

LUMINA™

IMPROVE NUTRIENT AVAILABILITY

Lumina™ is a unique plant fertilizer produced via microbial fermentation that contains a bioavailable source of plant nutrients, amino acids, and polypeptides that can promote plant vigor and nutrition in all conditions. The amino acids in Lumina may improve nutrient availability, especially when added to tank mixes containing additional nutrients. Lumina will improve crop tolerance to abiotic stress and improve overall crop nutrition while enhancing the function of beneficial microbes. Lumina can be applied via root drench or as a foliar spray with both conventional and organic fertilizer programs. Lumina can be paired with other Impello products for maximum performance. Lumina is safe to use in soil or soilless growing medias including rockwool and hydroponic systems.



LUMINA FEATURES & BENEFITS

- Bioavailable nutrients elicit and increase photosynthesis / stimulate plant growth
- Source of bioavailable nitrogen compliments inorganic nitrogen
- Boosts plant metabolism
- Enhances crop quality and yield under both favorable and stressful growth conditions
- Increases plant tolerance to abiotic stress

NOTES ON LUMINA'S pH

Lumina has a naturally low pH of 4.3 ± 0.8 , so it may lower the pH of nutrient solutions when mixed. However, it is generally not necessary to adjust the nutrient solution pH after adding Lumina even if the pH value is lower than expected. Because Lumina contains relatively low levels of mineral nutrients but significant amounts of organic compounds like amino acids, polypeptides, and carbohydrates, the resulting nutrient solution pH is pretty easily manipulated once introduced to the soil system and plant's rhizosphere.

So, if you notice a pH drop after adding Lumina to your nutrient solution, don't worry--it's natural. If you want to closely monitor how the plant and rhizosphere is changing your nutrient solution pH, take irrigation run-off pH readings after watering. Keep an eye on plant response following nutrient applications, but don't worry too much about perfecting the pH before watering.

GUARANTEED ANALYSIS

Total Nitrogen (N).....	0.5%
0.5% Water Soluble Nitrogen	
Soluble Potash (K ₂ O).....	0.5%

Derived from: molasses and shrimp protein hydrolysate*

Shrimp protein hydrolysate is the material obtained by the hydrolysis of proteins to their constituent amino acids and short polypeptides. They are a source of nitrogen.

APPLICATION RATES

CONTAINER (amount per gallon of water):

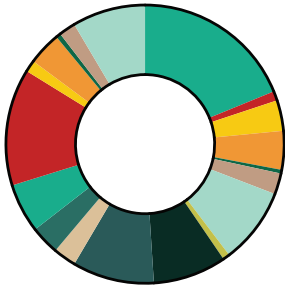
- Root Drench:** 10mL - 20mL (2-4 tsp)
- Foliar:** 10mL - 20mL (2-4 tsp)
- Frequency:** 1x every 1 - 3 weeks

FIELD (amount per acre per application):

- Root Drench:** 0.5 - 4.0 liters (1-8 pints)
- Foliar:** 0.5 - 4.0 liters (1-8 pints)
- Frequency:** 1x every 1 - 3 weeks

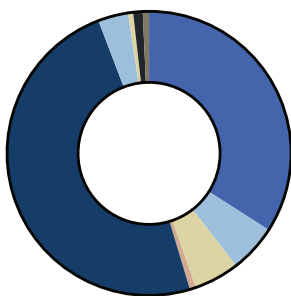
WHAT'S INSIDE?

Amino Acids



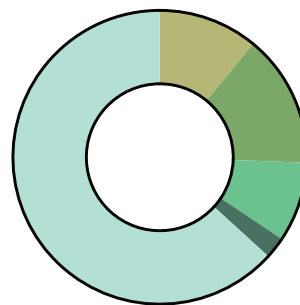
- | | |
|--|--|
| ■ Alanine | ■ Leucine |
| ■ Arginine | ■ Lysine |
| ■ Asparagine | ■ Methionine |
| ■ Aspartic acid | ■ Phenylalanine |
| ■ Cystine | ■ Proline |
| ■ Glutamic acid | ■ Serine |
| ■ Glycine | ■ Threonine |
| ■ Histidine | ■ Tryptophan |
| ■ Isoleucine | ■ Tyrosine |
| | ■ Valine |

Macronutrients



- | |
|--|
| ■ Crude Protein |
| ■ Nitrogen |
| ■ Potassium |
| ■ Phosphorus |
| ■ Carbon |
| ■ Calcium |
| ■ Magnesium |
| ■ Sulfur |
| ■ Sodium |

Micronutrients



- | |
|--|
| ■ Manganese |
| ■ Zinc |
| ■ Copper |
| ■ Boron |
| ■ Iron |

USING LUMINA WITH TRIBUS ORIGINAL

Tribus Original and Lumina are compatible and can be used together for a 'compound' effect. The bacteria in Tribus are responsible for producing extracellular enzymes such as protease, lipase, tannase which breakdown the lipids, proteins, and carbohydrates found in Lumina for plant uptake. In turn, the carbon content found in Lumina can act as a food source for the bacteria found in Tribus which may help with colony formation in areas outside of the rhizosphere. Together, Tribus and Lumina will substantially enhance root mass, yield, and flower quality by providing the plant with superior nutrition and microorganisms.

STORAGE CONDITIONS

- Protect from frost; Protect from heat and direct sunlight.
- Store in a cool dry place between the temperatures of 2°C / 35.6°F and 48°C / 118.4°F away from direct sunlight. The product will freeze at -10°C / 14°F



APPLICATION GUIDELINES

- Lumina can be used as a root drench or during foliar applications;
- Your plants will benefit from Lumina however you choose to apply it. Lumina contains a bioavailable nutrient content of 0.5 - 0 - 0.5, so absorbing through the foliage is the least energy-intensive way for the plant to use the nutrients in Lumina for leafy growth. However, Lumina will complex nutrients in your usual feed program, making them easier for the plant to uptake which is the primary benefit of root drenches. For best results, consider using Lumina as a root drench AND during foliar applications.
- Lumina can be tank-mixed with nutrients or water for ease of application, or applied via overhead irrigation, drip irrigation, hand-watering, in hydroponic systems, in backpack sprayers, or through any other foliar applying mechanism.
- Lumina can be mixed with most fertilizers, pesticides, herbicides, and fungicides--always test compatibility first
- Flush drip irrigation lines with clean water after injecting Lumina
- Can be mixed with tap or reverse osmosis (RO) water
- Intended to be used as a Plant Growth Promoting Biostimulant
- Mix well before use!

Without Lumina™

With Lumina™



03

Enhances root and stem architecture.

02

Supports crop nutrition and microbes.

01

Results in superior flower yield & quality.

How Lumina™ Works

1. Apply Lumina™ via root drench or as a foliar spray at the earliest stages of plant growth up to the day of harvest.
2. Lumina™ adds amino acids, polypeptides, carbon, protein, and a bioavailable source of macronutrients to the root zone or foliage.
3. The compounds in Lumina™ support greater development, soil health, and flower quality.