



NPK+biotics

The fusion of chemistry and biology



JOIN THE
Sustainable
topsoil revolution!



CONVENTIONAL FERTILIZERS ENHANCED WITH BIOTIC ORGANIC BASED
FERTILIZERS FORMULATED TO INCREASE SOIL ORGANIC MATTER IN
CONVENTIONAL CROP SOILS !

Proven Benefits of the Most Advanced, Science-Driven Biotic Fertilizers in the World!

THE STRENGTH THAT ONLY BIODIVERSITY CAN DELIVER.

PROVIDES SOIL MICROBES WITH THE NUTRIENT BASIS TO SUSTAIN SOILS

The pH-balanced, chelated mineral nutrient base increases protein synthesis and polysaccharides, decreasing disease, destructive fungus and predatory insects.

PATHOGEN-FREE: ALL HUMAN PATHOGENS ELIMINATED IN THREE-STEP PROCESS

Our unique process uses kinetic, chemical and infrared treatment to eliminate any possibility of human pathogens such as E. coli. Our products are completely free of weed seeds, insect eggs, and insect casements.

BIOLOGICAL NUTRIENTS FOR BIOLOGICAL SOILS

Primary Nutrients

Nitrogen
Phosphate
Potash

Secondary Nutrients

Calcium
Sulfur
Magnesium

Trace Minerals

Boron
Chlorine
Cobalt
Copper
Iron
Manganese
Molybdenum
Sodium
Zinc

Amino Acids

Aspartic Acid
Theronine
Serine
Glutamic Acid
Proline
Glycine
Alanine
Cystine
Valine
Methionine
Isoleucine
Leucine
Tyrosine
Phenylalanine
Histidine
Lysin
Arginine
Tryptophan

Vitamins

B-6
B-12
Biotin
Folic Acid
Niacin
Pantothenic Acid
Riboflavin
Thiamine
Vitamin E
Enzymes
Auxin Group
Zeatin

Fish Oils

Omega 3
Omega 6
Omega 9
Eicosapentaenoic acid (EPA)
Docosahexaenoic acid (DHA)

TRANSFORMS SOIL ACIDS WITH MAXIMUM EFFICIENCY

6.0–6.1 pH formulation promotes rapid soil microbe growth
Altered molecular structure of manure base increases efficiency
Homogenous granules ensure high-efficiency transformation
Mycorrhizal inoculants replenish depleted colonies
High levels of amino acids and chelated minerals support direct uptake by plants

CALL YOUR PERFECT BLEND TEAM MEMBER TODAY.

866.456.8890

“Profit from our experience.”



The Incredible Economic Benefits of Biotic Fertility are Now Available from Perfect Blend

SUSTAINS SOILS FOR LONG-TERM PROFITABILITY AND YIELDS

Since the beginning of farming, growers have understood the profitability of a crop is directly related to the quality of the soils in which they are grown. Soils with low carbon content do not have the profitability or yields of soils with higher carbon content. Until the discovery of biotic fertilizers, growers did not have an economical, reliable and predictable means to increase carbon content in their soils. Biotic fertilizers have demonstrated an ability to grow a crop rotation to its full genetic potential while increasing soil organic matter. This remarkable ability enables growers to renew and remediate worn and destroyed soils.

HOW DOES IT WORK?

The focused nutrients in biotic fertility are designed to efficiently increase populations of soil microorganisms. Soil microbes do not need large amounts of nitrogen to increase their numbers, but they do need the complete, balanced nutrition provided by biotic fertility. An acre of healthy soil can contain four to five tons of soil microorganisms. Increasing this population by 1,000 lbs can add high levels of organic soil matter fertility to the soil. An increase of 1,000 lbs of soil bacteria can deposit into topsoil significant levels of minerals in a chelated ionic form that can immediately be used by crops. A half-ton of soil bacteria contains about 100 to 140 lbs of nitrogen, 30 lbs of phosphorus, 10 lbs of potassium, five lbs of calcium, 10 lbs pounds of sulfur, five lbs of magnesium, two 2 lbs of iron and proportionate trace minerals.

REMEDiates WORN AND DAMAGED SOIL

In a healthy topsoil, the carbon-to-nitrogen ratio ranges from one part nitrogen to 10 to 12 parts carbon. Soils without a healthy C:N ratio lose the ability to economically raise crops. Soils without sufficient carbon have no ability to absorb and act as a buffer for nitrogen. Biotic fertilizers can efficiently rebuild soil organic matter in topsoil while growing crops to their full genetic potential.

DECREASED LEVELS OF PESTICIDES AND FUNGICIDE INPUTS

Crops grown with biotic fertility have evidenced an ability to be grown with lower levels of pesticides and fungicides than the same crop grown with conventional fertility. This ability is now recognized as a phenomenon of organic agriculture. Organic-based biotic fertilizers enhanced with conventional fertilizers have proven to have the same attributes.

HIGHER LEVELS OF SYSTEMIC SUGARS AND NUTRIENT DENSITY

The nutrients in biotic fertilizers accelerate the growth of soil bacteria. Cellulose and lignin in crop waste left in the soil are converted into complex sugars that plants use via soil bacteria. Crops uptake these sugars and use them to increase vitamin content and flavor.



A badly eroded field located in Horse Heaven Hills, WA. The grower has attempted to stop the erosion by placing hay around eroded areas.

CARBON SEQUESTRATION AND BUILDING NATURAL FERTILITY IN TOPSOIL

The biotic fertilizers that are a part of all NPK+biotics have been designed specifically to feed soil microbes. When a population of soil microbes expands and dies, the remains of these lives are left in the soil as soil acids. Carbon sequestration occurs only when soil acids are created. Because of their stable nature, soil acids are the primary foundation of soil organic material, or humus. Until they are taken up by plants, soil acids remain in the soil as a source of natural plant fertility, in a form immediately usable by plants. The benefits of carbon sequestration are much greater than just sustainability. Moisture retention, healthier crops and better crop survivability in low-moisture conditions and temperature extremes are all the result of carbon sequestration.

TOPSOIL REMEDIATION

According to the USDA, conventional growers have lost more than 50% of their topsoil in the last 50 years. A pattern of such loss begins with erosion. Increased levels of nitrogen and water are required to maintain crop yields as topsoil wears out and is lost. Rebuilding soil organic matter is a key component of sustainability. **NPK+biotics** contains a high percentage of biotic fertilizer that helps to restore and remediate worn soils. The chelated carbon amino acids in these fertilizers provide a high-quality food for soil microorganisms, allowing them to reproduce and rebuild healthy, natural fertility.



REDUCE NITROGEN APPLICATIONS

Long-term farming pressure on soils often requires a grower to increase levels of applied nitrogen units to maintain yields. This is usually due to decrease levels of soil organic matter. The biotic component in **NPK+biotics** contains carbon elements that efficiently store organic nitrogen in topsoil. Organic nitrogen supplies a steady supplement level of nitrogen that allows a grower to reduce the total amount of applied nitrogen. The result is a lower requirement for inorganic nitrogen applications.



LOWER OVERALL INPUT COSTS

Plants grown with biotic fertility are usually less susceptible to pests and fungal disease. Plants weakened by the stress of conventional farm practice attract pests and disease. The slow natural fertility provided by the biotic fertilizers in **NPK+biotics** sustains plants with gentle, organic carbon-based nutrients that help to maintain plant health and resistance to pests and fungal attack.

THE CRITICAL IMPORTANCE OF NUTRIENT DENSITY

Using independent and USDA testing over an 80-year period as a database, the Nutrition Security Institute, a nonprofit organization (www.nutritionsecurity.org), has documented a continuous decline in the nutrient values in foods commonly grown by American farmers. With few exceptions, our foods no longer contain the levels of minerals and vitamins that were available just 20 years ago. Some foods have lost 50% or more of the nutrient values. Conventional industrial farming lacks soil microbes contained in organic soil matter that convert elemental minerals into ionic forms that plants can uptake and store. The biotic fertilizers contained in **NPK+biotics** rebuild populations of soil microorganisms and the stored organic nutrients that are the result of their lives. Restoring nutrient density to soils is a critical aspect of soil sustainability and maintaining healthy crops and high crop values.



INCREASE NUTRIENT DENSITY

Restoring nutrient density to crops begins with restoring usable mineral values to soils. Minerals in an ionic form are required for a plant to build mineral and vitamin content. With increased topsoil mineral content, plants can increase nutrient density systemically. The complete primary, secondary and trace mineral package contained in **NPK+biotics** not only contains chelated minerals, but actually facilitates additional transfer of soil minerals into a form that plants can use. The result is a more nutritious crop, and a crop that is itself healthier and better able to resist disease and weather stress.

U.S. Senate Document 264 - 1936

"The alarming fact is that foods – fruits, vegetables and grains – now being raised on millions of acres of land that no longer contains enough of certain needed nutrients are starving us – no matter how much we eat of them."



BUILDING SUSTAINABLE SOILS

NPK+biotics provides growers with the very best of conventional fertilizers and the proven benefits of biotic fertilizers.

- Remediates worn and damaged soil
- Sustains soils for long-term profitability and yields
- Decreases levels of required nitrogen inputs
- Decreases levels of pesticides and fungicide inputs
- Increases levels of soil organic matter
- Increases levels of systemic sugars and nutrient density



21ST CENTURY HIGH PRODUCTION SOILS REQUIRE SUSTAINABLE PRACTICES TO REMAIN COMPETITIVE

Practice # 1 - Soil organic matter levels must be increased or maintained each rotation.

Practice # 2 - Chelated elemental mineral levels for use by soil microbes and plants must be increased or maintained each rotation.

Practice # 3 - Adequate topsoil moisture should be maintained in the field at all times to enable and increase nitrogen- and polysaccharide-building soil microorganism activities.

Practice # 4 - Use of high-energy chemical fertilizers alone should be avoided as they can damage or destroy soil organic matter elements responsible for sustaining soils.

Rebuilding sustainable soils

THE INCREDIBLE VALUE OF NATURAL FERTILITY

Growers with low or decreasing soil organic contents are farming soils that are at an economic disadvantage when compared to growers with rich organic content. New biological science and understandings of biotic fertility have given growers a powerful new tool that allows them to increase the organic content of their soils while economically growing a high-yield crop. This new tool is a fusion of conventional NPK fertilizers with biotic fertilizers.

Biotic fertilizers approach the soil with entirely new concepts. Soil organic content is the result of the expansion of a population of soil bacteria. Every acre of healthy topsoil has about a ton of bacteria and three to four tons of other soil microorganisms living in the top six inches of the soil that exchange air with the atmosphere. By using carefully formulated and manufactured organic nutrients, the bacterial population can be rapidly increased. When they quickly die, they leave their remains, which form humic and fulvic acids in the soil. These acids contain minerals, sugars and other com lbs in a matrix that absorbs and holds moisture in a gel form. These nutrient-rich gels, along with other organic storage methods from other microorganisms, are the organic materials that make up soil organic matter. Biotic fertilizers are specifically designed to increase soil bacteria populations and build secondary populations of soil microorganisms. By giving topsoil microbes the exact nutrients they require, in a highly efficient form, a biotic fertilizer can quickly build these populations.

Organic growers around the globe who are familiar with biotic fertilizers find them an amazing new way of growing extremely profitable crops. Today, lessons learned in organic programs are being transferred into conventional programs.

The **NPK+biotics** program is a fusion of chemistry and biology that we believe is the future of agriculture. For a soil to maintain and increase its value and ability to return a profit to a grower, it must be sustainable. Growers have known for centuries that a soil rich in organic material yields more profits than other, less-rich soils. With biotic fertilizers, for the first time, growers have a means of restoring soil organic matter in a cost-efficient, predictable and reliable manner.



Sustainable soils are the first step into the future of agriculture

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NPK+biotics 8-5-5
The fusion of chemistry and biology

NPK+biotics 4-4-4 Biotic
The fusion of chemistry and biology

NPK+biotics 4-4-2 Biotic
The fusion of chemistry and biology

NPK+biotics 10-3-7
The fusion of chemistry and biology

Guaranteed Analysis

Total Nitrogen (N).....	8.00%
1.76% Ammoniacal Nitrogen	
0.04% Nitrate Nitrogen	
3.20% Water Soluble Nitrogen	
3.00% Water Insoluble Nitrogen	
Available Phosphate (P ₂ O ₅)	5.00%
Soluble Potash (K ₂ O)	5.00%
Calcium (Ca)	7.0000%
Magnesium (Mg)	0.7000%
Sulfur (S)	3.0000%
Boron (B)	0.0200%
Cobalt (Co)	0.0005%
Copper (Cu)	0.0500%
Iron (Fe)	0.1000%
Manganese (Mn)	0.0500%
Molybdenum (Mo)	0.0005%
Sodium (Na)	0.1000%
Zinc (Zn)	0.0500%

Derived From:

Chicken Manure, Cobalt Sulfate, Copper Sulfate, Ferrous Sulfate, Urea, Manganese Sulfate, Molybdenum Oxide, Sulfate of Potash, Potassium Chloride, Sulfuric Acid, Boric Acid, Zinc Sulfate.

ALSO CONTAINS NONPLANT FOOD INGREDIENTS

Mycorrhizal spore species:

Glomus intraradices 0.86 propagules per gram
Glomus aggregatum 0.86 propagules per gram
Glomus mosseae 0.86 propagules per gram

Chlorine (Cl) not more than0.1000%

F1542

Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfco.org/metals.htm>

MADE IN USA

Guaranteed Analysis

Total Nitrogen (N).....	4.00%
0.40% Ammoniacal Nitrogen	
0.03% Nitrate Nitrogen	
1.50% Water Soluble Nitrogen	
2.07% Water Insoluble Nitrogen	
Available Phosphate (P ₂ O ₅)	4.00%
Soluble Potash (K ₂ O)	4.00%
Calcium (Ca)	7.0000%
Total Magnesium (Mg)	0.7000%
0.70% Water Soluble Magnesium (Mg)	
Sulfur (S)	3.0000%
3.00% Combined Sulfur (S)	
Boron (B)	0.0200%
Cobalt (Co)	0.0005%
Copper (Cu)	0.0500%
Iron (Fe)	0.1000%
0.10% Water Soluble Iron (Fe)	
Manganese (Mn)	0.0500%
Molybdenum (Mo)	0.0005%
Sodium (Na)	0.1000%
Zinc (Zn)	0.0500%

Derived From:

Chicken Manure, Elemental Sulfur, Manganese Sulfate, Ferrous Sulfate, Copper Sulfate, Cobalt Sulfate, Molybdenum Oxide, Muriate of Potash, Liquid Fish, Boric Acid*

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3.00% Water Insoluble Nitrogen	
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