



Product Guide



About HGS BioScience

HGS BioScience is your partner for all of your humic and fulvic acid needs – unlocking soil productivity to maximize the value of every acre.

With a track record of innovation and a footprint of five U.S. production facilities, HGS has the deepest and most versatile portfolio of patented extracted granule, powder, and liquid in the soil and plant health industry.

Introduction

2

About HGS BioScience
Why Extracted Humates
The HGS Difference

Soil Health

5

HumiK® ONE
HumiK® BIO
HumiK® ZN
HumiK® Tech Grade
HumiK® LX

Plant Health

10

Ful-Grow™ MAX
Ful-Grow™ ULTRA
Ful-Grow™ Gold 2X

Product Portfolio

13

Our Footprint

14

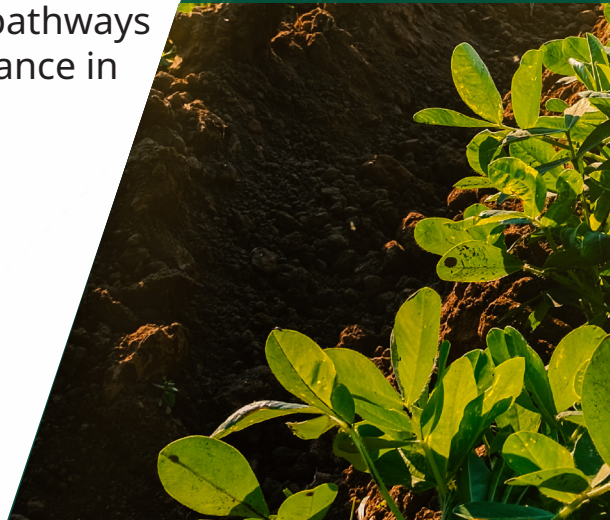
Why Extracted Humates

Soil

- Improves soil structure and boosts diversity of the soil microbiome
- Improves water management, protecting against drought conditions
- Increases cation exchange capacity in the soil

Plant

- Maximizes fertilizer benefit, unlocking phosphorus and preserving nitrogen in the root zone
- Enhances root growth
- Triggers biochemical pathways that boost stress tolerance in the plant



The HGS Difference

Our Extracted Granule Technology in HumiK® ONE is the **most effective** and **convenient** way to deliver humates to the soil.

HumiK® ONE features extracted humates that are soluble in the soil solution and **readily available** for plants, allowing **lower use rates**. Our low dust formulation enables **improved blending capabilities with urea**. HumiK® ONE is our foundational granule for delivery of extracted humates. It can be combined with nutrients or biologicals to **form new solutions** to meet grower needs.



Soil Health

HumiK[®] ONE[®]

EXTRACTED • GRANULE • TECHNOLOGY

HumiK[®] ONE is the most effective and convenient way to deliver humates to the soil. HumiK ONE improves soil structure and increases cation exchange capacity across all soils and conditions.

HumiK ONE features Extracted Granule Technology, delivering readily available extracted humates in an easy to use granule. This product features a low-dust formula and can be blended with most dry fertilizers, including urea.

DIRECTIONS FOR USE

SOIL: Broadcast, band or prepare transplant beds with 4 – 10 lbs. per acre, per application with dry fertilizer program. If applying with seed or in-season, incorporate with water or tillage. Multiple applications may be more beneficial.

GUARANTEED ANALYSIS

Soluble Potash (K₂O).....10.0%

DERIVED FROM: Potassium Hydroxide

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

Humic Acids derived from Leonardite.....60.0%

HumiK ONE is a granule built like a dry fertilizer for easy blending



Soil Solubility Like Urea



Hardness and Durability Like MAP



Bulk Density Like Urea and MAP



Consistent Granule Size

HumiK® BIO

EXTRACTED • GRANULE • TECHNOLOGY

HumiK® BIO combines the benefits of HumiK ONE with **sea plant extract and microbes** that provide added plant health, yield, and soil health benefits.

HumiK BIO features Extracted Granule Technology and can be applied to any crop. HumiK BIO has been infused with sea plant extract and blended with select microbes that reduce plant stress and improve nutrient availability.

DIRECTIONS FOR USE

SOIL: Broadcast, band or prepare transplant beds with 4 – 10 lbs. per acre, per application with dry fertilizer program. If applying with seed or in-season, incorporate with water or tillage. Multiple applications may be more beneficial.

GUARANTEED ANALYSIS

Soluble Potash (K₂O).....10.0%

DERIVED FROM: Potassium Hydroxide

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

Humic Acids derived from Leonardite.....60.0%

Seaweed Extract (microbe food).....1.0%

From *Ecklonia maxima*

The specially designed blend of microbes in HumiK BIO aids in plant growth, micronutrient uptake, and phosphorus solubilization

Species	Plant Growth Promoter	Micronutrient Uptake	P Solubilization	Other
<i>Bacillus subtilis</i>	✓	✓	✓	N Fixation
<i>Bacillus licheniformis</i>	✓	✓	✓	
<i>Bacillus megaterium</i>	✓	✓	✓	
<i>Bacillus amyloliquefaciens</i>	✓	✓	✓	
<i>Bacillus pumilus</i>		✓	✓	Salt Stress, N Uptake

Soil Health



HumiK® ZN features Extracted Granule Technology and delivers humic acid, zinc, and sulfur in a convenient granule that can be applied to any crop. When HumiK ZN is applied, the humic acid can chelate zinc, keeping it plant available throughout the growing season.

DIRECTIONS FOR USE

SOIL: Broadcast, band or prepare transplant beds with 5 – 15 lbs. per acre, per application with dry fertilizer program. If applying with seed or in-season, incorporate with water or tillage. Multiple applications may be more beneficial.

SEEDING: Band or broadcast 1 – 5 lbs. with seed at planting.

GUARANTEED ANALYSIS

Soluble Potash (K ₂ O).....	4.0%
Sulfur (S).....	4.0%
Zinc (Zn).....	20.0%

9.0% Water Soluble Zinc (Zn)

DERIVED FROM: Potassium Hydroxide, Zinc Sulfate, and Zinc Oxide

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

Humic Acids derived from Leonardite.....	30.0%
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HumiK ZN Application Rates		
Use Rate (Lbs Per Acre)	HumiK ONE Delivered (Lbs Per Acre)	Zinc Delivered (Lbs Per Acre)
10	5.7	2.1
11	6.3	2.3
12	6.8	2.5
13	7.4	2.7
14	8.0	2.9
15	8.6	3.2

HumiK[®] TECH GRADE

HumiK[®] Tech Grade is our new manufacturing use product that brings all the benefits of our Extracted Granule Technology to a new microgranule designed with enhanced solubility for fast and easy mixing to create a liquid product.

DIRECTIONS FOR USE

1. Determine target blend. Recommended starting rate is 1 pound (lb) HumiK Tech Grade per gallon (gal).
2. Jar test blend components. Target final blend pH above 6.0.
3. Add base liquid to mixing vessel and begin agitation. The temperature should be ambient.
4. Slowly add HumiK Tech Grade to mixing vessel.
5. Agitate until thoroughly blended.
6. Rinse mixing vessel following transfer.

GUARANTEED ANALYSIS

Soluble Potash (K_2O).....10.0%

DERIVED FROM: Potassium Hydroxide

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

Humic Acids derived from Leonardite.....60.0%



HumiK[®] LX

HumiK[®] LX is an extracted humic acid liquid derived from leonardite, providing immediate availability of humic and fulvic acid for maximum impact on soil and plant health to enhance yield potential.

DIRECTIONS FOR USE

FOLIAR: Apply 1 quart – 3 gallons per acre, per application with sufficient water for thorough coverage by ground or air application.

SOIL: Apply 2 quart – 4 gallons per acre, per application with fertilizer or with water. Repeated applications may be beneficial.

GUARANTEED ANALYSIS

Soluble Potash (K₂O).....2.0%

DERIVED FROM: Potassium Hydroxide

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

Humic Acids derived from Leonardite.....12.0%



64%

yield increase in
potatoes treated
with HumiK LX*

9 *HumiK LX applied at 4 gal/A when plants were 4-6" in diameter. Trial conducted in 2024 near Hammett, ID.

Ful-GrowTM MAX

Ful-GrowTM MAX is fulvic acid specially formulated with neutral pH for improved tank mix compatibility.

Ful-Grow MAX with fulvic acid is a nutritional adjuvant and defense against environmental stresses, and can be applied to any crop via soil or foliar applications. Ful-Grow MAX has been formulated with fulvic acids and can be applied to most crops via soil and foliar applications. Ful-Grow MAX is compatible with most starter fertilizers and irrigation systems. Ful-Grow MAX can be mixed with most pesticide applications.

DIRECTIONS FOR USE

FOLIAR: Apply 1 – 2 pints per acre, per application with sufficient water for thorough coverage by ground or air application.

SOIL: Apply 1 pint – 1 quart per acre, per application with fertilizer or with water. Repeated applications may be beneficial.

GUARANTEED ANALYSIS

Soluble Potash (K₂O).....2.0%

DERIVED FROM: Potassium Hydroxide

CONTAINS NON-PLANT FOOD INGREDIENTS:

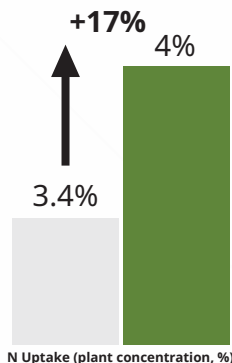
Fulvic Acids (FA)..... 6.0%

From Leonardite

INERT INGREDIENTS:

Organic Acids in Water.....94.0%

Foliar application of fulvic acid drives improved nutrient uptake



Without Fulvic Acid
With Fulvic Acid

Application of fulvic acid to soybeans resulted in greater N acquisition due to enhanced root growth. **Fulvic acid improved the N nutritional status of the plant from deficient (3.4%) to sufficient (4%).**

Ful-Grow[™]•ULTRA

Ful-Grow[™] ULTRA is fulvic acid formulated with **sea plant extract** for the ultimate defense against stressors such as heat, drought, cold and salinity.

Ful-Grow ULTRA has been formulated with sea plant extract to improve stress tolerance in plants and can be applied to most crops via soil and foliar applications. Ful-Grow ULTRA is compatible with most starter fertilizers and irrigation systems. Ful-Grow ULTRA can be mixed with most pesticide applications.

DIRECTIONS FOR USE

FOLIAR: Apply 1 – 2 pints per acre, per application with sufficient water for thorough coverage by ground or air application.

SOIL: Apply 1 pint - 1 quart per acre, per application with fertilizer or with water. Repeated applications may be beneficial.

GUARANTEED ANALYSIS

Soluble Potash (K₂O).....2.0%

DERIVED FROM: Potassium Hydroxide

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

Fulvic Acids (FA)..... 6.0%

Seaweed Extract (microbe-food).....8.0%

From Leonardite and Ecklonia maxima

INERT INGREDIENTS:

Organic Acids in Water.....86.0%

Why Sea Plant Extract

Sea plant extract's biologically active molecules defend against the toxic compounds created during stress conditions, promotes plant growth, and provides defense against stressors such as extreme temperatures, drought, and soil salinity.

When applied to corn, sea plant extract results in...

55% Increase in Leaf Chlorophyll Content

33% Increase in Transpiration Rate

Increases in leaf chlorophyll content and transpiration rate improve the rate of photosynthesis, resulting in more energy and the building blocks necessary for plant growth.

Ful-Grow[™] Gold 2X

Ful-Grow[™] Gold 2X contains fulvic acid as a nutritional adjuvant and defense against environmental stresses.

Ful-Grow Gold 2X is compatible with most starter fertilizers and irrigation systems. Ful-Grow Gold 2X can be mixed with most pesticide applications.

DIRECTIONS FOR USE

FOLIAR: Apply 1 – 2 pints per acre, per application with sufficient water for thorough coverage by ground or air application.

SOIL: Apply 1 pint – 1 quart per acre, per application with fertilizer or with water. Repeated applications may be beneficial.

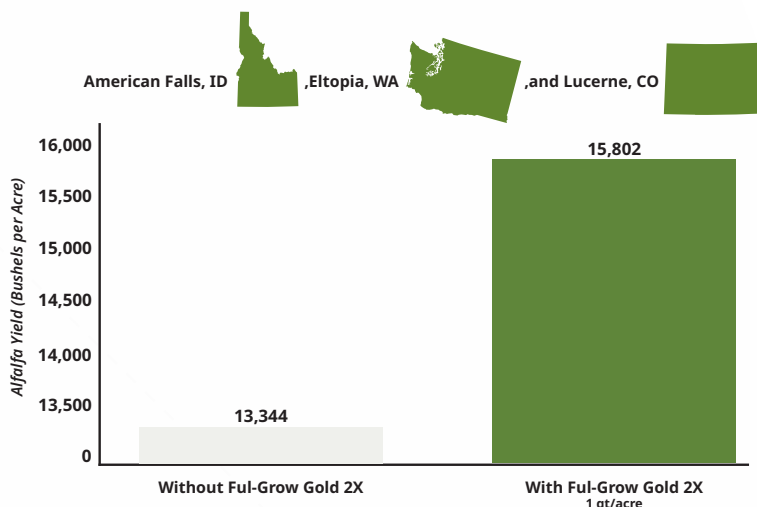
GUARANTEED ANALYSIS

Fulvic Acids (FA)..... 6.0%

INERT INGREDIENTS:

Organic Acids in Water.....94.0%

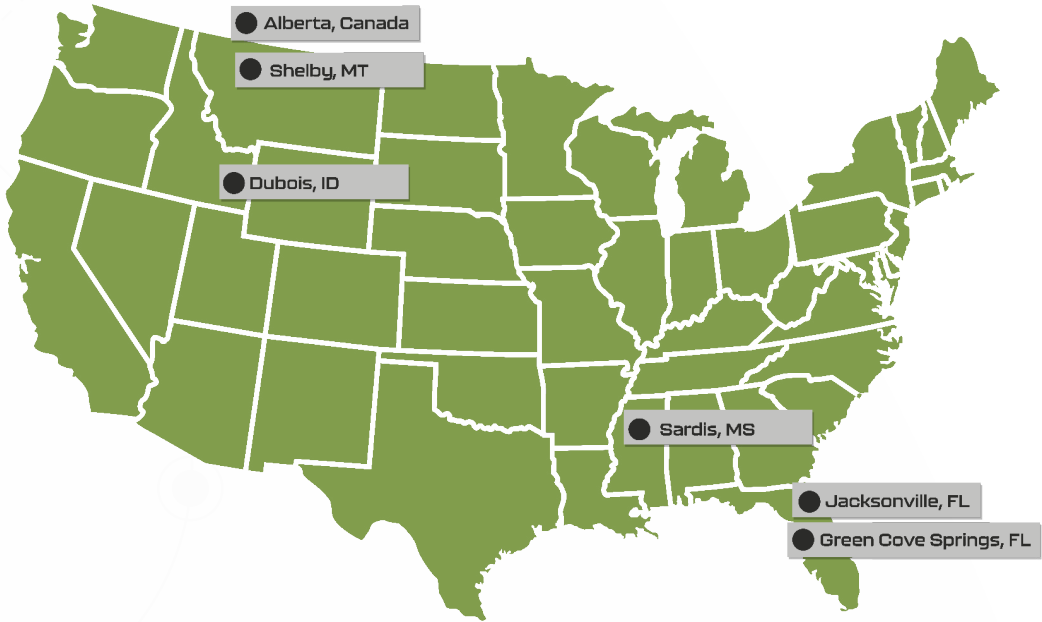
***Application
of Ful-Grow
Gold 2X
improved
alfalfa yields
by 18%***



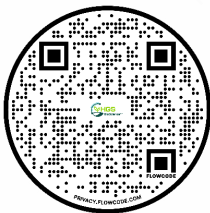
Product Portfolio

	Soil Health	Plant Health	Granule	Powder	Liquid		
Product						Use Rate	Package Sizes
 HumiK ONE EXTRACTED • GRANULE • TECHNOLOGY	●		●			4 - 10 LBS/A	2200 LB 55 LB
 HumiK ONE EXTRACTED • GRANULE • TECHNOLOGY TURF	●		●			4 - 10 LBS/A	2200 LB 55 LB
 HumiK BIO EXTRACTED • GRANULE • TECHNOLOGY	●		●			4 - 10 LBS/A	2200 LB 55 LB
 HumiK BIO EXTRACTED • GRANULE • TECHNOLOGY TURF	●		●			4 - 10 LBS/A	2200 LB 55 LB
 HumiK ZN EXTRACTED • GRANULE • TECHNOLOGY	●		●			5 - 15 LBS/A	2200 LB 55 LB
 HumiK WSG EXTRACTED • GRANULE • TECHNOLOGY	●		●			4 - 10 LBS/A	2200 LB 55 LB
 HumiK TECH GRADE EXTRACTED • GRANULE • TECHNOLOGY			●			1 LB/GAL	2200 LB 55 LB
 HumiK WSP EXTRACTED • POWDER • TECHNOLOGY	●			●		1 - 10 LBS/A	2200 LB 55 LB
 HumiK BIO WSP EXTRACTED • POWDER • TECHNOLOGY	●			●		1 - 10 LBS/A	2200 LB 55 LB
 HumiK LX EXTRACTED • GRANULE • TECHNOLOGY	●				●	1 QT - 4 GAL/A	275 GAL TOTE 2x2.5 CASE
 HumiK SSG EXTRACTED • GRANULE • TECHNOLOGY	●		●			10 - 15 LBS/A	2200 LB 55 LB
 Ful-Grow Gold 2X EXTRACTED • GRANULE • TECHNOLOGY		●			●	1 - 2 PTS/A	275 GAL TOTE 2x2.5 CASE
 Ful-Grow MAX EXTRACTED • GRANULE • TECHNOLOGY		●			●	1 - 2 PTS/A	275 GAL TOTE 2x2.5 CASE
 Ful-Grow ULTRA EXTRACTED • GRANULE • TECHNOLOGY		●			●	1 - 2 PTS/A	275 GAL TOTE 2x2.5 CASE

Our Footprint



We are an American manufacturing company of extracted humic acid and fulvic acid products. Our corporate headquarters is located in north Jacksonville, FL; with 5 additional facilities across the US and Canada, we stand ready with the solutions your farm needs.



Our **team of seasoned ag professionals** is ready to help **solve your crop needs!** Scan our QR code to get started!



HGS BioScience
709 Eastport Road, Jacksonville, FL 32218
(904) 329-1012 • hgsbioscience.com