity. At all times we ask that you go within yourself, to ascertain for yourself, how the contents resonate with you.

Pascas provides these notes and observations to assist us all in the development and growth of our own pathways and consciousness. Pascas does not hold these contents as dogma. Pascas is about looking within oneself. Much of what we are observing is new to us readers and thus, we consider that you will take on board that which resonates with you, investigate further those items of interest, and discard that which does not feel appropriate to you.

Kinesiological muscle testing, as developed by Dr David R Hawkins and quantified by his Map of Consciousness (MOC) table, has been used to ascertain the possible level of truth of documents. Such tested calibration levels appear within the document. We ask that you consider testing same for yourself. The technique and process is outlined within Pascas documents, such as Pascas Care – Energy Level of Food. From each person’s perspective, results may vary somewhat. The calibration is offered as a guide only and just another tool to assist in considering the possibilities. As a contrast, consider using this technique to test the level of truth of your local daily newspaper.

Contents are not to be interpreted as an independent guide to self-healing. The information sourced herein is not from a doctor or doctors, and any information provided in this document should not be in lieu of consultation with your physician, doctor, or other health care professional. Pascas, nor anyone associated with this document, does not assume any responsibility whatsoever for the results of any application or use of any process, technique, compound or potion as described within this document.

The sources of contents are noted throughout the document. In doing so, we acknowledge the importance of these sources and encourage our readers to consider further these sources. Should we have infringed upon a copyright pertaining to content, graphics and or pictures, we apologise. In such cases, we will endeavour to make the appropriate notations within the documents that we have assembled as a service via our not for profit arm, to our interested community.

We offer all contents in love and with the fullness of grace, which is intended to flow to readers who join us upon this fascinating journey throughout this incredible changing era we are all experiencing.

Living Feelings First, *John.*



***“Never can one man do more for another man than by making it known of the availability of the Feeling Healing process and Divine Love.” JD***

## **A Short Overview of Fulvic Substances**

It is said that Fulvic is the missing link to the pathway of good health. It has been cited in many publications that fulvic substances prevent many illnesses, and also assist in the return to good health from many diseases. Fulvic has been found in the diets of many civilizations that have a very long life expectancy.

Joseph Rundle began his quest many years ago to discover an organic product for growing crops without the harmful addition of poisons, chemicals and toxins.

He and Dr Mike Karr, who had the same principles and philosophies as Joe, began working on Fulvic Acid, and after investing AU\$8 million and a few years work they have perfected a method of extracting Fulvic at a very low cost, which has resulted in the purest, and the highest grade manufactured in the world.

Dr Mike Karr is about to publish his paper on the method of evaluating Humic and Fulvic Substances. This will set the World Standard for judging Humic and Fulvic products. This new standard set by Dr Mike Karr will exceed the present International Humic Substances Society (I.H.S.S.) standards.

### **HUMIC SUBSTANCES – WHAT ARE THEY?**

Humic Substances are natural compounds which exist in nature and in most soils. They are found at greater levels where soils are fertile. They confer to rich soils their characteristic dark colour. Humic substances are based on long organic molecules of varying lengths and shapes, resulting from the natural process of microbial breakdown of plant and animal matter. They are fully decomposed part of the “humus” in soil. Over many years of decomposition, the original plant matter is slowly turned into humic substances. Humic substances are composed into 3 major compounds:

1. Humin – is comprised of the longest molecular chains. It is very insoluble but has excellent water holding capacity, and binds soil into stable aggregates that resist erosion.
2. Humic Acid – represents the largest component of humic substances (up to 80%), and are comprised of mid-length molecular rings and chains. It is a good soil conditioner, helping soils to bond and hold nutrients. It's insoluble in soils but soluble in alkaline solutions. It has some bio-stimulant characteristics.
3. Fulvic Acid – is the smallest component by weight and volume and is comprised of the shortest and lightest molecular chains of the three. It is 100% soluble at all pH levels and has the most biological effects on plants and living organisms – it has the greatest ability to complex (bond) with minerals and metals of the 3 humic components, has the best ability to be assimilated, and exhibits the highest biochemical activity on cellular functions. Such cellular functions include enhancing photosynthesis in plant cells and improving the efficiency of energy metabolism and healing in animal cells.

Since fulvic acid is the last stage of “decomposition” of organic plant matter, its molecular structure is extremely stable. It cannot be easily broken down further. Therefore, the focus of the company and their research has been this fulvic acid component.

The company’s research and the research of many other scientists confirm beneficial effects of fulvic acid. There have been hundreds of scientific studies performed by scientists on the various effects of humic substances over several decades on plant growth, livestock health, skin and medical applications, etc. These studies are well documented in referred scientific journals.

It is interesting to note this fulvic acid has been found in the bones of humans that died over 100 years ago. But it is strangely lacking today. We feel that erosion, modern agricultural practices and heavy dependence on chemical fertilizers have depleted our agricultural soils of humic compounds, hence less exists in the food we eat and, consequently, there is less in our bodies. The reason that only the fulvic compound of humic substances is found in the bones is because fulvic is the only portion that is 100% soluble. It is readily assimilated and translocated within plants and animals, including humans.

#### TECHNOLOGICAL BREAKTHROUGH in EXTRACTING FULVIC ACID MOLECULES

The company has developed a novel process using physics and biology, rather than chemistry, in order to gently separate the fulvic component and concentrate it. This method produces a high quality of fulvic acid at high concentration levels. The company has a patent pending on our process in several countries, including Australia.

The standard method of extracting fulvic acid is through the use of base-acid extraction process that produces a product that is contaminated by high levels of salts and other impurities that further dilute the fulvic acid and may cause unwanted reactions when mixing with other materials.

The IHSS (International Humic Substances Society) composed of research scientists around the globe dedicated to furthering research on humic substances. They produce various laboratory grade humic and fulvic acid materials for reference purposes. The IHSS produces these materials using the above chemical method, however, they subsequently take great effort and time to clean and refine the materials. Their laboratory reference material reflects the cost of this effort. 1 gram of reference material may cost US\$200 or more.

The company’s patent-pending process results in a pure grade of fulvic acid without the cost of further cleaning and refinement. We use the IHSS reference material in our own batch tests to ensure we meet or exceed the purity of the IHSS reference material to our knowledge we are the only company with this technology in the market today.

Other than the chemical base-acid salt extraction method, there is another process that produces an “oxifulvate” compound. Oxi-fulvate is a material produced by treating black coal (carbon) to extreme pressures of 15 atmospheres in pure oxygen, and heating it to 250°C to produce fulvic acid molecules synthetically. This method is costly because it is very energy intensive. Our method extracts only the naturally occurring fulvic acid molecules. Our process technology is far more energy efficient, enabling us to produce commercial volumes at substantially lower costs.

## What is Humic and Fulvic Acid?

Millions of years ago, plants and animals decomposed and dissolved into the earth to give us our rich oil and gas deposits. However, this process stopped us from receiving important organic compounds, as well as the DNA of these ancient living life forms. Luckily, all was not lost. In the far northwest corner of New Mexico is one of the richest deposits of Humic acid in the world. The DNA and organic compounds of these plants and animals did not dissolve into oil or gas; instead, they were captured in shale millions of years ago.

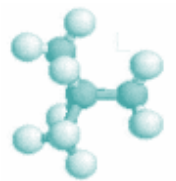
The complex of Humic and Fulvic acid has proven to be the most powerful organic poly-electrolyte antioxidant and free-radical scavenger known to man, serving to balance cell life.

(Australia also has a major deposit from which Fulvic will be extracted from.)

## Nano Humic & Fulvic Acid

***With the use of new, Nano-technology, the "Missing Link" for Optimum Health is now available.***

*Presented by: Nano Health Solutions*



Many scientists throughout the world call Fulvic Acid "the missing link to optimum health".

Because of its wide spectrum of action, it is difficult to say exactly how Fulvic Acid performs its miracles. However, exhaustive scientific studies have proven its power. You are about to discover the most potent form of Fulvic Acid. You will learn how this is the end product of a life of research from a team of scientists who are completely dedicated to saving Mother Earth and all of her life forms.

According to the Water Quality Association, Fulvic Acid is a "water-soluble, natural, organic substance of low molecular weight, often found in surface water." It is one of several subclasses of Humic Acids that arise from complex mixtures of partially decomposed organic materials.

In other words, Humic Acids are biological compounds created by Mother Earth. These composites were originally deposited by pristine, ancient forests and compacted and transformed over millions of years, waiting to be extracted for our use today.



## ***Properties of Humic and Fulvic Acids***

Humic and Fulvic Acids "wear many hats" because they enter into all life processes within all life forms.

Humic substances, of which Fulvic Acid is one, are the link between the living and the nonliving in nature. They were orchestrated by Mother Nature to bridge this gap.

When the proper amounts of humic substances are dissolved in water, the water takes on a new form, becoming molecularly restructured. Specifically, Humic Acids cause the water to form pyramid-shaped molecules (tetrahedrons) that have valuable, proven medicinal properties.

Unfortunately, Fulvic Acid is still not well known or understood by most of the scientific and medical community. Chemists have not been able to synthesize it or clearly define it. Why? Because it is the smallest, most complex, most highly refined, naturally occurring, water-soluble substance on Earth!

Tiny amounts of Fulvic Acid remarkably transform the molecular structure of water, making it intensely more active and penetrable. Additionally, it assists water in its job of dissolving and transporting, helping to carry nutrients into the cell and waste products away from it, while also helping to neutralize toxins, invaders, and heavy metals. As a result of these extraordinary properties, it is believed by some that all homeopathic remedies should contain Fulvic Acid in order to enhance their action.

Amazingly enough, scientists have discovered that Fulvic Acid is nothing less than tiny fragments of DNA from past generations of living organisms. In other words, Fulvic Acid is the "milk" from Mother Nature, meant for giving life, energy, health, immunity, and renewal to Earth and all of its life forms.

*This "milk" could be one of the most important discoveries in the history of health and medicine.*

## ***The 21st-Century Nutritional Challenge***

Humic and Fulvic Acids are much more than bio-regulators, for they also contain macro- and micro-nutrients needed by our bodies.

In this regard, much has been written in recent years about the deterioration of our food supply. There has been intense questioning about how to improve the poor nutrient quality of today's available foods.

USDA studies show a 25-to-80-percent decline in minerals in the food we eat. In 1936, U.S. Senate Document 264 stated, "The alarming fact is that foods, fruits, vegetables, and grains now being raised on millions of acres of land no longer contain necessary levels of essential minerals. These foods are starving us, no matter how much we eat."

Professor Louis Kervran, France's former Minister of Health and a member of the New York Academy of Sciences, states:

*The present form of agriculture, to which our biological agriculture is opposed, leads to the ruin of soil and health and will eventually bring about the death of humanity.*

Even when minerals are supplemented, most preparations are only minutely bio-available. Thus, our bodies cannot properly absorb the minerals.

Finally, the help is available! Our Humic and Fulvic formula not only contains the minerals our bodies need, but, more importantly, the compounds in our mixture enable these minerals to be absorbed by the human body. Technically, these acids consist of "negatively charged metal-complexing ligands," which act as ion exchangers, releasing metal ions of low atomic mass and chelating heavier metals.

What this means for us is that Humic Acids and Fulvic Acid complexes enhance mineral and trace element uptake, helping us to maintain mineral and trace element balances in our bodies without threat of toxicity. Whenever minerals come in contact with Fulvic Acid in a water medium, they are naturally dissolved into ionic form. These minerals literally become part of the Fulvic Acid itself. Once the minerals meld into the Fulvic Acid complex, they are now bioactive, bioavailable, and organic.

**Humic Acids and Fulvic Acid complexes might very well be the answer to the 21st-century nutritional challenge.**

### ***Nano Health Solutions' Fulvic and Humic Acid are Unique***

They claim their products are so superior to any other Humic and Fulvic Acid products that it is in a category of its own.

They currently find Fulvic Acid solutions on the market that will carry only a 2-to-5-percent concentration solution. Other companies use an extract process with an acid-derived base. This alters the quality of the end product, resulting in, among other things, an acidic pH — something we do not need with our already highly acidic bodies. Also, these inferior products are often processed using chlorinated water, even though it has been shown that the combination of chlorine with Fulvic Acid creates a deadly toxin in the body.

Nano's Health Solution's products are different. They are the product of 40 years of research in extracting Humic and Fulvic Acids from the richest deposits of organic shale known. This unique process, used only by Nano Health Solution's manufacturer, creates a compound with a body-friendly pH and never uses chlorinated water. Additionally, Nano Health's manufacturer uses the best supply of humic base available.





## ***Humic Acid Benefits***

When Humic Acid is consumed by any life form, increased energy may be one of the first results, followed by a noticeable improvement in morale. Other effects may include decreased appetite, deeper, higher-quality sleep, and a lessening of pain and debility from arthritis or physical injuries.

For any life that is in a serious degenerative condition, a healing crisis might occur. The body will go into a state of major cleansing and will use all its "exit doors:" intestines, kidneys, skin, lungs, liver, and, in women, the vagina. In other words, the body will try to rid itself of all of its accumulated toxins and poisons, including heavy metals, parasites, and fungi.

Although often uncomfortable, healing side effects are temporary. Professional practitioners are aware of this phenomenon and can guide you through it.

## ***Anti-Aging and Immunity***

As we age, many facets of the body's chemical equilibrium become unbalanced. Humic substances produced by our unique nano-technology may help maintain this chemical equilibrium in the body, creating "homeostasis." This makes Nano Health's Humic & Fulvic Acid, they claim, a superior anti-aging and rejuvenation formula.

Fulvic Acid is the finest electrolyte known to man. Its electrolytes are able to restore vitality in all life forms. When our electrolytic potential (aka our "Zeta potential") fades away, so do our energy and our health. In fact, this loss of electrolyte potential is the main reason why we "age." However, Fulvic Acid promotes an electrochemical balance because it is both a donor and a receptor of electrons.

Also, Fulvic Acid can be useful as an adjunct to other longevity agents and may enhance their effectiveness.

One of the most exciting aspects of Fulvic Acid is the powerful and diverse spectrum of immune system responses it stimulates in the human body.

### ***IMPORTANT NOTICE***

You must use non-chlorinated spring water or juice to take with Humic & Fulvic Acid. City, chlorinated water, cannot be used with Fulvic and Humic because you lose all the benefits of the two acids. In other words, you would be wasting your money if you decide to mix the acids with chlorinated water.

If you mix the two acids with chlorinated water you also may experience negative results.

Chlorine is a hazardous chemical. If possible, you should always try to drink only spring water, distilled water or non-reconstituted juice. Another choice would be water that has been filtered to take out the chlorine and other dangerous chemicals such as a reverse osmosis system.



## ***Humic & Fulvic Acid***

Fulvic Acid may be used for daily nutritional supplementation, although it will not provide the degree of energy that comes when Humic and Fulvic are used together. Fulvic is tasteless, gold in colour and has no odour. Humic is black in colour because it contains a high proportion of Humic Acids. Also, it has a faint metallic aftertaste, and is for internal use only.

Recommended dosage is one ounce of Fulvic Acid per day mixed with ½ ounce of Humic Acid taken in the morning with six ounces of spring water. Two, 32-oz. bottles essentially represents a month's supply of Fulvic and two months supply of Humic. Finally, for best results, drink these products on an empty stomach and wait at least half an hour before ingesting any other food, drink, or supplement.

None of the statements in this document has been evaluated by the Food and Drug Administration. Humic and Fulvic Acids are not intended to treat, cure, or prevent disease. For any health condition, we suggest that you obtain advice from a licensed medical practitioner.



**PASCAS  
HEALTH**



**PASCAS  
PERS**

**Feeling  
Healing with  
Divine Love is  
the key!**



## **Where does Fulvic come from?**

Fulvic is created by microbial activity at the roots of plants. Its function is to dissolve, and convert the metallic and clay based mineral molecules that are in soils, into a form that is usable by plants, animals and people. Once the minerals are dissolved, plants uptake, through their root system, the powerful fulvic substance that is loaded with dissolved minerals and trace elements. Supplements high in fulvic come from ancient deposits of lush plant matter that were buried millions of years ago before chemicals, pesticides, and other harmful substances ever existed. The fulvic strength of today's plant derived mineral products depends on the fulvic concentration of its source. Fulvic content varies from deposit to deposit similar to the way minerals are found in veins throughout the world.

## **Fulvic is no longer readily available in today's plants because chemicals and pesticides kill the micro-organisms that create fulvic.**

Because of our current farming practices, this essential natural process has basically stopped. When the fulvic micro-organisms in soil are destroyed, plants are not able to take the undissolved metallic and clay minerals into their root systems. The minerals remain in their original inorganic form in the soil, and our plants become mineral deficient. To complicate matters, the mineral content of our soils is extremely low right now. Farm lands have been overused and minerals are not being replaced the way nature intended. Even organic foods can be deficient because of our depleted soils. Scientists feel this could account for the dramatic rise in health problems that plague our "fulvic starved" society. Foods with high fulvic content are very difficult to obtain, making it essential that we supplement our diets with this essential molecule.

## **What does Fulvic do in the body?**

The fulvic molecule prepares nutrients to inter-react with each other. When fulvic is present in the body, nutrients are dissolved into the simplest ionic form and disappear into the fulvic structure. Most of the benefits we receive from nutrients occur are due to their co-factor reactions with each other. Fulvic offers tremendous benefits because it enhances these reactions.

## **Fulvic makes all nutrients more absorbable**

Fulvic makes vitamins and elemental minerals (metallic and clay based minerals) more absorbable by complexing them (refines, purifies, combines and re-refines) into organic, ionic forms that are easily transported into and through membranes and cell walls. Once the nutrients are dissolved and complexed by the fulvic electrolyte, they become bio-chemically reactive, bio-available, mobile, and readily absorbable. In a nutshell, this means you get greater benefit from all your nutrients, whatever the source, when fulvic is present.

## **Fulvic transports nutrients right into the cells**

It can often transport many times its weight in dissolved nutrients and elements. Fulvic is so powerful that one single fulvic molecule is capable of carrying 60 or more minerals and trace elements into the cells.

### **Fulvic makes cell walls more permeable**

Fulvic makes cell walls more permeable, so nutrients can more easily enter the cell, as well as allowing waste to leave the cells more readily. One of the strongest advantages of fulvic minerals is that absorption greatly exceeds traditional tablet supplements. As with any nutrient or supplement, the only way your body can benefit, is if it is absorbed. Fulvic enhances this process.

### **Fulvic increases absorption of oxygen and decreases acidity**

It quickly destroys acid in the body fluids which helps increase the amount of oxygen in the blood. A lack of blood oxygen is a major contributing factor for acidity. [Excess body acidity](#) is associated with virtually all degenerative diseases; including cancer, heart disease, osteoporosis, arthritis, kidney stones, tooth decay, sleep disturbances, depressive disorders, and more.

### **Fulvic changes the pattern of metabolism of carbohydrates**

Fulvic also intensifies the metabolism of proteins, and has been shown to stimulate the immune system.

### **Fulvic improves enzyme development**

Research has shown that fulvic improves enzymatic reactions in cells and produces maximum stimulation of enzyme development. Enzymes are responsible for over 300 complex reactions in the body. They are the life force behind vitamins and minerals. A lack of digestive enzymes can overstress the digestive system, leading to the mal-absorption of nutrients.

### **Fulvic is the most powerful natural free-radical scavenger and antioxidant known to science at this time**

Free radicals circulate throughout the body, injuring tissue and making cells susceptible to infections, diseases, or worst of all, cancer causing mutations. Fulvic bonds to these free radicals, transforming them into organic, usable substances, or if the cell is too damaged, it is flushed out of the body.

### **Fulvic is a powerful de-toxer**

Fulvic has the ability to bind to and remove toxic heavy metals and other pollutants from the system. It can either alter them into useable compounds or eliminate them as waste. It detoxifies pollutants, including herbicides, radioactive elements, and toxic metals, by binding to these substances and flushing them out of the body, if unable to convert them.

### **Fulvic has antibiotic properties**

Although fulvics are not antibiotics in the technical sense of the word, as prescription drugs are, their antibiotic like effect is comparable to the power of penicillin in equally small amounts. Unlike antibiotics, fulvic can be used indefinitely without creating any antibiotic resistant strains of disease which are common problems with pharmaceutical drugs. People with healthy lifestyles and eating

habits, who take fulvic on a consistent basis, report that they rarely get colds or the flu, and suffer very little from allergies.

An extensive number of studies show that Humic extracts, specifically Fulvic, effectively and safely kill the HIV / Aids virus. In fact, one pharmaceutical company has patented a humic based drug that purifies blood for transfusions, killing the HIV virus without damaging blood cells.

Especially pleasing to the parents of asthmatic children is the powerful and immediate effect Fulvic therapy produces. New research by Dr. David L. Hahn of Dean Medical Center, Madison, Wisconsin, shows that asthma patients have been found to have a high level of antibodies for Chlamydia pneumonia, which seems to be a common denominator among asthma sufferers. Comprehensive hospital studies show that humic extracts (fulvic and plant derived minerals) are more effective than conventional drug therapy for asthma, respiratory tract viruses, retroviruses, influenza viruses and even the common cold and flu viruses.

### **Fulvic's function is to balance and energize all cell life and biological properties it comes in contact with**

Because fulvic carries both a negative and a positive charge, it energizes cells, and can behave as an electron donor or acceptor, depending on the need. If the individual cell is restored to its normal chemical balance and electrical potential, we have given cells life, where death and disintegration would normally occur. What if the newly energized cells belong to a liver, a heart, or a the thyroid? Those organs could have the potential to function at peak performance. Scientists believe disease is rampant today because people are so deficient in fulvic and the minerals, trace elements, and nutrients it contains.

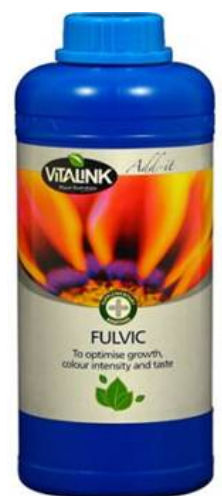
### **Although it isn't advertised as a weight loss product, a great side benefit is that many people report losing excess weight after starting to take fulvic**

Because mineral deficiency cravings are diminished, people naturally eat less, and don't crave breads, pastas, and sweets as much, which allows body weight to balance naturally.

### **More on heavy metal build-up**

Because fulvic minerals are organic, they will not build up in the body tissues, as do metallic and clay based minerals. When presented as organic fulvic complexes, cells have the ability to accept or reject minerals, including aluminium, lead, arsenic, mercury, etc., at their discretion. It should be considered though that these minerals may not necessarily be present to "nourish" cells, but are needed to act as "electrodes" in the fulvic electrolyte solution. In that capacity they are probably most essential for bio-reactions, electron transfer, catalytic reactions and transmutations.

It is obvious that when metals, minerals and trace elements become complexed into fulvic, they take on an entirely new property of availability, unlike their original form. It is when fulvic is not present that one should seriously worry about toxic buildup from any source.



## Don't confuse fulvic minerals with colloidal minerals

You may be familiar with the term “colloidal minerals”. In reality, colloidal mineral molecules are too large to readily pass through cell walls, and therefore offer limited benefits. It is important to make this distinction when purchasing a mineral product or you could miss out on the tremendous benefits of fulvic. Scientists have found that fulvic is the element that makes minerals absorbable, which gives it the ability to make a dramatic impact on all kinds of diseases and health problems that afflict us today.

## Why Optimum Organic Liquid Fulvic Minerals are the Best Choice



**(It's a lot cheaper for one)**

Many manufacturers destroy the fulvic with their processing techniques, making the remaining minerals in their product difficult for the body to assimilate.

We obtain our Fulvic Acid from a rare deposit of prehistoric plant matter that the ocean once covered. After the waters receded they left behind a deposit of fulvic shale, super-rich in trace minerals of land and sea origin. These deposits contain minerals and trace elements in the fulvic, colloidal and hydrophilic form with some ionic minerals as well.

Using a proprietary process, we are able to extract a very high quality of Fulvic Acid from this shale using clear cool water.



This Fulvic Acid contains no added chemicals, extraction acids or other additives. This makes it possible to achieve higher concentrations of minerals and trace elements in their proper fulvic form. It takes 3 years to manufacture a batch of Fulvic Acid. Most of that time is spent curing the shale and preparing it for extraction while preserving the delicate fulvic mineral bonds. Free of mould, yeast, bacteria, insecticides and chemical fertilizer contamination, tests reveal that our product is unsurpassed in quality and content.

If you look closely in the photos below you can see the crystalline minerals embedded in the shale. These are the fulvic colloidal crystalline minerals and trace elements formed from plant matter breakdown over 40 million years ago! Great care must be taken in the extraction process to lift these crystals from the fulvic shale. This shale contains fulvic acids in quantities unmatched by other forms of trace minerals.

**Don't believe the hype out there. All minerals are NOT alike!**

**Early Warning Signs of Mineral and Nutritional Deficiency Can Include:**

**Gray hair, spider veins, haemorrhoids:**

These initial symptoms indicate a breakdown of the elastic fibres inside veins and arteries. Further symptoms could include hair loss, violent behaviour, high blood pressure, and learning disabilities. Advanced symptoms could include stroke or heart attack.

**Liver spots, cataracts, reduced immune capacity:**

These symptoms indicate excessive free-radical activity. Advanced symptoms could include cancer risk, heart disease, MS, Alzheimer's, myalgia, SIDS or liver cirrhosis.

**Cracked cuticles, calluses around edge of heels, cracks at sides of fingers:**

These symptoms indicate abnormally sticky blood platelets which could result in a thrombosis or blood clot type of stroke.

**Noisy, popping joints, muscle cramps, eye twitches, back spasms:**

Symptoms indicate a severe mineral deficiency in addition to a deficiency of all 90 essential nutrients. Advanced symptoms: osteoporosis, high blood pressure, or irregular heart beat.

**Low blood sugar, excessive thirst, urinating at night:**

Advanced symptoms: Adult onset diabetes.

**Munching, unsatisfied cravings:**

Advanced symptoms could include bulimia, anorexia, inability to quit smoking, drug addictions, obsessive personality.



## Why are we So Deficient in Minerals?

It is a fact that you cannot get all the nutrients you need from today's food, no matter how healthy you eat. Yes, plants do manufacture vitamins, but they cannot manufacture minerals. And vitamins can only be utilized properly by the body if minerals are present, in the proper ratios. If you don't have all 90 essential nutrients, the chemical reactions that make vitamins useable will not take place.

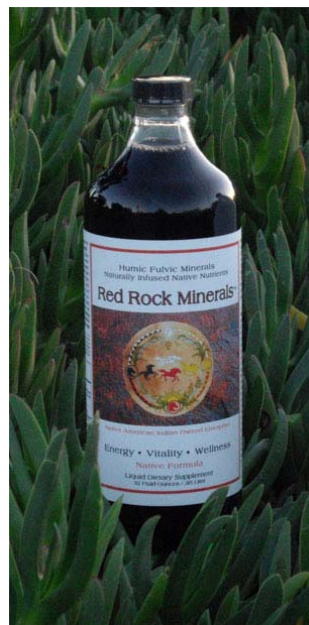
***There are approximately 70 to 84 minerals your body MUST have and farmers are only replacing 3 back into the soil.***

As a society we are becoming more and more nutritionally deficient every day. Because of this lack of nutrients, your body has little chance of maintaining its once healthy state. You'll begin to notice changes that we have been taught to label as "ageing". This is the beginning of a decline that doesn't have to happen.

## Why the Best Liquid Minerals are Fulvic Minerals, not Colloidal Minerals.

There are many different kinds of liquid mineral supplements. All plants contain minerals in the fulvic, hydrophilic and colloidal form. *The best liquid minerals are in the Fulvic form. Fulvic, a natural ionic molecule, is rapidly being recognized as one of the key elements in many scientific breakthroughs of the 21st century.*

Fulvic is one of the most crucial factors in the reversal and prevention of disease, as well as the maintenance of good health. Nature made fulvic abundantly obtainable, but like many things, man has interfered with this vital process and it is no longer available in adequate quantities in the foods we eat. You must provide your body with this essential element through supplementation.







specification			
Appearance	Brown liquid	PH value	5-7
Content of fulvic acid	20%		
Total N content(dry basis)	1.5%	Total K2O content(Dry basis)	5%
Total P2O5(dry basis)	0.25%	Insoluble substances(dry basis)	0.5%
Crude protein	10%	Organic substance	30%
Amino content(dry basis)	4%		

**Live true to your feelings, and you ARE living true, not only to your own soul, but also true to God’s soul. So doing your Healing by honouring all your feelings, IS living the will of God. And being fully Healed, IS living even more truly the Will of your Mother and Father.**



## ITS ALL ABOUT OXYGEN AND FULVIC TRACE ELEMENTS

<http://www.vitalo2.com/index.htm>

*If you are currently supplementing with minerals labelled ionic or colloidal, the discovery and understanding of fulvic acid should excite you.*

Nature has provided us with every nutrient that we need to live a long, healthy, and active life.

Unfortunately, we're no longer able to enjoy all of the earth's goodness because of the way we process our already fragile foods to death. It doesn't help that our soils have been ravaged and that the animals we eat are regularly given steroids to artificially stimulate their growth.

### Introduction to Fulvic Acid

#### Topics

[Plants, the Soil, and Your Health](#)

[The Role of Fulvic Acid and Plant Nutrition](#)

[Fulvic Acid Increases Bioavailability](#)

[Fulvic Acid and Organic Tissue Growth](#)

[Nature's Protective Force](#)

[Cell Wall Permeability and Absorption](#)

[Enzymes are Activated by Fulvic Acid](#)

[Fulvic Acid and Organic Transmutation](#)

#### Plants, the Soil, and Your Health

You may wonder why we can't receive the same nutritional value from the plants that we eat as we can from plant-derived minerals in a liquid form. The primary reason is that the soils that are used to grow our fruits and vegetables today have been depleted of their natural resources. Soil no longer has the abundant vitamins, minerals, and other nutrients that it once did.

Today, farmers are pressed for time and force their fields to produce crops that yield high quantities of vegetables and fruits – with very little regard to the nutritional content of the foods that are grown. So that growth can be hurried along, we've begun to 'supplement' our farmlands with high amounts of nitrogen, phosphorus, and potassium (N-P-K), but very little else.

It is a widely known fact that when high amounts of nitrates are present, plant protein formation is increased. Such an excess of nitrates can also cause an overabundance of amino acids. If the amino acids aren't used by the plants, they can attract insects. Of course some organic farms are a bit better, but the quantity of nutrients still pale in comparison to a good liquid, plant-derived mineral product.

A second reason that our plants fail to nourish us properly is because the soil has been depleted of beneficial microbes. These microbes are necessary for plants to convert inorganic substances to organic. Without this conversion the plants become deficient in minerals. This means that those who eat the plants can also become deficient.

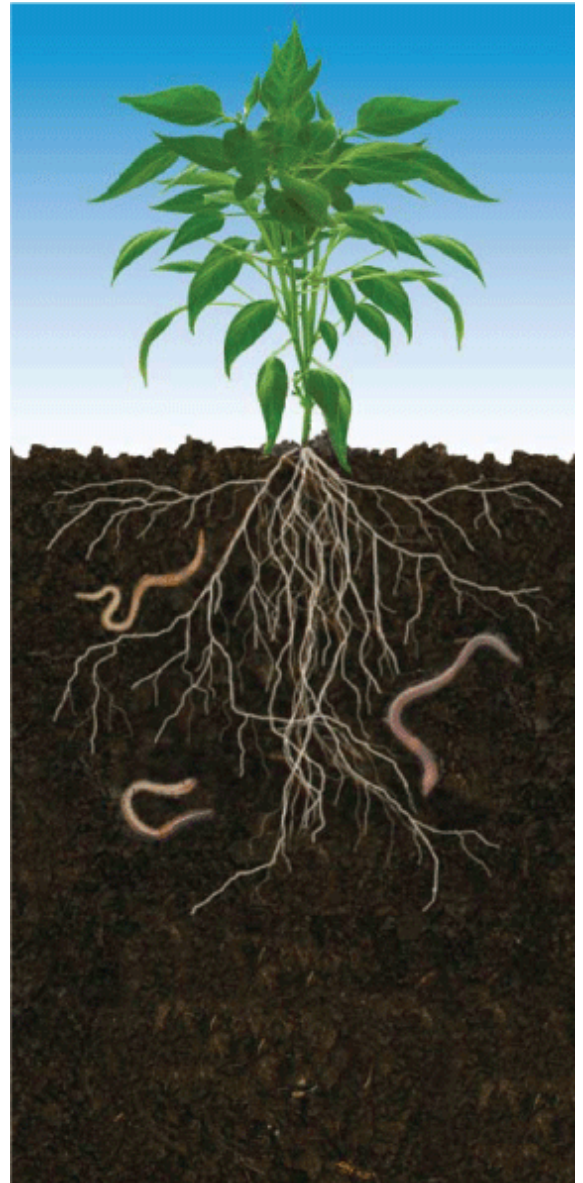
Doctors have known for years that everyone needs at least 90 nutrients to maintain their health. These nutrients include a minimum of 70 minerals, 18 amino acids, and three essential fatty acids. To obtain these nutrients we are admonished to eat at least 57 different sources of food each week. For most people this admonition is much less than practical and sometimes completely impossible. The monetary budget required to obtain such a diverse list of foods would be enormous. Even discounting the monetary aspect, almost no one has a large enough selection of foods at their disposal to satisfy these requirements.

Even if it were possible to eat a 'balanced' diet which consisted of the proper portions of carbohydrates, proteins, fats, etc., you would still be nutritionally deficient. Why? It is due to the fact that the foods that we eat are heavily processed (canning, cooking, microwaving, etc.) and nutritionally bankrupt.

The only alternative that we have is to supplement our diets with good, high-quality nutritive substances such as antioxidants, vitamins, and plant-derived minerals.

One of the most popular ways to increase your intake of minerals is through the use of liquid minerals (sometimes known as ionic or colloidal). This type of mineral supplement has special properties that no others do. However, before you run out and grab a bottle, you should be aware that not all colloidal minerals are the same.

In today's highly competitive marketplace, many manufacturers would have you believe that one colloidal or ionic mineral supplement is just as good as another, it simply isn't true. Most liquid, plant-derived minerals are a unique and superb source for over 70 different minerals. Since almost everyone, regardless of their social or economic status, is horribly mineral deficient, mineral supplementation is a logical place to start. While this form of supplementation doesn't fulfill all of your nutritional needs, it may help reduce the possibility of developing several disorders. Osteoporosis, cardiovascular disorders, arthritis and others are all disorders that have been directly linked to a lack of minerals.



## **The Role of Fulvic Acid and Plant Nutrition**

By definition, fulvic acid is "a water-soluble, natural organic substance of low molecular weight which is derived from humus, often found in surface water." – Water Quality Association

Sources of true, plant-derived minerals are called humate deposits. These deposits, if they contain water-soluble, bioavailable elements, will also contain high amounts of humic acids. Fulvic acid is one of several subclasses of humic acids.

Humic acids are composed of a complex mixture of partially decomposed organic materials. These acids are endowed with the ability to chelate positively charged ions, such as elemental minerals, that are absorbed by plants. This natural chelation allows plants to store both vitamins and minerals and helps to increase their overall bioavailability.

## **Fulvic Acid and Organic Transmutation**

The absorption factor of ionic minerals greatly exceeds traditional tablet supplements. This is one of their strongest advantages. However, those who take plant-derived colloidal minerals are often concerned by the fact that, when the manufacturers list the contents of the supplement, the names of heavy metals appear on the label. While this alarms many people, it shouldn't. The fact is that true organic, plant-derived minerals do not contain heavy metals.

Organic, plant-derived minerals are able to be safely used by your body because of the fact that nature has acted upon them and transformed them into organic material rather than allowing them to remain in their elemental form. This is called organic transmutation.

A driving force behind this miraculous transformation is fulvic acid. The reason that labels list 'heavy metals' is that even once elemental minerals are transformed and stored within plants, they retain their original chemical names. Again, once an elemental mineral is reacted on by fulvic acid and photosynthesis, it is changed from inorganic to organic. This process is often called transmutation. As we read in 'Biological Transmutations,' fulvic acid can actually transmute magnesium and vegetal silica into a form of calcium that can be used by humans.

Fulvic acid is present in every true plant-derived, organic mineral. The same cannot be said for elemental minerals which are derived from rocks, shells, and certain clays. While elemental mineral supplements may claim to have a wide range of minerals, they cannot compare to the safety and availability of plant-derived substances. It should be noted that fulvic acid itself can contain as many as 60 different mineral compounds – this is above and beyond any other source of minerals with which it is joined.

As is discussed in "The Value of Organic, Plant-Derived Minerals" (Issue #205), when positively charged minerals are absorbed by plants, their bioelectrical polarity is changed to a negative charge. Whenever normally toxic minerals, such as iodine, are absorbed and transformed by plants, they become non-toxic. It may be the chelation factor that accounts for the ability of fulvic acid to neutralize the toxicity of heavy metals such as lead. The actual mechanism that fulvic acid uses to chelate minerals

has yet to be ascertained. Although we know that this neutralization happens, the mechanics of the process are still one of nature's secrets – a secret that we benefit from.

### **Fulvic Acid Increases Bioavailability**

Despite the important role that fulvic acid plays in the production of ionic minerals, it is also renowned for its ability to make vitamins and minerals absorbable to plants. It accomplishes this by complexing elemental minerals into organic forms that are easily transported into and through the roots and membranes of plants.

Plants absorb minerals and vitamins through root 'hairs' – one ion at a time. Interaction between fulvic acid and the elemental mineral must take place before this absorption can happen.

Whenever minerals come into contact with fulvic acid, in a water medium, they are naturally dissolved into an ionic form. These minerals literally become part of the fulvic acid itself. Once the minerals meld into the fulvic acid complex, they become bioactive, bioavailable, and organic. Thus, when elemental minerals are transformed into an organic state, through a natural chemical process involving fulvic acid and photosynthesis, they are safe to be used by both humans and animals.

The presence of fulvic acid also acts as an important protective agent whenever toxins are used to reduce the insect population that often besiege non-organically grown crops. According to A. Szalay, fulvic acid has the ability to dramatically detoxify herbicides, pesticides, and other poisons that it interacts with – this includes many radioactive elements. This detoxification process may extend to animals and humans, since we are the end-users of these plants.

As previously stated, the soil from which our food is grown is severely depleted of vitamins and minerals. For plants to remain beneficial to us, it is imperative that they absorb the greatest possible amount of these substances. For this reason, nature provided fulvic acid. The very presence of fulvic acid enables plants to maximize their uptake of vitamins and minerals.

This means that whenever you eat plants that have been in the presence of fulvic acid, your body can assimilate more of nature's building blocks with which to build and maintain your body. Another benefit of fulvic acid is that it actually potentiates the availability of essential nutrients. Potentiation is a term that describes how long an ingredient can remain active.

### **Nature's Protective Force**

The more you study organic substances, such as fulvic acid, the more you will be impressed by nature.

The phytochemicals (plant chemicals) found in nature provide us with an astounding array of benefits and protection. For instance, soy provides us protection against certain cancers and acts as an adaptogen, antimutagen, and is full of active enzymes – if it comes from soy sprouts and not the processed bean. Fulvic acid also acts as a source of protection from environmentally induced oxidation.

Anyone interested in maintaining their health should note that free-radical damage (oxidation) has been implicated in over 60 disorders.



For years we've known that antioxidants are extremely beneficial in our fight against disease. As such, the scientific community has focused a major portion of their attention towards well-known antioxidant substances. This research has shed light on many extremely powerful free-radical fighting nutrients such as proanthocyanidins .

If a healthy body is your goal, then you must take action to protect against free-radical attacks. If you are taking colloidal minerals that contain fulvic acid, you're on the right path. Fulvic acid is a very powerful antioxidant.

According to N. Senesi, Y. Chen, and M. Schnitzer, fulvic acid has the ability to dramatically reduce the oxidative effects of free-radicals. This means that fulvic acid could potentially help your body ward-off disorders such as cancer, premature aging, wrinkling of the skin and arthritis – all of which are thought to be hastened by oxidation.

### **Enzymes are Activated by Fulvic Acid**

Whenever we eat, our body sets into motion a complex series of actions designed to break down the foods that we've eaten. It then converts these digested foods into energy and building materials. The actions that take place on the foods that we ingest would not be possible if it were not for enzymes.

Without enzyme activation, food would simply rot in our stomach, elimination could not take place, thought would cease, and we would die. Enzymes are the 'life-force' behind vitamins and minerals.

Obviously, anything that we can do to strengthen and protect these enzymes will further our hopes of maintaining a healthy and active lifestyle.

Since you have only a finite number of enzymes that are available to your body, supplementing them from outside sources (such as with raw fruits and vegetables and enzyme supplements) is an absolute necessity [for more information on enzymes, see Issue #200 – Enzymes and Your Health].

The good news is that the presence of fulvic acid actually increases the activity of several enzymes, including: transaminase, invertase, and alkaline phosphates.

Speaking of the potentiation of certain substances, fulvic acid may also have a positive effect on RNA and DNA. According to several researchers, the actual content of DNA in cells and the synthesis of RNA is enhanced by the presence of fulvic acid. Furthermore, if you supplement with traditional vitamins and minerals, their bioavailability may be enhanced by the addition of fulvic acid.

### **Fulvic Acid and Organic Tissue Growth**

A modern day medical wonder is our ability to actually remove damaged tissues and bones from the human body and replace them with healthy bones and tissues. Unfortunately, such transplantation is also very risky. Transplants of this type are sometimes rejected.

To lower the incidence of rejection the most desirable donor tissues come from alternate sites of the same body. Unfortunately, this requires a separate surgery. Extra incisions mean more discomfort and a longer period of healing. The only other alternative is finding a donor from other sources.

In one experiment, patients who required the replacement or transplantation of bone were treated at the University Hospital in Freiburg, Germany using fulvic acid as part of the therapy. Due to the lack of human donor tissues, animal bone in the form of bovine calcium hydroxyapatite, an inorganic calcium compound, was used.

Two problems with such a procedure is that neither animal bones or inorganic calcium are readily absorbed by the human body. However, these problems were circumvented with the use of fulvic acid.

When fulvic acid was inserted into the animal bone before replacement, the patients experienced dramatically improved regeneration of the transplanted bones.

The fulvic acid was so readily accepted and used by the patients that their bodies became highly osteoconductive. This means that new bone tissue began to form at an accelerated pace, thereby enhancing growth and healing. The inorganic calcium was also absorbed by the body due to the fact that the fulvic acid had transformed it into an organic compound. At the end of the experiment it was noted that, without the introduction of fulvic acid into the bone tissues, healing was not accelerated and regeneration did not take place.

### **Cell Wall Permeability and Absorption**

As with any product or nutritive supplement, the only way that your body can benefit from it is after it has been absorbed. The same is true of plants. Before a plant can properly process minerals, vitamins, and other nutrients, they must be incorporated into their structure. Fulvic acid actually enhances this absorption process.

Prior to elemental minerals being converted and stored by a plant as plant tissue, fulvic acids begin to ionize them. Without fulvic acid, the substances that surround plants would not be able to be absorbed since the root 'hairs' are single ion chambers that pull nutrients into them ion by ion.

However, when fulvic acid acts upon a substance its molecular size and weight is altered. This enables it to pass through cell membranes – including the semi-permeable membranes that line your intestines.

When searching for organic, plant-derived minerals, make certain that they contain fulvic acid. This will ensure that you get the highest quality available.

### ***ITS ALL ABOUT OXYGEN AND FULVIC TRACE ELEMENTS***

**By living true to ourselves, true to our feelings, we are living true to God. It's that simple.**



# NEW BIOSPHERE AGRICULTURE

!

**Fulvic Electrolyte by ECS™** is a liquid source of water-soluble trace minerals that can stimulate microbial activities in soil, and encourage new growth in roots and plants, when properly applied. Proper use of **Fulvic Electrolyte by ECS™** helps reverse soil compaction, enabling oxygen-producing life forms in soil to function more effectively.

How does the use of this product improve my soil?

**Fulvic Electrolyte by ECS™:**

- Opens some of the most tightly compacted soils, allowing aerobic microbes to breathe, improve and increase their work.
- Improves soil aggregation (tilth), allows water and oxygen to penetrate the soil surface and is then readily available to the root systems of your plants.
- Chelates minerals and other soil nutrients improving their availability to your plants, and their transportability into and within plants.
- Binds toxic metals from soil by forming insoluble aggregated spheres around the toxic metals.



This field of new corn (not treated with ECS Biological Products) is suffering from soil compaction and a high water table. Standing water from heavy rainfall is unable to penetrate the soil and drain, thus is drowning the new growth.



This photo (also taken 6/18/2008) shows a new corn crop in the same area where ECS Biological Products were applied properly. Excess water is readily able to drain and the crop is thriving.

**“Fulvic Electrolyte by ECS™ works to reverse soil compaction.”**





## ***The Fulvic Phenomenon***



The term ‘phenomenon’ describes something extraordinary or remarkable. It is often used when reporting record-breaking sporting successes or the marketing achievements of pop culture icons. The term is rarely used outside of this reporting of events and persons. Australian swimming star, Ian Thorpe, is a sporting phenomenon, and the rocket-like rise of the Internet is a media phenomenon. Now a rapidly accumulating body of scientific research suggests that a single, low-molecular weight, organic material, called fulvic acid, could justifiably be termed an agricultural phenomenon. Solid science has now catalogued a vast array and variety of benefits associated with this material, and some of these will be analysed in this article.

## **What is Fulvic Acid?**

The majority of growers interested in improving soil and plant nutrition will now be familiar with humic acid. Fulvic acid is, in essence, the principal ‘active’ ingredient in humic acid. It is the driving force behind the performance of all humate-based materials. Humic acids are exceptional materials in their own right, but many of their beneficial features are actually related to their fulvic component.

Fulvic acid is more biologically active than humic acid. It contains more oxygen, less carbon and is markedly more acidic than humic acid. Fulvic acid has a much lower molecular weight, providing more potential for mobility within the plant, which in turn facilitates a greater influence on metabolic processes. Fulvic acid is the ‘fast food’, the ‘Colonel’s recipe’ in the success of humates in agriculture. It is far more versatile than humic acid, and it is arguably the most valuable input in biological agriculture.



## Fulvic 1400™ – Bio-Active Fulvic Acid Concentrate

NTS have identified an exceptional quality fulvic acid and secured exclusive marketing rights for this standout product.

[Fulvic 1400™](#) (Bio-Active Fulvic Acid Concentrate) was released on July 1, 2000, and the first shipment sold out within ten days. It continues to be a NTS top seller today.

### The Electric Life of Plants

Fulvic acid is a powerful organic electrolyte, which can balance and energise all cells (microbe, plant, animal or human). An electrolyte is a substance, soluble in water and other mediums, which is capable of conducting electrical current. In a 1926 publication called ‘A Bipolar Theory of Living Processes’ by Dr George Crile, it was demonstrated that the physical well-being of plants, animals and microbes is determined by proper electrical potential. In Dr. Crile’s famous, much-repeated Amoebae experiment, he reduced the normal 20 Millivolt electrical potential of the amoebae to zero, and the amoebae began to disintegrate in much the same way that human cells change form and structure as death approaches. The addition of an electrolyte dramatically reversed the situation, with the amoebae immediately resurrecting and returning to its former healthy state. The significance of the restorative powers of fulvic acid in the human situation has not been overlooked. Fulvic acid is the ‘hot’ new kid on the block in alternative medicine (check the Internet). Fulvic acids contain electrolytes that are essential for the well-being of plants. They serve as tiny battery chargers, providing a constant trickle-charge for each cell. Maintaining maximum electrical potential in plants equates to optimum growth, yield and plant health. Fulvic acid can restore electrical balance that has been disturbed during stress periods (i.e. storms, temperature extremes and disease), and this can be the key to the restoration of plant health.

### The Fulvic Soil Cleanup

Modern agriculture showers the soil with toxic residues. Residues from herbicides, pesticides and fungicides combine with heavy metals from acid-treated fertilisers, toxins from polluted water supplies and even unwanted industrial pollutants in our rainfall. The end result can be a soil-life environment that is far removed from the elementary comfort zone preferred by beneficial microorganisms. Fulvic acid is the solution to this toxic overload. This incredibly absorbent material is a powerful detoxifier. Humic acid has a very high CEC of 450, but fulvic acid is like a toxin-sponge with a CEC of 1400. If a child accidentally ingests poison, the first treatment is invariably activated charcoal, which absorbs the toxins in the body before they can continue causing cellular damage. [Fulvic 1400™](#), with its CEC of 1400, acts in much the same way in the soil, although here the toxins are not just isolated and concentrated, they are also biodegraded more rapidly.





## The ‘Honeypot’ Effect

Leading US microbiologist, Professor Elaine Ingham, has demonstrated the fact that even the most biodegradable of chemicals like Glyphosate herbicides do not rapidly break down in soils that are ‘microbially challenged’. Unfortunately the majority of our soils now fall into this ‘challenged’ category, often due to toxic residues. When fulvic acid absorbs and stores these toxins, it also precipitates the biological degradation of these unwanted materials. In soils with limited microbial activity, fulvic acid can be such a potent microbial promotant that sparse populations of microbes are drawn to the fulvic colloid like bees to a honey pot. This ‘honey pot effect’ catalyses rapid and efficient biodegradability in soils where it could normally be expected to take months or years until the poisons were naturally removed.

Humic acids also exhibit these detoxifying qualities, but the fulvic detox response is more pronounced, due to a greater capacity to ‘bind’ with organic and inorganic pollutants, and also due to the fact that fulvic acid is more leachable than humic acid and can cart the remaining toxins along on its journey down through the soil profile.

## The Fulvic Dissolver

Fulvic acid has a unique capacity to dissolve insoluble materials. Research suggests that iron, a poorly transported mineral, essential for all plant life, is dissolved, complexed and transported into the plant much more efficiently in the presence of this organic acid. A low-molecular weight piggyback ensures easy access and improved translocation of the iron cation.

Fulvic acid also solubilises potassium. Potassium is the most expensive of the minerals from a fertilising perspective, but large reserves are present, in insoluble form, in all but the lightest of soils. Potassium released by the ‘fulvic dissolver’ will reduce fertilising costs.

Silica is the flavour of the month in soil science circles. Fulvic acid has a particularly strong solubilising potential for silica. Water-soluble silica performs a similar role to calcium, strengthening cell walls and building brix levels.

Research also confirms enhanced phosphate solubility and stability, but silica, potassium and phosphate are all more susceptible to fulvic solubilisation in the presence of iron. Fulvic acid has an affinity for iron and can actually transport three to ten times its own weight of this metal. The mineral products most susceptible to disintegration by fulvic acid are those that contain the highest percentage of iron. [NTS Soft Rock Phosphate™](#) contains phosphorous (10%), silica (25%) and iron (2%)\*. The solubility of this product could definitely be enhanced by fulvic acid. Rock dust also contains good iron levels, and most rock mineral fertilisers will perform better with fulvic acid.



\*These percentages may vary. Please refer to Product Information Sheet for up to date analysis.

## **A Chelator And Penetrator**

Fulvic acid is a highly efficient chelating agent, and the benefits of chelation are further magnified by an increased permeability of plant membranes achieved by cell-sensitizing agents in the acid. This increased permeability translates into improved uptake of all nutrients and moisture. In fact, any material that is applied in conjunction with fulvic acid, will be absorbed more efficiently. A related improvement in the efficiency of herbicides is one obvious benefit of this particular feature. There is also obvious potential for improving the performance of applied fertiliser when the desired element can be chelated, rendered more penetrative and also more efficiently transported into the plant via a piggyback on the back of the ultra-small fulvic molecule.

## **Oxygen Enhancement, Brix-Building And Drought Resistance**

Oxygen is the most important element for microorganisms, and it also comprises an essential ingredient of the photosynthesis trio – sunlight, carbon dioxide and water (H<sub>2</sub>O). The fulvic acid molecule itself contains significant oxygen levels, but several researchers have also confirmed that oxygen is absorbed more intensely in the presence of fulvic acids. During the most vigorous phase of the growth stage and during the initial reproductive (fruiting) stage, biochemical processes are most active, and there is a heavy oxygen requirement to sustain these processes. Fulvic acid, supplied at these stages, relieves oxygen deficiency and increases metabolic activity.

Similarly, some of the adverse effects of dry air during drought can be reduced if the cell is able to assimilate increased quantities of oxygen. Improved drought resistance is also related to the brix building capacity of fulvic acid. Fulvic acids change the pattern of metabolism of carbohydrates, resulting in the accumulation of soluble sugars (high brix). These sugars, in turn, increase the pressure of osmosis inside the cell wall, which helps the plant to withstand wilting in hot conditions. This high brix and improved oxygen uptake are drought resistance features and when we also consider the sponge-like absorbency of the fulvic molecule, there is the potential for substantial benefits for dryland farmers.

## **The Fulvic Phenomenon – Other Benefits**

Fulvic acid contains an auxin-like growth response that enhances cell division and elongation. Root cell division is magnified with obvious benefits for all root crops. Potatoes have proven particularly responsive to fulvic acid promotion. Fulvic acid also directly influences numerous enzymatic processes, including the intensified metabolism of the proteins RNA and DNA. This is relevant to broadacre cereal growers chasing a premium for prime hard wheat. Fulvic acid contains considerably more free radicals than humic acid, and this is part of the optimal plant health package.

Seed treatment with fulvic acid can be very productive. Succinic and fumaric acid compounds, found within fulvic acids are biological promotants, encouraging earlier growth, more roots and more shoots. Several research projects have reported increased crop yield from seed treatment alone. Finally, fulvic acid can substitute for or interact with sunlight to enhance photosynthesis. This can be particularly valuable during prolonged cloudy periods.

All these listed benefits are documented at length, with full research references, in Dr William Jackson's award-winning, 1000-page book on humic and fulvic acids, entitled 'Organic Soil Conditioning'. Fulvic acid is indeed a phenomenon – it is the single most productive input in agriculture – a potential magnified by versatility.

## **Fulvic 1400™ Versatility**

- 1) [Fulvic 1400™](#) can be combined with all sulphate-based trace elements to provide an inexpensive chelating option.
- 2) Unlike humic acid, which is incompatible with calcium nitrate, Fulvic 1400™ can be combined with calcium nitrate to chelate the calcium component and stabilise the nitrogen component.
- 3) Unlike humic acid, Fulvic 1400™ is compatible with all fertilisers containing soluble phosphate, including phosphoric acid. Phosphate uptake is enhanced, and soil phosphate levels are stabilised.
- 4) [Fulvic 1400™](#) will increase the uptake of any material, including fertilisers and systemics.
- 5) [Fulvic 1400™](#) can lengthen the performance time of urea by up to 80 days.
- 6) According to recent South American reports, fulvic acid can increase the uptake and translocation of phosphorous acid based fungicides. Fulvic 1400™ is compatible with phosphorus acid.

Note: Humic acid in the form of soluble humates, although not as versatile, is still preferable to Fulvic 1400™ for soil applications, as this material has more long-term stability.





## **FULVIC PRODUCTS and the THREE COMPONENTS of HUMIC SUBSTANCES:**

Fulvic Products are the most advanced natural plant growth bio-stimulant in the industry today. Based on patent-pending molecular extraction technology Fulvic Products are a completely natural and safe product for all plant. As the technology is based on biology and physics and does not rely on use of harsh chemicals this product would be eligible for use in organic production.

Fulvic Products are the purest and most highly concentrated bio-stimulant containing Fulvic acid that is commercially viable and economical to use currently in the industry. Fulvic acid is an important component of humic substances. The process targets a specific molecular spectrum of humic substances we refer to LMWHS (Lower Molecular Weight Humic Substances) as we believe it is this spectrum that provides the most bio-stimulant benefits. Fulvic acid is at the heart of the LMWHS.

### **A brief overview of humic substances and the three main components:**

Humic substances are compounds that naturally exist in fertile soils everywhere, and provide rich soils their characteristic black colour. Humic substances have been well researched by hundreds of research scientists in North America and internationally over the last several decades. These studies have documented the various benefits of humic substances to plant health and growth. Humic substances are categorized into three basic components:

- **Humin**
- **Humic acid (HA)**
- **Fulvic acid (FA)**

**Humin** is an insoluble material and represents the largest molecules in the spectrum humic substances, although the actual percentage is small. This component is an excellent soil conditioner giving soils the ability to hold water, and gives it its aggregate quality.

**Humic acid** provides the bulk of the humic substances, that is, the largest component by weight – up to 80%. HA molecules are smaller than their humin counterpart but still remain mostly insoluble. HA acts to condition the soil and has the ability to combine with many minerals and elements and aids in the uptake of nutrients. HA exhibits some weaker bio-stimulant properties.

**Fulvic acid**, the third and final category, has the lightest molecular weight of the three components. Only a small fraction of humic substances contain FA. It is 100% soluble in water, has a much greater chelating or complexing ability than the other two categories, as well exhibiting significant effects on plant growth. These molecules are so small that they will pass through the plasma membrane of living cells. Once they enter into a plant these molecules translocate quickly throughout the plant. Extensive research has demonstrated the following effects: increasing top and root growth, increasing photosynthesis action and chlorophyll density, forming soluble complexes with many plant nutrients, increasing crop / fruit production, and water efficiency, among other things. FA therefore exhibits the most plant growth bio-stimulant characteristics of the three components. It is the most biologically active fraction of the all three of the humic substances.

The proposed plant in Australia will process the "raw" humic substance, oxidized lignite, to create the

product (Fulvic acid/Lower Molecular Weight Humic Substance). In the process of doing so, they will produce as a by-product Humic acid in the form of Microhumate (approx. 10% Grade HA) and Humin.

In terms of production, they produce approximately the same volume of FA in liquid form as they will with the HA as a by-product. So if they produce 3 million litres of product per year, they will have approximately the same volume of the Microhumate, our Humic acid product.

They will also produce about 1,000 – 1,500 tonnes of the Humin powder. The Humin powder is basically the "waste" material, but does have very good agricultural applications as soil conditioner. If the Humin cannot be sold, it can simply be turned over to the general waste of the coal plant.

### **Application rates of the three components:**

Regarding the application rates of the three components of humic substances, here are some very general guidelines. They can provide more accurate application rates and timing of applications when they know the type of crop or plant, the method of cultivation (field or greenhouse, etc), the general soil conditions, etc:

**Humin application:** General application rate is approx. 450 kg per hectare (180 kg per acre), worked into the top layer of the soil. These are the heaviest molecules of the three components, and are much slower in biological activation. Humin generally stays in the soil and isn't leached away easily.

**Humic acid application:** General application of our 10% Grade HA product is about 45 litres per hectare (19 L per acre) once per season and is applied directly to the SOIL. Generally it should be applied pre-plant (before crop is planted), but it may be applied post-plant if we are looking at perennials or established plants. The molecular size of HA is much larger than the FA such that Humic acid is not amenable for foliar applications and does not translocate into plant cells easily.

**Fulvic acid (the 2% Grade product):** 4 litres per hectare (1.6 litres per acre) 2 – 3 times per season. FA is best applied directly to the LEAF tissue as foliar spray. This is due to the fact that the molecules are so small they will enter the plant cells quickly. It is best applied with a small amount of wetting agent in the spray to help open up the cuticle layer of the leaves to allow better entry of the FA molecules. If the cuticle layer is extremely thick as it is in some plants such as cacti or pine needles, then it is best applied as a soil drench around the roots, and the roots will directly absorb the Fulvic acid. The soil drench method will use more FA due the fact that more volume is needed for this type of application. FA is not recommended for broad soil applications due to the fact that it is 100% soluble and may be leached away by heavy rains. It's important to keep in mind that the FA (Lower Molecular Weight Humic Substance) is the most biologically active fraction and has the most significant bio-stimulant properties in the spectrum of humic substances. Therefore Fulvic acid remains our primary recommendation for most applications.

### **FULVIC products & AGRICULTURE:**

Fulvic products dramatically enhances the growth of plants and increases of crop yields up to 77%. When applied, Fulvic products assist plants in a more efficient assimilation of minerals and water.

Fulvic products can also significantly enhance the ability of plants to withstand a variety of climatic stresses, including heat and drought, and the ability to absorb hard to assimilate nutrients in marginal soils. Fulvic products can thus be applied increasing or protecting yields.

Fulvic products have wide applications throughout the agricultural and horticultural sectors. These markets may see the following benefits:

- **Viticulture** – higher brix values of grapes and improved wine quality.
- **Turf Industry** – increased nutrient response, enhanced water efficiency.
- **Greenhouses** – improved nutrient absorption, rapid growth of vegetables, and increased number of flowers.
- **Vegetable crops** – significant impact on cash value crops via increased yields or size.
- **Bio-diesel feedstock** – increased yields of oil producing crops.
- **Home Lawn and Garden** – improved nutrient absorption and stress tolerance.
- **Grains and Cereal Crops** – increased crop yields and/or reduced fertilizer costs, and ability to apply by aerial spray.
- **Fruit and Berry Production** – faster growth of young orchards, increased bud development and fruit production.
- **Hydroponic and Aeroponic** – can be mixed with soluble fertilizers for enhanced delivery of nutrients to roots; buffers the pH of hydroponic solutions.
- **Golf Courses and Municipal Parks** – greater water use efficiency and reduced costs. Effective in helping to maintain turf with reduced reliance on chemical inputs.
- **Flower and Ornamental Nurseries** – more rapid growth of container species of shrubs and trees and greater stress tolerance; eases transplant shock.
- **Bio-remediation and Restoration** of poor soils including remediation of soils contaminated by petrochemical by-products and heavy metals – activates microbial activity to improve soil health and helps proliferate and stimulate indigenous bacteria that help to break-down hydrocarbons.

The Fulvic product is produced from a specific type of soft brown coal. Although brown coal is a naturally occurring raw material this specific type is not universal. However, Australia is the source of high quality deposits, and the company has identified and is in the process of securing a potential supply of approximately 40 million tonnes.

Fulvic products requires three to four applications per year at four litres per hectare depending on the type of crop, and it may be applied in combination with most fertilizers or chemicals without

compatibility issues, thereby saving further application costs and allowing it to be used as an additive to other products.

## **PRODUCT BENEFIT SUMMARY**

### **Economic**

Fulvic products brings additional yields in crop production that will more than offset the cost of the Fulvic products application, such that farmers can realize significant increases in revenue. Thus Fulvic products have far reaching and significant economic impact.

### **Risk reduction**

Fulvic products assists in yield maintenance under stressed conditions such as drought and heat, providing added stability to the yields and alleviating some of the “boom or bust” cycle in agriculture. Fulvic products can also help increase crop production in areas of the world which face shortages due to drought, poor soil conditions or lack of sufficient fertilizer inputs.

### **Benefits to the Environment**

Fulvic products is a substance that is 100% organic, natural, and safe and so does not contribute in any way to chemical pollution. It eases the transition from chemical farming to organic methods by assisting plants to grow with less farm inputs. In fact, there have been studies that show that fulvic acid, the key ingredient of Fulvic products, has been successfully used for in situ soil remediation of sites contaminated by petrochemicals and in scrubbing out radioactive contaminants in the soil.

### **Carbon Sequestration – Climate Change**

There is an added environmental benefit that needs to be noted in the use of Fulvic product’s ability to increase overall growth. It is this ability to increase root biomass that increases the removal of carbon dioxide from the atmosphere. This carbon is stored first in roots, and then becomes part of the soil humus via microbial decomposition and stabilization. This carbon-removal process helps to alleviate global warming.

## **ENVIRONMENTAL BIO-REMEDIATION**

A research enterprise has developed proprietary techniques utilizing Fulvic products and various fractions of humic substances derived from separation technologies for the remediation of hydrocarbon and heavy metal contaminated soil and water sites. Bio-remediation using humic substances is not yet widely recognized but there has been recent research that supports this direction. The company is at the forefront of this pioneering industry and the technology represents a new paradigm in environmental remediation.

FA, being the key ingredient of Fulvic products, acts as a bio-stimulant to specific oil consuming microbes resulting in accelerated breakdown of hydrocarbons. Therefore, this technique allows for in situ remediation of contaminated sites, rather than the traditional excavate, transport and treat / dispose methods currently being used. This novel method, combined with other microbial support techniques, represents tremendous cost savings, and does not contribute to further pollution or large disruptions to the ecology of the site. The technique of using Fulvic products and microbes for soil remediation is not easily acquired since successful remediation also depends upon proper soil management practices that

must accompany the remediation process. The company has significant experience and expertise in this regard and they possess the ideal skills set in order to pioneer this environmental approach to soil and water remediation.

For heavy metal contamination, the utilization of the high CEC (cation exchange capacity) of Fulvic products to bind with heavy metals in combination with “liquid recovery” techniques to collect heavy metals for proper disposal. Also, as they have the ability to separate the various components of humic substances, and utilize each component for specific purposes in the remediation process. As an example, following the Fulvic products “bind and remove” technique, residual metals could be adsorbed by another component of humic substances and sequestered; thus rendering them immobile to leaching and plant uptake.

To achieve their goal of quickly entering into the environmental remediation market the company will form an alliance, or subcontract with an established remediation engineering company, who will provide the equipment and engineering expertise, while they provide specialized bioremediation, sequestration or removal expertise.

**Potential human benefits:**

- Nutrient chelator – keeps trace elements soluble for delivery to tissues
- Stimulates biosynthesis via increased respiration
- More rapid healing of skin from sunburns and cuts
- Reduces recovery time after exercise
- Appears to have some immune system boosting effect
- Anti-mutagenic and anti-carcinogenic properties

**Note:** Research on the human benefits of humic substances is ongoing, and the literature is still incomplete due to a large amount of proprietary information.

The product appears to have two main modes of action. First, it complexes (chelates) trace metal nutrients, like iron, manganese, zinc and copper; and keeps these nutrients soluble until delivered to target cells. Second, it accelerates biosynthesis by stimulating cell respiration.

Fulvic acid has been demonstrated to be useful for a wide variety of skin related conditions:

- Psoriasis, eczema, seborrheic keratosis, pruritis and actinic keratosis.
- Has anti-bacterial, anti-fungal, and anti-viral properties.
- Has anti-inflammatory and anti-allergic properties.
- Stimulates healing.
- Useful in treatment of allergic diseases.
- Anti-mutagenic and anti-clastigenic effects, preventing genetic material from mutating – a key factor in skin cancer prevention.

### **CHARACTERISTICS OF FULVIC ACID – FULVIC ACID MAJOR ATTRIBUTES:**

Dr. Senn has worked with Live Earth / Rich Earth and other similar products over a period of 40 years.

Below is a listing of some of the benefits of humate written by Dr. Senn.

- Participates actively in the decomposition of soil forming rocks, minerals, and organic material, “new” soil formation.
- Improves soil structure formation and aeration.
- Changes the physical properties of the soil and water holding capacity.
- Exchanges capacity of buffering properties and nutrient availability.
- A source of plant nutrients, macro and micro.
- Promotes the conversion (chelation) of a number of elements into forms available to plants and nutrient uptake.
- Aids in correcting plant chlorosis, micronutrients.
- Supplies compounds linked with humic substances in the form of chelates and biochemical active.
- Increases the permeability of plant membranes and promotes the uptake of nutrients.
- Presence of auxin type reactions plant growth.
- Improves the growth of various groups of beneficial micro-organisms.
- Regarded as an organic catalyst to all reactions.
- Enzyme systems are intensified (hormones).
- Cell division is accelerated auxins and hormones.
- Functions as a respiratory catalyst and food storage.
- Increases the germination of the seed, absorption.
- Root systems show greater development, cell division, and enlargement.
- Yield of dry matter increases plant efficiency.
- Healthier, stronger plants withstand pests and diseases more effectively.
- Longer shelf life or storage time and hormones.
- Decreases stress deterioration.

Scientific terminology and references have not been used purposely in order to make for speed and ease of reading. Scientific reference to any particular crop was not made as most plants have the same basic fundamental processes of growth and development.

#### **Characteristics of Fulvic Acid**

Fulvic acid is rapidly on its way to developing the health of healing miracles of the 21st Century. Interest in the medical community has been escalating rapidly in the past few months as Scientists and Doctors throughout the world are beginning to discover fulvic acid and are starting to recognize its extraordinary potential. This will increase dramatically now that we are beginning to release our information to the world via the Internet. We are now receiving requests for supplies of fulvic acid and its related information from prestigious scientists and research clinics in the United States and abroad. The excitement that is being generated is simply amazing. In reviewing and evaluating these reports, it is important to bear in mind that leading scientists agree with Roger J. Williams in recognizing the following fact; "the building blocks present in the metabolic machinery of human beings are, in the great

majority of cases, exactly the same as the building blocks contained in the metabolic machinery of other organisms of extremely different types." ....Roger J. Williams

The majority of research and experimentation that has been done on fulvic acid is in relation to plants. Yet human beings have been ingesting fulvic acid complexes regularly for over 60 years in supplemental form, and for thousands of years from natural food and plant sources. Accumulating testimonies continue to show that the beneficial properties related to plant studies and cells hold true in relation to animals and humans as well, as clinical research is currently underway, and updated information will be forthcoming. Preliminary findings show that the most prominent diseases and health problems of our day have been dramatically affected in positive ways by supplementation or treatment with fulvic acid and other preparations enhanced or created with fulvic acid. Uses are beneficial to humans and are not the only focus here. The known agricultural benefits have enormous potential to heal the world. Yet the majority of the agricultural community is critically unaware of the implications. Industrial use for treatment of sewage and landfill wastes, neutralization of radioactive and toxic wastes, and a myriad of other uses are just beginning to be realized. Fulvic acid has the potential to heal the Earth!

### **Fulvic Acid Major Attributes**

#### World's Finest Electrolyte

Fulvic Acid is an organic natural electrolyte that can balance and energize biological properties. It comes into contact with 2 in electrolyte as a substance that is soluble in water or other appropriate mediums that is capable of conducting electrical current. The power of an electrolyte that has been shown in separate tests on animal cells (giant amoebae); to be able to restore life in what researchers termed "a beautiful demonstration" and "astonishing." When the electrolyte potential was taken away during the test, the cell ruptured and disintegrated into the surrounding fluids causing death. These studies show convincingly that the physical well being upon reintroducing electrical potential, enabling cells reconstruction to become active and healthy. It was also determined from these same studies, that similar results could be expected of the progressive weakness among humans resulting from: unchecked haemorrhages, overwhelming emotional stress, uncontrolled infections, unbalanced diet, prolonged loss of sleep, and surgical shock.

These examples are all accompanied by a steady decrease in electrical potential that can eventually be reduced to zero at death. These studies show convincingly that the physical well being of plants, animals, and humans is determined by proper electrical potential. Fulvic acid has proven to be a powerful organic electrolyte, serving to balance cell life. If the individual cell is restored to its normal chemical balance thereby turning its electrical potential, we will have given life where death and disintegration would normally occur within plant and animal cell. Fulvic acid has the outstanding ability to accomplish this objective in numerous ways.

#### Promotes Electrochemical Balance as Donor or Receptor

Fulvic acid is available at times as an electron donor and at other times as an electron acceptor, based on the cells requirement for balance. One reaction that occurs is when the chemical species loose electrons as a donor. The other reaction is a reduction in which the active species gains electrons as an acceptor.



A recent study of the binding donor molecule to fulvic acid in a solution revealed direct evidence for donor-acceptor charge transfer mechanisms.

Trace minerals in the fulvic acid electrolyte could also be beneficial in this process by serving as electrode.

#### Most Powerful Natural Free Radical Scavenger & Antioxidant Known

Free radicals of fulvic acid behave as electron donors or acceptors, depending upon the need for balance in the situation. Fulvic acid can in some ways take part in oxidation-reduction with transition metals reactions.

#### Complexes Dissolve Minerals & Trace Elements

Fulvic acid is especially active in dissolving minerals and metals when solutions are in water. The metallic minerals simply dissolve into ionic form, and disappear into the fulvic structure becoming biochemically reactive and mobile. The fulvic acid actually transforms these minerals and metals into elaborate fulvic acid molecular complexes that have vastly different characteristics from their previous metallic mineral form.

Fulvic acid is nature's way of "chelating" metallic minerals, turning them into readily absorbable bioavailable form. Fulvic acid also has the unique ability to weather and dissolve silica that it comes in contact with.

#### Enhances Nutrients

Fulvic acid enhances the availability of nutrients and makes them more readily absorbable, allowing minerals to regenerate and prolong time of essential nutrients. It prepares minerals to react with cells and allows minerals to inter-react with one another, breaking them down into the simplest ionic form, chelated by the fulvic acid electrolytes.

#### Transports Nutrients

Fulvic acid readily complexes with minerals and metals making them available to plant roots and easily absorbable through cell walls. It makes minerals such as iron, that are not usually very mobile, easily transported through plant structures. Fulvic acids dissolve and transpose vitamins, coenzymes, auxins, hormones, and natural antibiotics that are generally found throughout the soil making them available.

These substances are effective in stimulating even more vigorous and healthy growth, producing certain bacteria, fungi, and actinomyces in decomposing vegetation in the soil. It has been determined that all known vitamins can be present in healthy soil. Plants manufacture many of their own vitamins, yet these from the soil further supplement the plant. Upon ingestion animals and humans easily absorb these nutrients, due to the fact that they are in the perfect natural plant form as nature intended. Fulvic acid can often transport many times its weight in dissolved mineral elements.

#### Catalyzes Enzyme Reactions

Fulvic acid has close association with enzymes that increases activity of enzymes and especially influences respiratory catalysts. Fulvic acids increase the activity of several enzymes including alkaline phosphates, transaminase, and invertase.

#### Increases Assimilation

Fulvic acid organic metal complexes are of a low molecular weight, low molecular size, and are capable of a high degree of penetration into cells. Fulvic acid complexes and chelates are able to readily pass through semi-permeable membranes such as cell walls. It is important to note its been determined that fulvic acids not only has the ability to transport nutrients through cell membranes, but also sensitizes cell membranes and various physiological functions as well.

#### Stimulates Metabolism

Fulvic acid appears to cause the genetic mechanism of plants to function at a higher level. It has been concluded that when plant cells are exposed to fulvic acid it can improve growth. Oxygen is absorbed more intensely in the presence of fulvic acids. Fulvic acid aids in penetrating plant roots, relieves oxygen deficiency, increases the vital activity of cells, and changes the pattern of the metabolism of carbohydrates, resulting, in an accumulation of soluble sugars. These soluble sugars increase the pressure of osmosis inside the cell walls and enable plants to withstand wilting, which enhances growth stimulation to the immune system.

#### Detoxified Pollutants

An important aspect of Fulvic acid is related to their sorptive interaction with environmental chemicals, either before or after they reach concentrations, toxic to living organisms. Fulvic acid rapidly detoxifies the toxic herbicide known as Fulvic Acid rapidly detoxifies Paraquat. It has a special function with respect to the demise of organic compounds applied to soil as pesticides. Fulvic acid is vital in helping form new species of metal ions, binding with organic pollutants such as pesticides and herbicides, and catalysing the breakdown of toxic pollutants. Radioactive substances react rapidly with fulvic acid, and only a brief time is required for equilibrium to be reached.

All radioactive elements are capable of reacting with fulvic acid and thus forming organo-metal complexes of different absorptive stability and solubility.

#### Dissolves Silica

Fulvic acids are especially important because of their ability to complex or chelate metal ions and interact with silica. It has been shown that these interactions may increase the concentrations of metal ions and silica found in water solutions to levels that are far in excess of their assumed dissolution ability.

#### Synthesis

Fulvic acid complexes have the ability to bio-react one with another, and also inter-react with cells to synthesize or transmute new mineral compounds. The transmutation of vegetal silica and magnesium to form calcium in animal and human bones is a typical example of new synthesis of mineral's.

#### Enhances Cell Division and Elongation

Fulvic acid stimulates and balances cells, creating optimum growth and replication conditions.

#### Enhances the Permeability of Cell Membranes

Fulvic acids act as specific cell sensitizing agents and enhance the permeability of the cell membrane.

#### Increases Metabolism of Proteins

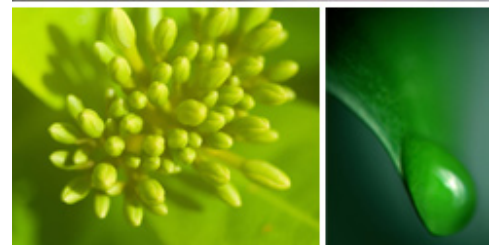
Fulvic acid intensifies the metabolism of proteins. Definitely increases DNA content in cells and increases and enhance the rate of RNA synthesis.

#### Catalyzes Vitamins within the Cell

Fulvic acid has the ability to complex vitamins into its structure, where they are presented to the cell in combination with complexed minerals. In this perfect natural condition, they can be catalysed and utilized by the cell. In absence of adequate trace minerals, vitamins are unable to perform their proper function.

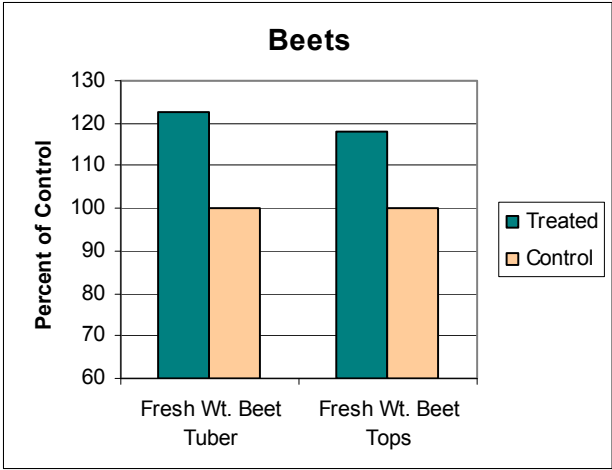
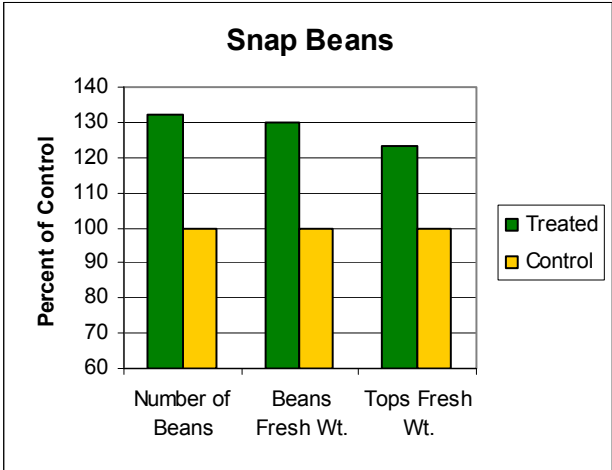
#### Chelates All Monovalent & Divalent Elements to Which It Is Exposed

Fulvic acid has the power to form stable water-soluble complexes with monovalent, divalent, trivalent, and polyvalent metal ions. It can aid the actual movement of metal ions that are normally difficult to mobilize or transport. Fulvic acids are excellent natural chelators, cation exchangers, and are vitally important in the nutrition of cells.

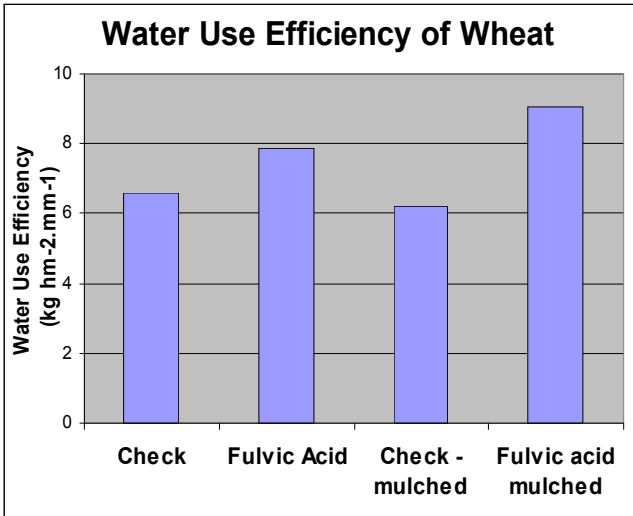
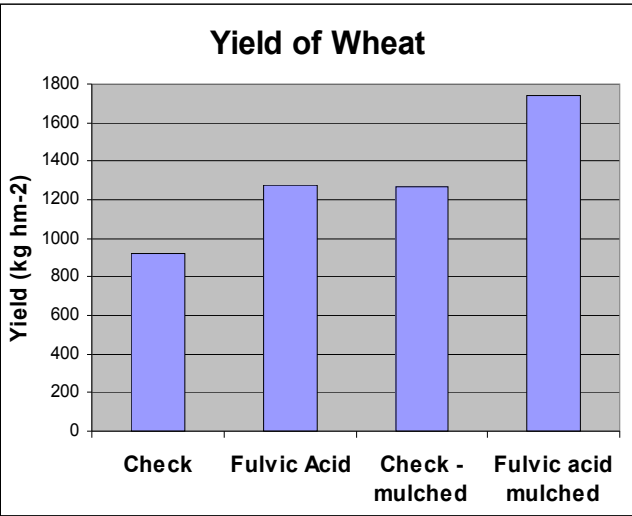




PARC greenhouse – Pacific Agri Research Centre – snap bean trial photo







# At Last!

## From Mother Nature...her most precious and best kept secret!

By: Lyle Loughry,

[The Wellness Group USA](#)

It's called the "missing link" to optimum health and nutrition by leading scientists throughout the world. Medical studies show that this health miracle has the ability to significantly change your life for the better. It's so safe, so powerful and so effective, that healers around the world have used it for thousands of years, with amazing results.

This "missing link" is in our food chain, and scientists can see that rapidly increasing degenerative diseases, worldwide, may well be directly related to the absence of this substance in the human diet.

Experts now know that more than minerals and vitamins are required for health ... this third nutritional element is equally important!

This breakthrough discovery is supported by little-known, and even secret medical research, coming from top institutions around the world; medical schools; hospitals; clinics; and pharmaceutical labs.

As you might expect, pharmaceutical companies are rushing to patent *synthetic* versions of this natural substance, and dozens of patents have already been approved.

An estimated 80% or more of our modern-day pharmaceutical drug miracle cures, including antibiotics, are tiny, isolated and concentrated, *synthetic* fractions of this highly complex, WHOLE and COMPLETE "missing link".

Most of the world doesn't yet know about this medical discovery ... for some very good reasons

Until recently, many scientists just didn't know it existed, they couldn't detect it, and when they did identify this substance, it was so complex that they couldn't understand it. In fact, it's considered to be the most complex substance in the world.

Also, to be candid, some of the medical institutions doing the research are in the business of making enormous profits from developing *synthetic*, patented drugs, and if they could get away with it, you would never know about inexpensive and natural solutions, like this one.

But Mother Nature has them all beat. They'll never be able to match her handiwork, because this substance is far too complex!

While the products *The Wellness Group USA* recommends are all-natural, nutritional supplements (and we can't make claims of treatment or prevention of disease), human clinical studies from around the world show amazing results with nearly every imaginable health condition when even these specialized *pharmaceutical* preparations are used.

These medical studies are now being uncovered, translated, researched, and finally unveiled for all of the world to see.

Once all of the research data is assembled, analyzed, and understood, it points to a profound pattern of serious *dietary deficiency*, worldwide.

The studies show that proper internal and external medical use of even these *synthetic* extracts can be extremely effective for many health concerns. The majority of studies show success rates as high as 90%, or more.

Please understand that we aren't making these claims for our nutritional supplements.

We just want you to know that this valid medical research does exist, and that their successes dramatically point to the same *nutrient deficiencies* we talk about all the time.

We'll be the first to tell you that any supplement recommendation from *The Wellness Group USA* is not a quick fix that's going to solve all of your problems. However, it will give your body some much needed tools, that, through long-term supplementation, can bring about remarkable results.

Massive volumes of agricultural studies point to a pattern of serious deficiency of Fulvic acid in commercial crops, and in livestock. When the deficiency is alleviated, phenomenal results are achieved, including plant resistance to disease and insects; remarkable growth; fruiting; and general health.

In the same way, human dietary supplementation, and even topical use with products containing this substance, is bringing about life changing results for so many!

Here is some of what you might notice, and possibly even expect from a consistent long-term plan of dietary supplementation:

- A supercharge immune system;
- Exceptional health of the thymus gland;
- A balanced thyroid system, primarily due to helping stabilize the immune system;
- Reduced cravings which can help with over-eating;
- Renewed energy and motivation;
- More balanced blood sugar;
- Over time, your body restored to its optimum potential;
- Parasites, pathogens, and viruses purged from your body;
- Your body cleansed, neutralized, and toxins purged:
- Experience less inflammation and free radical damage;
- Experience increased resistance to colds and flu;
- Feel aches and pains alleviated;
- Notice that you become sick less often;
- Relief from common and seasonal allergies;
- Gain improved resistance to infections and disease;
- Feel increased energy and endurance;



- Notice improved skin, nails, and more youthful complexion;
- Feel improved digestion and bowel function;
- Experience increased circulation and oxygenation;

**Fulvic acid increases absorption of oxygen and decreases acidity. It quickly destroys acid in the body fluids which, in turn, helps increase the amount of oxygen in the blood. A lack of blood oxygen is a major contributing factor for acidity.**

Excess body acidity is associated with virtually all degenerative diseases; including cancer, heart disease, osteoporosis, arthritis, kidney stones, tooth decay, sleep disturbances, depressive disorders, and more.

- Feel better and more alert, mentally;
- Experience improved memory and brain function;
- Notice revitalized sexual functions and desire;
- Notice improvement of aging symptoms in the elderly;
- Notice that other supplements and medications work better when taken, concurrently;

Fulvic acid makes all mineral and vitamin nutrients more absorbable by complexing (refining, purifying, combining and re-refining) them into organic, ionic forms that are easily transported into and through membranes and cell walls. Once the nutrients are dissolved and complexed by the fulvic acid electrolyte, they become bio-chemically reactive, bioavailable, mobile, and readily absorbable. In a nutshell, this means you get greater benefit from all your nutrients, whatever the source, when fulvic acid is present.

- And, to summarize; enjoy a greater sense of well-being, within weeks, within days ... sometimes almost immediately!

Hundreds, even thousands of years of traditional medical research, and now ... even modern medical research, points directly to all of the above mentioned benefits. So what exactly is this miraculous substance?

It's called ***Fulvic acid*** (not to be confused with *folic acid*, an unrelated vitamin), and it's the powerful driving force in our just-released, *New Life Living Minerals from Nature* dietary supplement.

Fulvic acid has been most appropriately referred to by some scientists as Mother Nature's "milk". It not only *nourishes* our bodies, it *transmits* immunity and a shield of protection to all living things.

This "milk" has been devised by our Creator with the ability to easily penetrate, nourish, and react with every living cell, human, plant, animal, and even microscopic organisms, both good and bad, selectively.

Hundreds of advanced studies coming from scientists all around the world proclaim the benefits of Fulvic acid to be "incredible", "amazing", "miraculous", "magical", "phenomenal"!

*"If the Creator felt that it was necessary to design something to solve multiple problems, and if this*

*Creator wanted to show us the magic and miracle of pulling 'rabbits from a hat,' then an outstanding job was done with the design of fulvic acid! --Dr. William R. Jackson, Ph.D.*

ONE OF MANY REASONS for these exclamations of excitement involve the *effects* that Fulvic acid has when dissolved in water (or combined with body fluids).

Fulvic acid is the smallest, most complex, most highly refined, naturally-occurring water soluble substance on Earth. Tiny amounts remarkably transform the molecular structure of water, making it intensely more active and penetrable.

Fulvic acid then assists water in its job of dissolving and transporting. It helps carry nutrients into the cell and waste products away from the cell, while also helping to neutralize toxins and invaders.

An example of the penetrability of Fulvic acid is its dramatic ability to even penetrate deadly ultra-microscopic viruses.

Viruses are super small, and live deep inside the cells of plants, animals, and humans. Viruses even live inside other microscopic disease-causing organisms, where they "hitch-a-ride", so to speak. Viruses encapsulate themselves within an impenetrable protein barrier where defense mechanisms cannot get to them.

Fulvic acid helps to *dissolve* their barriers, *penetrate* their strongholds, and *neutralize* viruses and their poisons.

Fulvic acid also helps make the viruses vulnerable to attack by the immune system. But this is only the beginning.

Fulvic acid also has the amazing ability to alert the immune system to the virus or disease invader ... AND to regulate and give strength to the immune system!

Fulvic acid is produced by the action of billions upon billions of microscopic plants, such as yeasts, algae, and fungi, all participating in the process of *decomposition* of once living matter, and it's the most HIGHLY REFINED, natural water-soluble substance on Earth.

Every living organism on Earth; plant, animal, and you and me, experiences a lifelong battle against viruses, infections, and disease, and we've been losing this battle in recent years, in case you hadn't noticed.

This intense battle for survival continues, and even becomes more intense among soil-based microscopic plants, during decomposition.

Billions upon billions of defense mechanisms are produced, passed down, and *recycled* at every stage of life ... and through many stages of decomposition. As these substances are recycled, they continually become smaller and smaller and more refined (naturally).

At very last, they become water soluble, turning into Fulvic acid. Fulvic acid is the FINAL stage of decomposition of all once-living things!

The plant *defense mechanisms* that ultimately become Fulvic acid are nearly immortal.

Because those defense mechanisms are so highly protective, they remain intact, and do not break down during decomposition ... nor do they get used up. They just become more highly refined, and take on unusual properties.

These protective substances are tiny fragments of DNA, the building blocks of Fulvic acid. They have imparted health and longevity to every generation of living organism along their path of existence, and even now, they continue to pass it on to us.

When Fulvic acid is dissolved and combined with water, the water is literally transformed. Its molecular structure is changed, and it becomes more organized.

Scientists have noticed that the water also becomes "energized" and is able to transmit unusual biological "messages" to living organisms. Scientists even go as far as to describe this fulvic water phenomenon as "memory".

Colostrum, a nursing mother's first breast milk, carries an unknown substance that scientists call *transfer factor* (not to be confused with commercial products of a similar name).

This transfer factor carries "messages" to alert the offsprings immune system to known disease invaders.

Fulvic acid, likewise, carries with it a message of warning ... a "memory", if you will, of past battles with disease invaders. The battle scars are indelibly etched within the Fulvic acid's refined molecular structure, which, as I said earlier, is made up of tiny fragments of DNA, even including remnants of DNA from past invaders.

Fulvic acid appears to be "*alive*" with nature's own energy, and it's intimately tied to the very *spark of life*. Fulvic acid is the World's most complex enzyme, and enzymes are described by scientists to be like "living entities", builders having function and life-like qualities.

Yet fulvic acid is more than just an enzyme, it is, in essence, "nourishment" from our Creator... meant to give life, energy, health, immunity, and *renewal* to the entire Earth; humans, plants, animals, and all living organisms.

It also cleanses the entire surface of the Earth of pollution, pesticides, and toxins of all kinds. Thousands of scientific studies exist to prove it.

Russian scientists used it to clean up the Chernobyl Nuclear Disaster, including the soil, animals, and people exposed to the radiation.

According to Dr. William R. Jackson, who I quoted earlier, "fulvic acid *annihilates* radiation!" It's truly amazing stuff!

Today, and for many years, Fulvic acid and related humic substances are seriously depleted from our agricultural soils, crops, fruits and vegetables, dairy products, meats, and foods of all kinds. Truth is, it's COMPLETELY lacking in the modern human diet.

That's very serious, because this compound is most likely the most important health and medical discovery ever in history.

Nearly every plant, animal, and human disease can, in some way, be linked to the deficiency of Fulvic acid!

Clinical studies show that negative side effects from it are virtually non-existent. No problems have ever been reported by any of the scientific literature. Extensive laboratory, pharmaceutical, and clinical testing has proven Fulvic acid to be absolute SAFE for human internal and external use.

Fulvic acids are nature's bridge between "dead" mineral elements, found in most mineral supplements, today, and living *organic* matter. Being "organic" means the minerals are not "dead" mineral elements, but actually powerful bio-active, *life-like* enzymes, made up from very complex combinations of powerful phytochemicals.

Research shows that these complex substances have amazing "*fountain-of-youth-like*" health properties, and true fulvic acids, found in nature, are extremely absorbable.

Historical medical use is ongoing, and dates back thousands of years in remote regions of the Himalayas, China, and Russia, where people today still have the longest recorded life-spans.

Little-known, United States Government studies shows that Fulvic acid naturally supplies a massive broad spectrum of powerful antibiotic and anti-viral components, equal or even superior to those known and produced by the pharmaceutical industry today.

Fulvic medications are not found in high, single component concentrations, like the drugs are, but contain tiny amounts, including billions that have yet to be discovered, or indeed, may never be discovered!

Yet, unlike the drug company's *chemical* antibiotics, the Creator has designed things so that disease pathogens will never become resistant to this *naturally-occurring* substance.

Recently, when European governments banned antibiotics in animal feed, Fulvic acid WAS FOUND TO WORK EVEN BETTER. Yet all of this is still only the very tip of the iceberg!

Scientists have determined that it takes over 3 tons of living plant matter to produce just one quart of this substance in the concentration provided in our *New Life Living Minerals from Nature!*

We use only "ancient" fulvic acid from "ancient" beds, found in the Middle East, near the cradle of civilization ... perfectly balanced with the other ingredients found in our *New Life Living Minerals, and New Hope Liberated Vitamins* products.

However, for Fulvic acid to act properly, it must have a fuel so that it can become hyperactive. Fulvic acid is an active substance, as we have explained before, but for Fulvic acid to perform to its potential, it must be supercharged with ionic frequencies.

As in a *cold nuclear fusion* process, when minerals, recharged with proper ionic frequencies, are introduced to Fulvic acid the *minerals become a fuel* for the Fulvic reactor. The reactor recharges the fuel (minerals), and the minerals working in conjunction with the Fulvic acid, refuels the reactor (Fulvic acid). This is where the energy comes from when New Life Liquid Minerals are consumed.

Just as important as its role of a reactor, Fulvic acid also becomes the perfect Chelator, responding to electric signals given out by the cells in terms of what the cell needs. The Fulvic acid then attracts and carries (chelates) the needed chain of minerals to their designated pathways all throughout the body, into every tissue and every cell, immediately .. and super-effectively, and all at the speed of light.

While the Fulvic acid in conjunction with the minerals is providing the exact nutrition, or if you will, the frequency each and every cell requires, it's also adding *light energy* throughout the entire human system.

No where else can you find these components in mineral and vitamin supplements. Fulvic acid, without recharged minerals, does not work. Minerals without Fulvic Acid can not be chelated to form the correct molecular chains. They will have no purpose; they'll become waste.

If you are taking minerals that do not carry the proper *ionic frequencies*, and are not in proper form, then you're purchasing a rock collection, not nutrition.

We wish you wellness.



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**LINKS TO INFORMATION ON FULVIC ACID**

<http://www.freeamerican.com/FulvicAcidReport.htm>

[http://www.zsf.jcu.cz/jab/3\\_1/pena.pdf](http://www.zsf.jcu.cz/jab/3_1/pena.pdf)

[Fulvic Acid Pertaining To World Health](#)

Fulvica Bioscience Medical News

[http://road-to-health.com/69/Fulvic\\_Acid\\_Research.html](http://road-to-health.com/69/Fulvic_Acid_Research.html)

<http://www.optimumorganics.us/fulvic.htm>

(see bottom of web page for further links to fulvic acid)

