Microbial Applications, Inc.

Mikrobs

Restore Our Earth, Take a Step Towards Sustainable Solutions!

OMRI LISTED

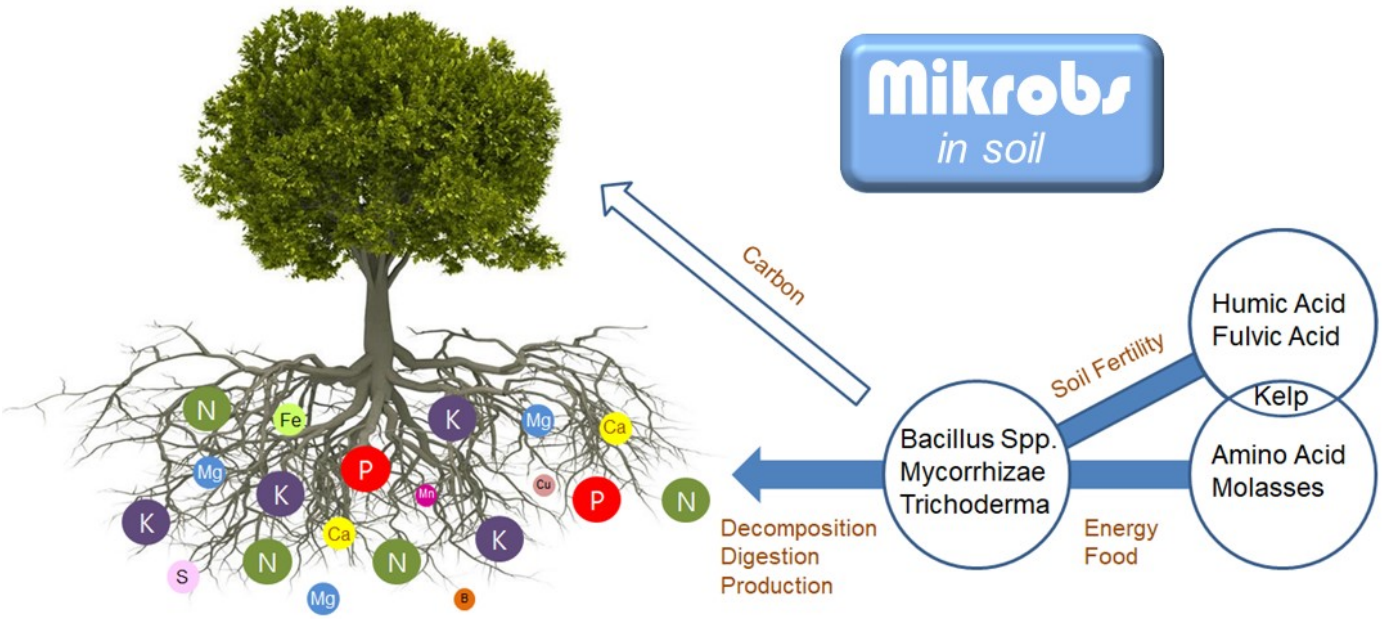
We are Microbial Applications, a manufacturer and distributor of microbial products for plants and crops, committed to regenerative, sustainable farming & gardening practices. We are new to this industry and along with our newness, we bring fresh energy, fresh ideas, and fresh innovations. Being newcomers, we have been able to more thoroughly investigate the existing needs and flaws in the market and bring improvements and transformations to what is currently available. Mikrobs is the result of these reflections, improvements, and innovations.

WHAT IS Mikrobs AND WHAT DOES IT DO

Mikrobs is an OMRI-Listed organic microbial **soil amendment/ bioinoculant** for plant and root growth stimulation that also encourages preventative resistance against fungal pathogen, parasitic bacteria, and insects. The organic blend is composed of three types of microbes— Rhizobacteria (bacillus spp.), Trichoderma fungi, Mycorrhizal fungi— while additionally including supplements (humic/fulvic acid, amino acid, kelp, molasses) to provide the microbes with excellent nutrients and growing bed. The three microbes live symbiotically with plants and yield higher synergy when placed together. Individually, Rhizobacteria contributes to **nitrogen and phosphate availability** for immediate uptake, while Mycorrhizal Fungi and Trichoderma Fungi help plants **uptake nutrients** even under harsh environmental conditions. Together, Rhizobacteria and Trichoderma fungi contribute to a **steady propagation** of Mycorrhizal fungi. Likewise, the specific blending of multiple bioinoculants in Mikrobs actively helps **manage rhizospheres and soil balance** by maintaining the beneficial microfloral populations through the combined symbiotic interactions between all the partner microbes. This introduces morphological and physiological changes to the root system, leading to an **expansion of lateral roots and root hairs** that **facilitate increased nutrient and water absorption**.

Benefits :

- Enhances cation exchange capacity and nutrients uptake
- Produces metabolites- promoting plant growth and increased photosynthesis
- Increases resistance to fungal pathogen, parasitic bacteria & insects
- Retains organic matter & nutrients in the soil, while supplying additional numerous minerals
- Reduces biotic and abiotic stresses, overall encouraging sturdier, greener stems & leaves



Microbial Applications, Inc.
www.mikrobs.com

So...What Makes Mikrobs Different?

It's no longer a secret that combining certain beneficial bacteria and fungi together is more effective than applying a single bacteria or fungi. This is simply because specific combinations of bacteria and fungi survive on symbiotic interactions. With this relatively recent discovery, current industry trends have observed an increasing number of products combining bacteria and fungi being introduced to the market. In most cases, they have been some variation of a combination of Rhizobacteria (also known as probiotics), Mycorrhizae, and Trichoderma. What many products fail to realize, however, is that a simple mixture of microbes is not the end to creating the optimal solution. There are many more factors that need to be considered in order to enable these microbes to form self-sustaining colonies: high-quality, high-performance strains, compatibility of such strains, an optimal (proportional) balance of microbes and other organic additives— just to list a few. After years of research, development, and collaborations with microbiologists, growers, and landscapers, Microbial Applications has finally landed the optimal formula, which has been applied to Mikrobs' blend with the highest quality microbes.

Some Key Highlights…

- **Longer Shelf Life & Higher Versatility:** Mikrobs is composed of very fine powder that lasts 1.5 ~ 2 times longer than liquid counterparts. But since the product is made to be highly water-soluble, it is also easily dissolved in water for liquid/hydroponic use with 2-3 simple stirs, making the product more versatile and longer-lasting.
- **Larger Variety of Microbial Species:** A high number of microbes is important, but it is as important to consider the variety and combination of microbes. While the majority of microbial products are mono-strained or dual-strained, Mikrobs contains three microbial species, with a high number of each. Further, it is essential to note that the specific combination of these strains in Mikrobs are able to stimulate further propagation, thus ensuring a higher survivability rate.
- **Inclusion of Other Minerals & Nutrients**: Mikrobs contains humic/fulvic acid, amino acid, sea weed kelp to provide microbes with stable conditions for survival with proper nutrients, PH moderation, and provision of nutrients and minerals directly to plants. In fact, many of our clients have cut out additional applications of costly nutrients, as there is no longer a need due to a large quantity inclusion in our microbial blend.

Product Comparison Chart

Criteria	Product A	Product B	Product C	Product D	Mikrobs
# of Spores	★★★★★	★★★☆☆	★★☆☆☆	★★☆☆☆	★★★★☆
Microbial Diversity	★★★☆☆ Rhizobacteria	★★★★☆ Rhizobacteria Mycorrhizae	★★★★☆ Rhizobacteria Mycorrhizae	★★★★★ Rhizobacteria Mycorrhizae Trichoderma	★★★★★ Rhizobacteria Mycorrhizae Trichoderma
Strain Popularity	★★★★☆	★★★☆☆	★★★★★	★★★★★	★★★★★
Easy to use	★★★★★	★★★☆☆	★★☆☆☆	★★☆☆☆	★★★★☆
Price	★★☆☆☆	★★★☆☆	★★★★★	★★★★☆	★★★★☆
Food Source for Microbes	No	No	No	No	Amino Acid, Molasses
Soil Amendment	No	No	No	No	Humic/Fulvic Acid, Kelp

Microbial Applications, Inc.
www.mikrobs.com

Why are Soil Microbes and Soil Health Important?

Chemical Effects on Soil Health

Any time you use almost any kind of chemical fertilizer, you end up depleting our Earth of resources. Chemicals in commercial growth supplements are capable of destroying soil ecosystems, killing or causing mutation pressures on soil microbes that other organisms in the ecosystem require in order to survive. Commercial pesticides, fungicides, and herbicides include a large selection of chemical agents that end up eliminating positive biological and natural forces in landscape and agriculture. Included in this category are herbicides for killing plants, insecticides for killing insects, and fungicides for killing fungi. While these chemicals supposedly only target specific species, repeated use inevitably leads to extermination of other microbial life that is essential to a healthy soil system. Alternatively, microbes that survive this process are prone to genetic mutations that no longer benefit the soil ecosystem in addition to becoming resistant to the chemicals intended to eliminate them. **The destruction or alteration of first-level microbes can affect the entire soil ecosystem, leading all the way up to the largest mammalian existence.**

We conveniently resort to frequent use of chemicals because they cause potential spikes in growth. However, we often ignore that these initial spikes are only brief & temporary, and in return, leave the soil unusable for future use. Mikrobs is the sustainable, non-chemical solution to this problem of harm & waste that affects not only your plants and soil, but ultimately our collective Earth.

Bioinoculants and Soil Microbes

Soil microbes are responsible for plant health, plant growth, soil fertility, soil restoration, among many of its biological functions. As such, bioinoculants containing microorganisms are effective alternatives to chemicals in many important aspects. Bioinoculants possess the ability to convert nutritionally important elements to available and absorbable forms through biological processes, in addition to protecting plants from harmful pathogens. During the last few decades, PGPR (plant growth promoting rhizobacteria) have been increasingly employed in agriculture to improve nutrient availability in soil, stress tolerance in plants, and sustainability of production. Today, decades long verification of positive results has led to its application being promoted more than ever.

Mikrobs has taken these decades worth of research and has discovered the optimal formula, combining multiple bioinoculants that create synergistic results. While most other products contain a single growth promoter, Mikrobs has gone the extra mile to find the most effective blend possible of multiple promoters that consists of 100% healthy, organic matter.

OMRI LISTED
For Organic Use

Mikrobs

Microbial Applications, Inc.
www.mikrobs.com

Ingredients:

Bacillus Licheniformis	**120,000,000 cfu/g**
Bacillus Pumilus	**120,000,000 cfu/g**
Bacillus Subtilis	**120,000,000 cfu/g**
Bacillus Megaterium	**120,000,000 cfu/g**
Trichoderma Harzianum	**500,000 cfu/g**
Trichoderma Viride	**500,000 cfu/g**
Trichoderma Longibrachiatum	**500,000 cfu/g**
Glomus Intraradices	**7.1 cfu/g**
Glomus Mosseae	**7.1 cfu/g**
Glomus Aggregatum	**7.1 cfu/g**
Glomus Etunicatum	**7.1 cfu/g**

Humic Acid, Fulvic Acid, Amino Acid, Kelp (Ascophyllum Nodosum), Molasses

Available Sizes

Pouch: 8oz
Pail: 5lb, 10lb, 20lb, 40lb

Guaranteed Outcomes:

- **Healthier & Faster Growth**
- **Sturdier Root Systems**
- **Resistance to Soil- Borne Fungal Disease**
- **Reduced Susceptibility to Garden Pest Infections**

Application:

Apply 1 teaspoon (2.5g) of the blend into 1 gallon of distilled or tap water used to water the plant every 7 to 10 days. Can increase to 1 tablespoon (5.0g) for better output.

*** 8 oz mikrobs = up to 90 teaspoons into 90 gallons of water / up to 500 plants (7 gallon pot) / up to 1 acre garden bed, lawn**

Product Summary

Mikrobs is an organic microbial soil amendment / bioinoculant containing a high number and variety of microbial strains of unrivaled quality and proportion. It is a biological alternative to chemical aids, contributing to regenerating and sustaining our soil, our Earth, & our future.

Functions

- ∇ Soil Fertility & Soil Restoration: Rhizosphere & Soil Balance Management
- ∇ Increased: Nutrient & Water Uptake, Nitrogen & Phosphate Availability, Resistance to Fungal Pathogens, Parasitic Bacteria & Insects
- ∇ Expansion of Lateral Roots & Root Hairs
- ∇ Further Propagation of Microbial Populations: Formation of Healthy, Self-Sustaining Soil Ecosystems
- ∇ Reduction of Biotic & Abiotic Stresses

Overall Healthy, Robust Plant & Root Growth

Mikrobs

Microbial Applications, Inc.
www.mikrobs.com

Comprehensive Application Rate Chart

Target Area		Mix Rate	Application	Interval
Potted Plants	1 gal.pot	1 tsp (2.5g) / gallon of water	10-12 pots / gal.	7-10 days
	3 gal.pot	1 tsp (2.5g) / gal.	6-8 pots / gal.	7-10 days
	7 gal.pot	1 tsp (2.5g) / gal.	4-5 pots / gal.	7-10 days
	15 gal.pot	1 tsp (2.5g) / gal.	2-3 pots / gal.	7-10 days
Plants in Garden Bed	Smaller than 1 ft	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	8-10 plants / gal.	7-10 days
	1ft - 2ft	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	7-8 plants / gal.	7-10 days
	2ft - 4ft	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	5-6 plants / gal.	7-10 days
	4ft - 6ft	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	3-4 plants / gal.	7-10 days
	6ft - 8ft	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	1-2 plants / gal.	7-10 days
	Taller than 8 ft	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	2-3 gal. / tree	7-10 days
Transplanted Plants		1 tbsp (5.0g) / gal.		5-7 days
Soil Amendment		1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	2-3 gal.of Mikrobs-mixed water for 1,000 sq.ft	3-4 weeks
Lawn		1 tbsp (5.0g) / gal.	2-3 gal.of Mikrobs-mixed water for 1,000 sq.ft	2-3 weeks
Crops	Drench	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	Same as "Plants in Garden Bed"	1-3 weeks*
	Drip / Trickle / Microjet	1 tsp (2.5g) - 1 tbsp (5.0g) / gal.	3-4 gal.of Mikrobs-mixed water for 1,000 sq.ft (1.5 lbs. - 2.0 lbs. of Mikrobs covers 1 acre)	
	Spray	1 tbsp (5.0g - 7.5g) / gal.		

* Application Interval by Growth Stage
- Vegetative Development : 7-10 days
- Fruiting : 2 weeks
- To maintain general plant health against biotic/abiotic stresses : 2- 3 weeks

Some Customer Feedback...

★★★★★
It's like CPR for plants
"[…] Mikrobs saved my rose garden this year- it went from being a graveyard back to being a rose garden. I really appreciate it!!!" *–Brooke_7*

★★★★★
Follow the directions
"I did like this product it works good and my plants roots are smoking and growing faster then before"*–E. Knutson*

★★★★★
Scary good plant growth
"Bought this for my tomato plants because they weren't growing. Two weeks with this plant booster and they're blooming like crazy!" *–Amazon Customer*

"I am seeing more resilience in the plants as well as nutrient uptake. It blends very easily with water & I plan on using it as a foliage spray as well" *–Kentucky Hemp Grower*