



## Detailed Technical Specifications

### ByoSoil 100

#### **PRODUCT OVERVIEW/DESCRIPTION: Soil Conditioner-Nutrient Supplement**

Soil quality continues to degrade over many parts of the country. Various additives have depleted the natural microbial population, which are necessary to process nutrients (N-P-K) in order for them to be available for uptake into plants and crops. As a result, overuse of conventional fertilizers occurs, which causes other soil issues such as salt and phosphate build-up, not to mention the added cost.

**ByoSoil 100** (patent pending) is a blend of a number of unique components designed to correct soil problems and provide basic nutrient requirements of plants and crops. The primary ingredients include the following;

- A proprietary humic acid extract
- A blend of essential soil microbes
- Blend of N-P-K Nutrients
- Byo-Gon patented microbial biostimulant

Scientific analysis of soils treated with slow-release, salt-based fertilizers and low-volume chemicals reveal the deficiency of beneficial microbes, and expose the true fragility of eco-soil environments. The product is scientifically designed to restore and maintain naturally beneficial microbial colonies in multiple soil environments.

ByoSoil 100 is engineered with nine enhanced plant beneficial soil microbes (see Microbial Content Description below) and is assimilated by plants on a cellular level. This advanced formula increases natural biological activity, detoxifies soil from contaminants, accelerates root development for critical nutrient storage, protects against pathogenic diseases, and transports valuable nutrients from the soil into the cell membrane of the plant.

ByoSoil 100 contains an advanced biostimulant (4% v/v) (Byo-Gon) alkaloid compound that is derived from plant extracts, primarily aloe vera and kelp. This patented component provides for microbial stimulation that functions at a sub-enzymatic level – naturally increasing biological activity and facilitating beneficial microbial outcomes.

#### MICROBIAL CONTENT DESCRIPTION

- B. subtilis (4 strains): A blend of specific bacteria known for their strong disease fighting properties. This combination is also a key contributor to cellulose degradation.
- B. polymyxa: A Bacillus strain known for its ability to convert calcium and iron into immediately available forms.
- B. polymyxa is also an aggressive cellulose degrader and thatch remover.

- B. thuringiensis: A Bacillus strain that generates an endotoxin lethal to both surface and sub-surface insects. The endotoxin targets the insect at a cellular level, leading to its death.
- B. licheniformis: A Bacillus strain known for its aggressive conversion of primary and minor nutrients.
- B. amyloliquefaciens (2 strains): These Bacillus strains are noted for their potent enzymatic production and exceptional high protein export capacities, as well as for providing tremendous biocontrol of the pathogens causing Rhizoctonia solan

## Guaranteed Analysis

Humic Acid.....100%  
98.6% Soluble, pharmaceutical grade. 1.4% Semi-Soluble

### Microbial Content

B. subtilis(1).....	5.5 Billion cfu/g
B. subtilis(2).....	5.5 Billion cfu/g
B. subtilis(3).....	5.5 Billion cfu/g
B. subtilis(4).....	5.5 Billion cfu/g
B. polymyxa.....	5.5 Billion cfu/g
B. thuringiensis.....	5.5 Billion cfu/g
B. licheniformis.....	5.5 Billion cfu/g
B. amyloliquefaciens(1).....	5.5 Billion cfu/g
B. amyloliquefaciens(2).....	5.5 Billion cfu/g

## BENEFITS

- ❑ Detoxifies the soil from the full spectrum of accumulated toxins associated with chemical products.
  - ❑ Increases turf beneficial microbes within the soil.
  - ❑ An effective chelating agent, which magnifies the availability of vital plant nutrients, including nitrogen, calcium, phosphorus, potassium and trace minerals.
  - ❑ Increases nutrient and water storage through more efficient cellular uptake.
  - ❑ Promotes plant growth through the immediate availability of beneficial nutrients and minerals.
  - ❑ Reduces disease pressure via organic acids that breakdown both the carbohydrate and protein components of harmful bacteria and disease pathogens.
  - ❑ Natural ingredients – Safe for use around animals, fish, and humans.

## All Organic Components

Total Nitrogen (N) 5% (1.25% Ammonia cal Nitrogen - 3.75% Urea Nitrogen)

Available Phosphate (P025) 16%

Soluble Potash (K2O) 12%

Total Iron (Fe) 3.5% (3000ppm Chelated Iron)

Zinc (Zn) 0.08%

Manganese (Mn) 0.02%

Copper (Cu) 0.01%

Calcium (Ca) 0.02%

Derived from: Ammonium Hydroxide, Urea from Natural Gas, Phosphoric Acid from Mineral Phosphorus, Potassium Hydroxide from Mineral Potash