

Symbiotic Microbes with Fermented Nutrients (SMFN)

Stinging Nettle – Moringa – Alfalfa – Horsetail – Comfrey

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 Fermented Nutrients:

Symbiotic Microbes with Fermented Nutrients (SMFN) is a natural plant-based fertiliser that provides a powerhouse of nutrients for healthy plant growth (including nitrogen, phosphorus, and potassium). It consists of five fermented nutrient-dense medicinal herbs that feed microbes, promote green growth, and increase a plant's natural resistance to disease.

Additional Benefits and Functions:

- It contains all the amino acids that play a role in healthy plant growth.
- It is high in silica and potash, which helps to form strong plant cell walls.
- It contains growth hormones for young plants' healthy root and stem development.
- It is an excellent food source for beneficial microbes, increasing their populations.
- It contains antioxidants that increase plants' resistance to pests, disease, and stress.
- It improves soil quality and increases crop yield.
- It is a natural activator that speeds up compost heaps' decomposition process.

Benefits of Using Liquid Ferments:

- Prevents diseases.
- Prevents bacterial attacks.
- Prevents insect invaders.
- Provides a boost in nutrient needs.
- Supports the vigorous growth of plants stems, leaves and roots.

Ingredients:

Symbiotic microbes, fermented herbs (stinging nettle, moringa, alfalfa, horsetail, horsetail, and comfrey), sulphur-free blackstrap molasses, raw apple cider vinegar, natural ethanol, and fountain water.

How to use Symbiotic Microbes with Fermented Nutrients (SMFN):

- 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 Algae (SMA) or Symbiotic Microbes with Fulvic Acid (SMFA)

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 Algae (SMA) or Symbiotic Microbes with Fulvic Acid (SMFA)

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 Fermented Nutrients (SMFN)** contain living organisms and pressure may build up. Unscrew the cap without removing it to release the pressure and secure it tightly. Shelf life is six (6) months when stored correctly.

More About the Ingredients:

Why do we use fermented herbs instead of a standard extract:

- Fermentation increases the diversity of beneficial bacteria and fungi.
- It enhances the nutraceutical profile and bioavailability of the herbs.
- Symbiotic microorganisms can degrade plant cell walls via hydrolysis, converting the cell's complex organic compounds into smaller molecules, such as polysaccharides, lipids, and proteins.
- This enhances insecticidal, antifungal, antibacterial, antioxidant, and anti-inflammatory activities.
- Symbiotic microbe's proteases yield bioactive peptides with multiple health benefits, such as ACE inhibition and immune system modulation.
- During fermentation, apple cider vinegar and natural ethanol are added to extract more nutrients and beneficial phytochemicals.
- The resulting serum is rich in nutrients and phytochemicals.

Alfalfa:

- Alfalfa is a natural fertiliser providing nutrients for healthy plant growth. The NPK value is usually balanced, somewhere around 3-1-2.
- It is rich in micronutrients and trace elements.
- High in vitamin A, B, and E.
- High in minerals including nitrogen, phosphorus, potassium, magnesium, and iron.
- It contains sixteen amino acids that play roles in healthy plant growth.
- Alfalfa stimulates plant growth. It contains triacontanol, a growth hormone essential for photosynthesis and encourages young plants' healthy root and stem development.

Comfrey:

- Comfrey is rich in macro and micronutrients, amino acids, proteins, and vitamins, making it a fantastic input to boost plants and soil life.
- Comfrey is particularly useful for vegetative growth and in the transition from veg to bloom.
- Comfrey is very well-rounded and can be used at any time of growth.
- It is high in about every nutrient a plant needs, including the big three, nitrogen, phosphorus, and potassium, and many trace elements.

Horsetail:

- Horsetail is an ancient plant; horsetail has been around since 100 million years before the dinosaurs appeared.
- Horsetail showed excellent growth capacity of probiotics, *Lactobacillus plantarum* and *Lactobacillus salivarius*, and produced the volatile compounds from biotransformation.
- Horsetail balances the moist environment and helps prevent aphids, whiteflies, fungus, and damping off.
- As a soil drench, the fermented brew is said to help balance beneficial fungal and bacterial organisms in the soil by increasing their populations.
- Horsetail is a highly effective plant fortifier that protects plants by increasing their natural strength and resistance to disease, insects, and stress via their immune systems.
- It is high in silica and potash which helps to form strong plant cell walls.

- Strengthen plants which are in danger of attracting fungal infections like Blight or Blackspot.

Moringa:

- High in Vitamins – Moringa leaves contain elevated levels of Vitamin C and Beta Carotene, both essential nutrients for healthy plants.
- Rich in protein – Moringa leaves contain 18 essential amino acids, making them a complete plant-based protein.
- Powerful antioxidant – Moringa leaves contain powerful antioxidants that reduce oxidative stress and improve the overall health of soil and plants.
- Moringa is a sustainable alternative to synthetic fertilisers. It improves soil fertility and plant growth without harming the environment.
- Improved plant growth – Moringa provides valuable micronutrients that result in better plant growth, yield, and quality.
- Improve soil quality – It assists in fixing nitrogen in the soil, creating a healthy microenvironment for crops to thrive.
- Increases yields – Studies have shown that crops treated with fermented Moringa leaf can yield up to 35% more produce.

Nettle:

- Stinging nettle is known as a dynamic accumulator, which readily takes up nutrients and minerals from the soil, and then stores them in highly bioavailable forms and concentrations in their leaves. This makes nettle an excellent natural fertiliser, mulch, or addition to a compost pile.
- The nutrients nettle fertiliser contains include chlorophyll, nitrogen, calcium, magnesium, iron, and potassium.
- Stinging nettles leaves are loaded with high concentrations of vitamins A, C, D, E, F, K, P, and vitamin B-complexes.
- It contains many minerals, including calcium, magnesium, selenium, zinc, iron, and lower amounts of potassium.
- As a leafy green, stinging nettle is also high in nitrogen, chlorophyll, and plant polyphenols, bolstering plant health and stimulating growth.
- Stinging nettle is lower in potassium than comfrey but much easier to come by and contains an average N2:P0:K5 but with high trace elements.
- Nettle acts as a natural activator and speeds up the decomposition process in compost heaps.
- Because it's rich in nitrogen, this is particularly useful for leafy vegetables like kale, chard, and spinach.
- It works best on leafy plants and heavy feeders.
- Plant Immune Health – Stinging nettle fertiliser makes plants less susceptible to certain diseases due to its anti-bacterial and anti-fungal properties. Plants with a strong immune system are also less negatively impacted by pests or stress, such as drought, heat, or other unfavorable conditions.