



HUMIC ACID⁴⁵⁸

POWER

100% WATER SOLUBLE



FOLIAR OR SOIL

Designed to be used in tank mixes with acid or alkaline fertilizers, micronutrients, pesticides, fungicides and bio-stimulants over wide range of pH 1 to 12.

Will not precipitate in acidic phosphoric acid based fertilizers or water soluble fertilizers. Derived from North American Leonardite.

Humic Acid 458 complexes with metals such as zinc, manganese, copper, iron, calcium and magnesium for enhanced availability to plants. Safe to use in seed zone treatments in soils with low organic matter to stimulate and promote proliferation of beneficial soil microbes.

SPECIAL FEATURES

- Biologically stimulates plant metabolism
- Provides high ion exchange capacity
- Increases germination and survival rate of seeds
- Provides source of soluble organic carbon
- Safe to use in seed zone placement and transplant solutions

COMPOSITION

Humic Acid.....	48.0% - 52.0%	Nitrogen	0.45%
Fulvic Acid	8.4% - 9.0%	Phosphate.....	0.57%
Carbon	39.0%	Potassium	8.80%
Oxygen.....	22.5%	Calcium.....	0.75% -1.0%
Hydrogen	4.1%	Magnesium	0.15%
Sulfur.....	11.2%	Iron.....	0.17%

Appearance: Dark brown to black powder Cationic Exchange Capacity: 48-64 MEQ per gram
Carboxyl Content: MEQ per gram 9.6 Solubility: 100%

DIRECTION (Dissolve In water before using)

FOLIAR SPRAY: Apply 1-2 lbs. per acre (1-2.2 kgs. per HA) in sufficient water for full coverage spray use 1 lb. (0.45 Kg.) in 50 to 100 gallons (189-378 liters) of water or 1 ounce (30 grams) per 1,000 sq. ft. (93 sq. m.) in 10 to 20 gallons (38-76 liters) of water. Stir or shake before using. Add to tank when is full.

Applications can be made monthly throughout the growing season or as an alternative. Apply 3 to 4 weeks prior to bloom, then again as post bloom, then 2 to 3 weeks later when fruit is half formed or when secondary growth begins.

[See Back For More Information >](#)

NET WT.: 2.2 Lb. 20 X 2.2 Lb.

SOIL APPLICATION - DRIP SYSTEM:

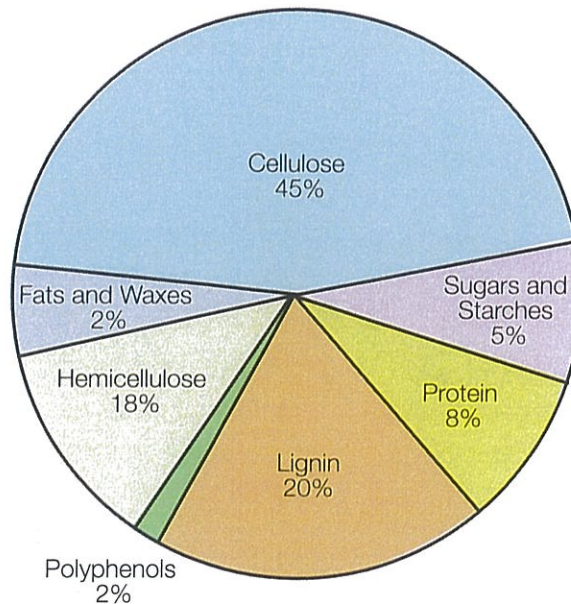
Use 2 to 3 lbs. per acre (2 to 3 1/2 kgs. HA) in ground application equipment or sprinkler irrigation runs. May be used in direct seeded crops. It may also be used in combination with starter or pop-up fertilizers at the same rates. For poor soil, a 1% solution is recommended for use as soil drench or drip irrigation. For hydroponic systems or constant feeding systems: 100 to 200 ppm (mg/L) are typical with maximum of 500 ppm (mg/L).

SEED-ROOT ZONE:

For seed and root zone treatments: Recommended for calcareous or other soils low in organic matter. For seed treatment. Use at the rate of 3/4 ounce per bushel of seed (18 grams of soluble Humic Acid powder) applied as a 1% solution to carefully coat seed. Root zone and transplant solution can be treated with 1% solution.

Humic Acid in the geologic past was derived from green plant material and contains both, active and passive organic fractions that are more readily utilized by soil microbes.

HUMIC ACID



Grow More Humic Acid retains fertilizer inputs, supports nutrient cycling to optimize plant growth.

Grow More Humic Acid soil colloids surface area is very high and measured on a mass basis (150-300 CMOL/Kg) far exceeds that of most clays. These colloids carry a swarm of absorbed cations (Ca^+ , H^+ , Mg^+ , K^+ , NH_4^+) which retain nutrients in the root zone for increased bio availability for plant uptake.

Next to photosynthesis and respiration, no process in nature is more vital to plant and soil microbial life than the exchange of ions between soil particles (humic colloids) and plant roots.

Grow More Humic Acid increases soil water holding capacity by 20 to 30% by improving both, the porosity and friability of soil. This ensures that water remains in the root zone for more readily access during the growing season. This can result in significant water reduction.

RESULTS TO EXPECT:

- Increased nutrient uptake
- Increased beneficial microbe activity
- Increased availability of all soil nutrients
- Increased seedling vigor
- Increased drought tolerance
- Vigorous root development
- Improved yields & quality
- Buffering against fertilizers leaching through soil
- Buffering against high fertilizer salts and pH changes