

Symbiotic Microbes with Fulvic Acid (SMFA)

Fulvic Acid

What are Symbiotic Microbes?

Symbiotic Microbes (SM) are a diverse blend of naturally occurring beneficial bacteria, fungi and yeasts that work together to improve soil quality and encourage healthy plant growth. They add more life to soil and assist with the decomposition of organic matter, producing nutrient-rich soil for plants, strengthening plants, and eliminating pests.

What are Symbiotic Microbes with Fulvic Acid and its Function:

Symbiotic Microbes with Fulvic Acid (SMFA) increase root density, stimulate plant growth, and increase plant height and weight. Fulvic acid does this by helping plants absorb essential nutrients, including potassium, magnesium, and calcium. It improves soil quality and is vital for the health of soil microbes.

Some of its Functions:

Fulvic acid is vital for transferring nutrients from the soil to the plant.

- It is a natural metabolic accelerator.
- It boosts a plant's immunity and suppresses harmful microbes in the soil.
- Fulvic acid is a powerful electrolyte that delivers energy in cells.
- It helps to loosen compacted soil, which improves water infiltration and aeration.
- It reduces heavy metal pollution and protects plants against the uptake of toxins.

Ingredients:

Symbiotic microbes, fulvic acid, sulphur-free blackstrap molasses, natural ethanol, raw apple cider vinegar, and fountain water.

How to use Symbiotic Microbes with Fulvic Acid (SMFA):

- **Soil drenching** improves nutrient uptake and increases the plant's overall health.
 - **Foliar spray** prevents disease and improves the plant's ability to absorb nutrients.
 - **Applying it to roots** helps to stimulate growth and improve overall plant health.
 - Foliar spray/soil drench/compost tea
 - **Foliar spray:** 2-5ml per litre of water (*spray upper and lower surfaces of leaves*)
 - **Soil drench:** 5-10ml per litre of water
 - **Compost tea:** 5-10ml per litre of water
 - Prevention
 - 2-5ml per 10 litres of water for daily use
 - 2-5ml per litre of water once a week
- Plant strength and soil health**
- You may alternate weekly with Symbiotic Microbes with Fermented Nutrients (SMFN) or Symbiotic Microbes with Algae (SMA)
- Pest and disease**
- You may alternate weekly with Symbiotic Microbes Pesticide (SMP)

- Outbreak

- 2-5ml per litre of water daily for at least 12 days

Plant strength and soil health

- You may alternate daily with Symbiotic Microbes with Fermented Nutrients (SMFN) or Symbiotic Microbes with Algae (SMA)

Pest and disease

- You may alternate daily with Symbiotic Microbes Pesticide (SMP). Start the first day with 10ml per litre of water. From the second day, use 2-5ml per litre of water.

When to apply:

DO NOT apply in direct sunlight. Apply late afternoon or early morning before soil and leaves are exposed to direct sunlight. The microbes will attach to the leaf surface or enter the soil, feeding the plant and providing excellent organic fertilisation and resistance to pests and diseases.

Storage and Shelf Life:

Store in a cool, dark place out of direct sunlight. **Symbiotic Microbes with Fulvic Acid (SMFA)** contains living organisms and pressure may build up. Unscrew the cap without removing it to release pressure and secure it tightly. Shelf life is six (6) months when stored correctly.

What is Fulvic Acid:

The health of all life depends on the health of our soil. The soil's health depends on the harmonious interplay of countless microorganisms, soil organic matter, plants, elements, animals, and humans.

We are beginning to understand that fulvic acid is as critical to life as oxygen and water. Fulvic acid's unique molecular structure gives it capabilities in regulating health that excel all other known compounds.

For millions of years, bacteria were the primary life form on earth. When plant life began on earth, bacteria developed a symbiotic relationship with them. Bacteria realized that if they digest, decompose, and recycle organic plant material, the plant nutrients could be a major source of food and energy for them. For this to be a symbiotic relationship that benefits both plants and bacteria, the bacteria had to return the favour that helps plant life. They did this by creating a metabolite called fulvic acid. Fulvic acid is the primary transport agent that delivers minerals and other nutrients to plants.

Detailed Benefits of Fulvic Acid for Plants and Soil:

Powerful mineral transporter:

Fulvic acid plays a critical role in plant health by helping transfer nutrients from the soil to the plant. Fulvic acids are relatively small, water-soluble molecules that quickly pass through cellular membranes. Each fulvic acid molecule contains an unusually high amount of highly bioavailable oxygen. These multiple oxygen sites enable fulvic acids to bind with minerals and easily transport them into the cells of plants. Because fulvic acid can transport minerals and other nutrients many times its weight, it dramatically increases nutrient delivery into cells. It increases the plant's oxygen uptake capacity and improves chlorophyll and membrane permeability, allowing more nutrients to enter. It's capable of dissolving minerals and trace elements uniquely by binding with them, a process known as chelation, allowing the minerals to be taken up more effortlessly by the plant. The improved soil organic matter and nutrient absorption increase photosynthesis, plant strength, growth, height, and root density.

Supercharged Electrolyte:

Fulvic acid is one of nature's most potent natural electrolytes. Electrolytes are substances that produce an electric current when they dissolve in water. Fulvic acid's multiple binding sites enable it to donate and receive electrons. This enables fulvic acid to deliver energy to cells, regulates, and regenerates electrical energy in cells. Hence, fulvic acid is vital in maintaining proper electrical balance within cells.

Soil Health:

Fulvic acid helps to loosen compacted soil, which improves water infiltration and aeration. It can also help to suppress harmful microorganisms in the soil.

Reduce Heavy Metal Pollution:

Fulvic acid modifies the nature of heavy metals and reduces the uptake of heavy metals in plants. It has a high cation exchange capacity and forms strong bonds with heavy metals, reducing plant stress.

It can be added to the soil, used as a foliar spray, or applied directly to the roots. As a soil amendment, fulvic acid can help improve nutrient uptake and increase the plant's overall health. When used as a foliar spray, it can help prevent disease and improve the plant's ability to absorb nutrients. When applied directly to the roots, fulvic acid can help to stimulate growth and improve overall plant health.

Summary:

- Fulvic acid plays a critical role in plant health by helping transfer minerals and other nutrients from the soil to the plant. Each fulvic acid molecule contains an unusually high amount of highly bioavailable oxygen. These multiple oxygen sites enable fulvic acids to bind with minerals and easily transport them into the cells of plants.
- It is a natural metabolic accelerator.
- It boosts a plant's immunity and suppresses harmful microorganisms in the soil.
- Fulvic acid is one of nature's most potent natural electrolytes. It delivers energy to cells, regulates, and regenerates electrical energy in cells. Fulvic acid is vital in maintaining proper electrical balance within cells.
- Fulvic acid helps to loosen compacted soil, which improves water infiltration and aeration.
- It reduces heavy metal pollution. Fulvic acid modifies the nature of heavy metals and reduces the uptake of heavy metals in plants. It has a high cation exchange capacity and forms strong bonds with heavy metals, reducing plant stress.
- It can be added to the soil, used as a foliar spray, or applied directly to the roots.
 - As a soil amendment, fulvic acid can help improve nutrient uptake and increase the plant's overall health.
 - When used as a foliar spray, it can help prevent disease and improve the plant's ability to absorb nutrients.
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