MicrobeBio®

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Have you ever wondered why some plants, flowers and other vegetation tend to flourish, even in harsh environmental conditions, while others do not? Perhaps you've walked through a forest, admiring how the trees soar in height and you've found yourself thinking back to your own garden at home. Many people who cultivate their own crops have reflected similar thoughts when seeking answers to better their harvests. Although there are many different factors that go into this question, one of the most important aspects to consider is the soil in which the plants are growing. There are many unseen inhabitants (e.g. microorganisms) that live and develop within the earth's soil. From this rich diversity of microbes, there are two that I would like to introduce to you today.

The first is a single-celled microbe called Bacteria. While we know there are many different types of bacteria, we are solely focusing on the beneficial ecological aspects of this microorganism. Bacteria has several key functions in the symbiotic relationship plant roots. One of them is to decompose organic matter, which is then released for the plant's use when the bacteria's life span ceases.

Mycorrhizae is another beneficial microorganism. Like Bacteria, Mycorrhizae also works symbiotically with plant roots. Namely, roots provide the vital carbon that allows fungus to grow rapidly, and in return, fungus transports nutrients and water from soil that is just beyond the reach of the plant's roots.

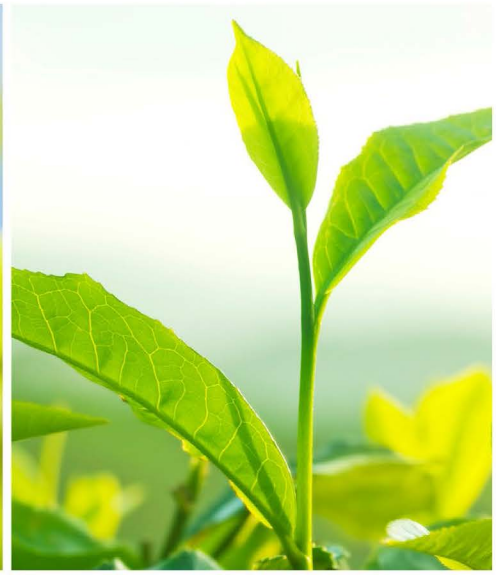
After considering the symbiotic relationship of just two of the many microorganisms in the Earth's soil, we can begin to get a sense of the importance of maintaining a healthy, supportive "terra-foundation" in the soil, to gain the highest yields from any crop. Remember, these living microorganisms occur naturally in the soil. The problem is that modern agricultural methods unintentionally deconstruct these natural microorganisms by over-farming, and unnatural, chemical fertilizers. Through the continual deconstruction of the soil's natural state, plant life is left susceptible to more harmful elements such as disease and pests. An additional adverse effect caused by the destruction of soil-based microorganisms can be seen in the soil's decreased ability in retaining water. As a result of this, the task of watering plants and crops becomes more expensive and far less effective.

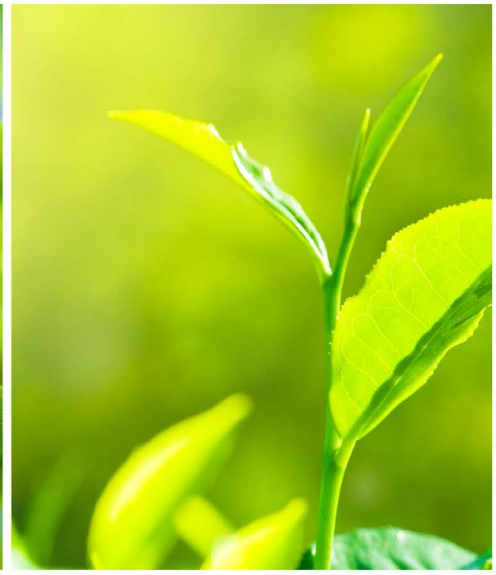
How can MicrobeBio® Products Help?

At MicrobeBio® we are dedicated to restoring soil's essential microorganisms to create eco-friendly environments and sustainable farming practices that benefit the earth. We have come to realize and fully appreciate the functionality of these microorganisms, and have honed the science of selecting only beneficial strains into our product line. When introducing MicrobeBio® products to a new environment near plant roots, a.k.a. its rhizosphere, the newly added strains of microbes are inclined to support and cooperate with existing microbes, rather than compete with them. Together, the microorganisms work together to cultivate essential, organic substances such as enzymes, natural hormones, acids, and other biochemicals which help plants thrive.

MicrobeBio® products are packed full of rich, dynamic inputs such as MicrobeBio® Bacteria, MicrobeBio® Fungi, MicrobeBio® Actinobacteria, MicrobeBio® Protozoa, and MicrobeBio® Algae, all of which are vital in creating a healthy soil environment to help crops prosper. Each of these distinct ingredients are crucial to the soil, they carry out critical functions to better the health of each plant. While some act to recycle and reuse material, others function to regenerate and facilitate plant growth. Still others inhibit, equalize, and more; some are mobilizers, producers, or decomposers. Regardless of their functions and complexities, our proprietary blend of biological catalysts cultivates the proper nutrients in the soil and then cycle them through plant roots. As a result, they improve plants' overall health and vigor while maintaining the quality of the soil, and its productivity – perpetually!

What other processes occur between plants and microbes? Well, two types of biochemicals created by plants are called "Primary Metabolites" and "Secondary Metabolites". Primary Metabolites are created and used by all plants to aid in their growth and development, while Secondary Metabolites are used to fulfil other functions. Microbial populations feed off of the primary metabolites. serve as one primary function, they present themselves in all plants to aid in their growth. The functions of Secondary Metabolites are unique and they differ among plant varieties. For example, they can affect the scent of flowers and flavors of fruit. Most importantly – the symbiosis between plants and microbes benefit the health of the soil.





MicrobeBio® Products Have the Capability to:

- Protect and rehabilitate the soil
- Foster a healthy, sustainable soil environment for future generations of crops
- Reduce negative environmental impacts
- Effectively break down organic matter to increase carbon and nutrient bioavailability in the soil
- Control and reduce salinity and heavy metals
- Build a greater resistance to both plant disease and pests
- Provide a balanced and proportionate number of microbes that improve biochemical processes such as carbon and nitrogen cycles, mineralization, phytohormone production, pH balance, and decomposition
- Expand development of micronutrients such as Iron, which can then be utilized by plants
- Increase drought resistance while decreasing irrigation usage by improving the soil's capacity for moisture
- Amplify root vitality which leads to improved seed germination
- Strengthen efficiency in crop yields and production, offering farmers more economic benefits
- Maintain consistent results throughout the duration of the crop cycles, reduce the metabolic stress, and achieve greater genetic potential
- Reduce costs for seed and nitrogen-based fertilizers
- Heighten Brix levels for better-tasting produce
- Be applied with ease
- Contribute to a healthier environment since they are non -toxic and non-GMO

MicrobeBio® is far superior to other leading brands and continues to develop the most innovative Microbial Technology to infuse the soil with the most beneficial strains of microorganisms. The free-living microbes in our products continue to improve the life and energy of the soil throughout the duration of the growing season, regardless of any preexisting condition of the soil. MicrobeBio® products work symbiotically with all types of plants to convert nutrients in every type of soil and deliver them plant roots. In fact, the selected strains of microorganisms found in our products continue to repair the deconstructed soil overtime, which can help reduce the use in herbicides, insecticides and fungicides. MicrobeBio® products contribute towards replenishing life to our earth, by rebuilding and preserving one expanse of land at a time.

WHY CHOOSE MICROBEBIO®

In order to develop a state-of-the-art product line, MicrobeBio® was born from a research collective of top soil scientists, microbiologists, and biochemists from around the globe, with the goal of regenerating renewable agricultural resources and sustaining robust communities and living environments.

Towards that end, our research team has spent the last 2 decades developing a line of proprietary microbial prescriptions to promote highly-sustainable soil environments, even in the midst of habitat constraints. Indeed, for farmers worldwide, the guesswork of trial-and-error has been eliminated when it comes to soil inoculation on a microbial level, as they can benefit from the 500+ unique, microbial strains from our culture laboratory.

As we continue to advance our understanding of nature, MicrobeBio is honored to be part of the practice of reconstructing an organic fulfillment of integrated sustainability.

Our core beliefs center around Sustainability and Regenerative Agriculture. These ideals have influenced our work for more than 2 decades as we continue to develop and refine proven technologies with great passion, and we are happy to offer products with the 'staying power' and consistency they need to truly make a difference.

Firmly rooted in the techniques of biological farming, otherwise known as "microbe farming", we are cognizant of the symbiotic relationship between plants and their specific microorganisms, and we marvel at the efficacy of this long-standing, synergistic relationship. We also recognize that all plants, especially those cultivated in non-native soil, would do well to be paired with their familiar microbial partners in order to thrive and reach their full genetic potential. Enter MicrobeBio®.

The capability and effectiveness of MicrobeBio® products have been proven and verified in university and private laboratories, in addition to being tested in-vitro within a variety of soil conditions. Our affiliates around the globe represent a company with quality products that greatly improve soil health and significantly increase plant vigor.

SIGNIFICANT ADVANCEMENTS IN BIO-PRODUCTS

Unfortunately, bio-product advancement has slowed to a crawl in the last few decades due to the use of synthetic chemical products. Three of the major, "modern" inoculants being used today were actually discovered quite some time ago, in the 18th and 19th centuries: Trichoderma in 1794, Bacillus Subtilis in 1872, and Mycorrhizae between 1879–1882.

At MicrobeBio® we're changing this paradigm. More than 50 of our proprietary strains are new discoveries in microbiology. Rigorous quality-control tests and scientific breakthroughs have allowed us to engineer these strains into stable, high-performing, first-of-their-kind products. In fact, no other product anywhere has the potency of our newly-discovered enzymes, hormones, chemicals and microbial strains. With these microbes working in tandem, their unique enzymes contribute to better seed germination, larger root-biomass, plant growth, increased terpene levels, efficient nutrient-cycling, and nourishment uptake. These benefits have provided MicrobeBio® with an industry staying power and a high efficacy that sets our products apart.

ENVIRONMENT

Here's a fun fact: Did you know that these tiny microorganisms fiercely battle adverse climate changes? Indeed, soil microbes are our microscopic partners in protecting the environment by restructuring earth's primary resource for stocking excess carbon. The amount of carbon currently held in soils around the globe is three times higher than the quantity that is held in the atmosphere. In fact, the carbon-storing capacity in global soils is much higher than what is currently being stocked, and they could be put to better use. A recent study by NATURE suggests that greenhouse-gas concentrates could be reduced 50-80% by increasing carbon storage in the globe's farmland soils.

At MicrobeBio®, we believe that the most advanced technology found anywhere on earth comes from the earth itself. Organic microbial technology has the competence to enhance either the sequestration of carbon or CO2 storage. MicrobeBio® products also help plants endure many types of abiotic stress such as high temperatures and drought caused by climate change. Moreover, soil microbes strengthen a plant's immune system by building a larger biomass of roots and providing better water and nutrient absorption. In this way, they function as natural probiotics, helping to protect plants against insects and pests.

By providing beneficial microbes to rebuild the health of the soil, MicrobeBio® is not only putting efforts into increasing the sustainability of agriculture, but also making the world a greener place.

REDUCING THE EFFECTS OF SOIL SALINITY

Microbes are the world's natural bio-remediators. They help to reconcile environmental damage caused by oil spills, pollution, (they eat plastic and nylon!), methane/greenhouse gas metabolism, and even radioactive contamination (geobacter bacteria). It seems that there is a new evolution of microbe for almost every type of pollutant! Soil microbes are no different when it comes to cleaning up the environment. One way they benefit the soil is in the reduction of soil salinity. Upon entering the soil, bacteria (microbes) multiply and break down matter, transforming it into organic acids. The acids combine with elements in the soil including salt. This is known as chelating. Chelation is when a coating is formed around matter such as salt and metals. This coating allows plants to absorb more nutrients while taking in less salt. As the bacteria continues to multiply and chelate, water starts to penetrate deeper in the soil while also removing salt downward. This chain reaction allows water to reach deeper into the soil while moving topsoil salt deeper into the ground, thereby giving your plants access to more nutrients.

HEALTHY SOIL

Thick white roots mean one thing: Healthy plants. And healthy plants mean healthy soil conditions. Without fertile soil, abundant greenery and high crop yields simply can't happen. Providing a greener world (and all the benefits that go along with it) is the exact reason why MicrobeBio® products were designed. The efficacy of microbes in regenerating life in the earth's soil, water, and even the atmosphere has already been proven. Not only in laboratories but literally over millions of years on earth. Their skills in "nitrogen-fixing" provide the rest of the world with the means to build DNA and RNA. And 50% of ALL oxygen in our atmosphere arrives as a gift from the work of microbes (cyanobacteria) – from billions of years ago. Soil microbes have tremendous abilities to remedy a wide variety of soil health problems including balancing pH, fixing soil salinity and contamination from heavy metals, helping to create small water reservoirs underground, making way for other beneficial organisms to step in, such as earthworms. Once you inoculate your crops with MicrobeBio® products, you can rest assured that plant roots will be continually cleaned and fed from the microbes, fostering all types of health benefits for your crops. Test this out: You'll notice that plant roots in microbial rich soils stay white and fibrous during the full duration of the crop cycle! Our culture lab humbly offers these products in the name of rebuilding healthy soil - and sustainable eco-systems.

MICROBEBIO® vs CHEMICAL FERTILIZERS

MicrobeBio® products do not contain any salt or other toxic additives that could damage the soil's natural nutrients. By contrast, chemical fertilizers contain high levels of salt and other toxins that do not benefit the soil or plants and could cause more harm than good in the long run. Think about it. Would you rather infuse your soil with nature's own extremely successful remedy – or apply a man-made product that slowly degrades the soil, leaving it void of its natural nutrients?

MICROBEBIO® vs COMPOST

Composting is good. But it has many shortcomings when compared to MicrobeBio®. For example, composting creates salinity issues that can have negative impacts on the health of your soil; while MicrobeBio® is designed to combat salinity and regenerate the soil's health and fertility, to produce a greener eco-sphere – which equates to bigger and healthier crops. From a standpoint of logistics, compost cannot usually be used on a commercial basis simply due to lack of materials, whereas MicrobeBio® can be used on any plot of land; large or small. Compost also carries the risk of harboring bacteria such as salmonella. On the other hand, MicrobeBio® only introduces beneficial bacteria and microbes that feed off of bad bacteria.

PROFITABLE FOR FARMERS

Because it reduces many negative factors of time, disease, abiotic stress and the environment that affect your return on investment (ROI), MicrobeBio® adds another fruitful result: more profits! Treatment costs are lowered due to your plants' higher resistance to pests and disease. Conventional fertilizer use is lowered, because soil, once contaminated or dead, is naturally "fixed" by nature's mediator – and becomes fertile again. MicrobeBio® thus helps produce healthy, vibrant crops that produce bigger yields while increasing the nutritional value of the soil. This leads to more sustainable farmlands, and a reduction in costs. In short, MicrobeBio®'s proprietary technology increases profits because less fertilizer and pesticides are needed to produce healthy, robust crop yields.

THE ACTION MODE OF MICROBEBIO®

When the microorganisms in MicrobeBio® are applied to the soil, they immediately begin to colonize the rhizosphere (root zone) of your plants, multiplying at a prodigious rate in the first 48 hours and producing literally trillions of microbes. Within 10 to 15 days, any small carbon particles in the rhizosphere are rendered into insoluble, microscopic particles of nutritious humus. It is recommended that carbon be added to the soil as a nutritive, thereby combining with the microbes to form a 'biofilm' around the roots. Enzymes, hormones, chemicals and other signaling molecules are the result of this biofilm, due to the active "saprophytes" found in MicrobeBio®.

Similar to what earthworms accomplish, saprophytes (microbes) break down carbon, turning it into nutrient-rich humus at a faster rate, thereby increasing macro and micro-nutrient absorption while using less water. They also increase overall quality and yield due to higher terpene levels produced from larger, stronger, healthier root masses.

No other product on the market today causes such a rapid mineralization and formation of terpenes and humus, along with building a notable increase in root growth and increasing crop yields, than MicrobeBio®. This is due to the 50+ synergistic strains of microbes, developed by our culture lab and selected for our proprietary formulation, giving MicrobeBio® products and unmatched efficacy, even in side-by-side trials.

THE SCIENCE OF MICROBEBIO®

MicrobeBio® 's microbial formula significantly reduces soil erosion, runoff and fertilizer usage, while improving water efficiency and the soil's capacity for water-retention. It's microbial technology at its best, and the results are proven. With continual use, you can expect to note a decreased water usage over time, and an increase in the nutritional value of your produce, along with higher yields and crop production. The science is proven. The benefits are many:

Nitrogen Fixation at a Biological Level - Microorganisms assimilate nitrogen in the earth's atmosphere into organic compounds

Solubilization of Phosphates - Phosphates bound in the soil are solubilized, allowing easier uptake by plants.

Mineralization and Immobilization - Healthy plant hormones are increased, as well as the storage of soil carbon, greatly increasing nitrate nitrogen availability to plants. This creates a nutrient reservoir plants can access, comprised of organic bio-stimulants in the soil.

Production of Phytohormones - Using bacteria, MicrobeBio® significantly reduces the salinity of your soil, enhancing it greatly.

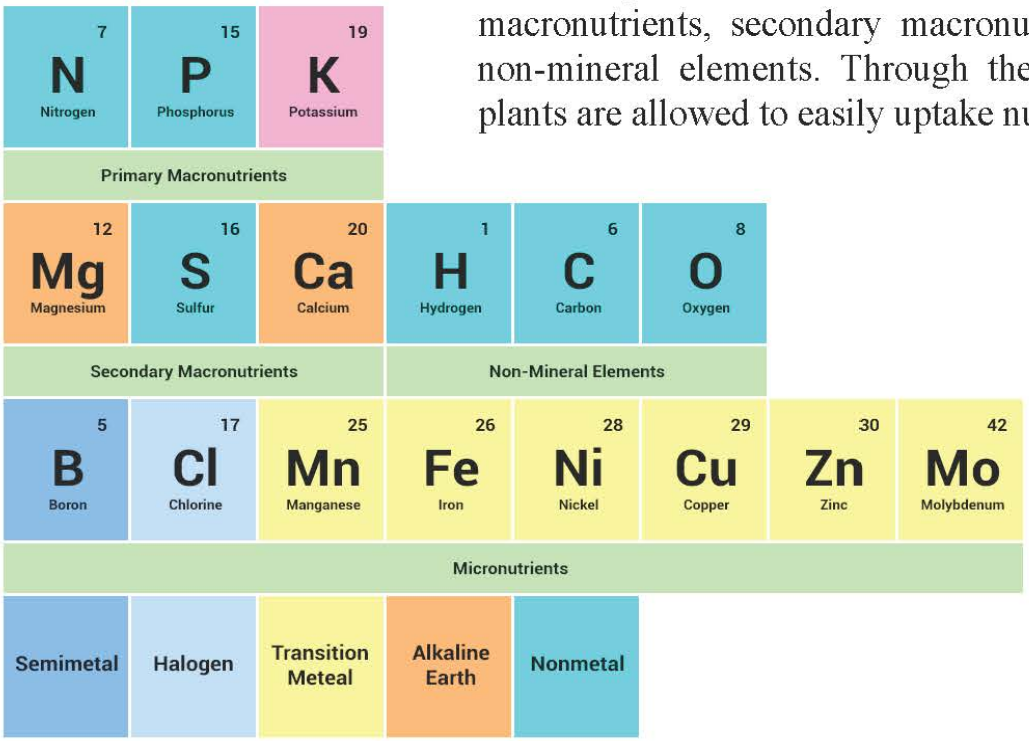
Balancing the pH of your Soil - The organic bio-stimulants found in MicrobeBio® make your soil more porous, even under extreme environmental conditions, allowing for better aeration, infiltration and drainage of the soil. Leaching is also greatly reduced due to buffering of the pH, as well as improving aggregation of soil particles.

Increased Saprophytic Competence - The microbes in MicrobeBio® are helped by saprophytes, which consume dead and decomposing matter. This allows MicrobeBio® products to perform better as it allows our microbes to better compete with both native soil microbes and other organic bio-stimulants.

THE NUTRIENTS

Plants are complex organisms that require many different forms of nutrients that are important for optimal growth and a healthy plant. Soil, minerals and plant life work together to allow you to grow the most nutrient filled food possible. Our billions of microbes help make this process easier and more efficient.

The synergy of the Science of MicrobeBio® builds a symbiotic relationship between soil plant and microbes by delivering the full spectrum of essential nutrients including the primary macronutrients, secondary macronutrients, micronutrients and non-mineral elements. Through the Science of MicrobeBio®, plants are allowed to easily uptake nutrients for optimal growth.



Our microbial soil amendment transforms all compound and complex nutrients for optimal plant growth, health and resistance to pest, nematode and fungal diseases. The microbes, especially Azotobacter, found in Microbial Fertilizer, naturally transform nitrogen from the air into usable nutrition for the soil. They also produce siderophores, which are small, high-affinity iron chelating compounds secreted by microorganisms, making iron available for plant uptake. The Pseudomonas, Lactobacillus, and Trichodema found in our product solubilize Phosphate, Molyndenum, Boron, Carbon, and Iron; and the Bacilli solubilize Silicate and Zinc, making all of these rich nutrients available for plant health and optimal growth. Bacillus, Clostridium, and Azotobacter, are known to produce a variety of extracellular enzymes that break down organic matter in the soil to provide the best nutrients essential to plant growth.

THE BENEFITS

- Increased efficiency in crop production - significant increase in yields
- More effective breakdown of organic matter – greatly increase carbon and nutrient level in soil
- Controls/reduces salinity and heavy metals in soil
- Increases drought resistance and decrease irrigation by improving moisture retention capacity in the soil
- Increases root vitality - better seed germination
- Significant reduction in cost and the need for nitrogen-based fertilizers
- Greater resistance to pest and diseases.
- Increased formation of micro-nutrients, especially iron, which can be up taken by plants in general
- Significantly increases BRIX level – greater tasting produce
- Reduces adverse environmental impacts
- Heals and protects soil for future generations
- Easy to apply, non- toxic, non-GMOs
- Generates more profits for farmers/users
- MICROBEBIO® GROWS SOIL

MICROBEBIO® GROWS SOIL

You might say MicrobeBio® has taken the best of Mother Nature and put it into a concentrated form and, like all-natural products should be, we never use growth hormones or GMOs, never irradiate and never use chemicals that are harmful to humans, livestock or the planet.

In closing, think of MicrobeBio® products like this: We're the health food of plant food, here to put a stop to all the horticultural junk-food that's been shoved down Mother Nature's gullet for far too long.

WE HOPE YOU WILL JOIN US IN CREATING A LIFESTYLE OF HEALTH AND SUSTAINABILITY, A BILLION MICROBES AT A TIME.

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