

Grass Magic

The Ingredients:

ITEMS PROVIDED BY **GRASS MAGIC** THAT OTHER FERTILIZERS AND ORGANIC SOIL AMENDMENTS TYPICALLY DO NOT PROVIDE.

Biological inoculums applied to GRASS MAGIC pasteurized granular medium:

The general strains of microorganisms and their functions are listed in the following table:
BROAD SPECTRUM INOCULANT: 66 STRAINS

Bacillus: 46 strains to include

Bacillus subtilis Bacillus licheniformis Bacillus megaterium Bacillus pumilis Bacillus azotoformans Bacillus coagulans Bacillus firmus Bacillus amyloliquefaceans Paenibacillus polymyxa Paenibacillus durum Bacillus azotoformans Bacillus coagulans Geobacillus stearothermophilus

Endospore formers (survive in harsh environments)
Free living nitrogen fixers Solubilize minerals & nutrients in soil profile Enhance nutrient absorption
Enhance photosynthetic capacity Produce plant regulatory compounds (growth promotion)

Pseudomonas: 6 Strains to include

Pseudomonas putida Pseudomonas fluorescence Pseudomonas aureofaceans
Provide increased resistance to abiotic stress Produce plant regulatory compounds (growth promotion)
Enhance photosynthetic capacity Free living nitrogen fixers

Streptomyces: 7 Strains to include

Streptomyces lydicus Streptomyces griseus Streptomyces coelicolor
Prolific enzyme producers (nutrient solubilization)
Produce plant regulatory compounds (growth promotion) Enhance soil structure.

Trichoderma: 7 Strains

Trichoderma reesei Trichoderma hamatum Trichoderma harzianum
Solubilize phosphorous in the soil Facilitate nutrient absorption Provide increased resistance to abiotic stress

Microbial Nutrients

Dextrose 55.00 %, 10.00% Sucrose, 3.00 % Amino Acids **Amino Acids to include Methione,**
3.0 % Vitamin Blend (B Complex, Biotin), 2.50 % Natural Silica (Drying Agent) Bio-Stimulants

Bio-stimulants

Amino Acid Profile:

Amino acids are derived from organic proteins. Approximately 50% of the content of **GRASS MAGIC** by weight is amino acids. The amino acid distribution and the contribution of each amino acid to the total amino acid source are presented in the following table.

Alanine	4.47%	Lysine	2.76%	Tyrosine	1.06%
Arginine	3.74%	Methionine	1.15%	Histidine	1.32%
Aspartic	6.45%	Phenylalanine	1.98%	Valine	2.43%
Cystine	0.53%	Proline	4.32%	Isoleucine	1.72%
Glutamic	7.15%	Serine	2.35%	Leucine	3.37%
Glycine	7.39%	Threonine	2.07%	Ornithine	0.00%
Hydroxyproline	0.00%	Tryptophan	0.30%		

Grass Magic

Carbohydrate Profile

The polysaccharide and monosaccharide carbohydrates in controlled release form are derived primarily from dextrose, corn syrup solids and wheat bran and to a lesser degree from the other organic ingredients.

Approximately carbohydrates react with amino acids to form an easily digestible metabolic energy source for microorganisms. Saccharide carbohydrates comprise about 10% of the formulation. The saccharide distribution and the contribution to the total carbohydrate source is presented in the following table.

CARBOHYDRATE PROFILE TABLE					
Monosaccharide	19.6%	Pentasaccharide	7.4%	Nonasaccharid	3.2%
Disaccharide	15.1%	Heptasaccharide	4.8%	Decasaccharide	2.6%
Trisaccharide	11.8%	Hexasaccharide	5.9%	Higher saccharide	16.0%
Tetrasaccharide	9.2%	Octasaccharide	3.9%		

GRASS MAGIC Provides A Gentle Carrier Medium.

SOLUBLE SALT PROFILE:		
	GRASS MAGIC 15-0-7	Detection Limits
Total Soluble Salts	2.5%	0.10%
Sodium (Na)	0.27%	0.01%

Humic Acid and Kelp Meal Profile

GRASS MAGIC products applied at the rate of $\frac{3}{4}$ pounds of Nitrogen per 1,000 sq. ft. provide the following soil amendments and bio-stimulants:

HUMIC ACID AND KELP MEAL PROFILE		
	Per 1,000 sq. ft.	Per acre
Humic Acid, 15% concentrate	.25 lbs.	10.89 lbs.
Kelp Meal Concentrate	.25 lbs.	10.89 lbs.

Grass Magic products provide the following plant food nutrients derived from multiple sources to provide a source of available and controlled release plant food with 70-75% of nutrients released by biological activity and remainder by hydrolysis.

A Micronutrient Package

NUTRIENT	DERIVED FROM
Nitrogen	<u>Feather meal, Methylene urea, ammonium sulfate, urea, monammonium phosphate, meat and bone meal, kelp</u>
Potassium	Potassium Phosphate
Calcium	Dicalcium phosphate, hydrated lime, meat and bone meal
Sulfur	Potassium sulfate, sulfate from minor nutrients
Iron	Iron oxide, Iron sulfate
Manganese	Manganese sulfate
Magnesium	Magnesium sulfate, magnesium oxide, hydrated lime
Zinc	Zinc oxide
Copper	Copper oxide