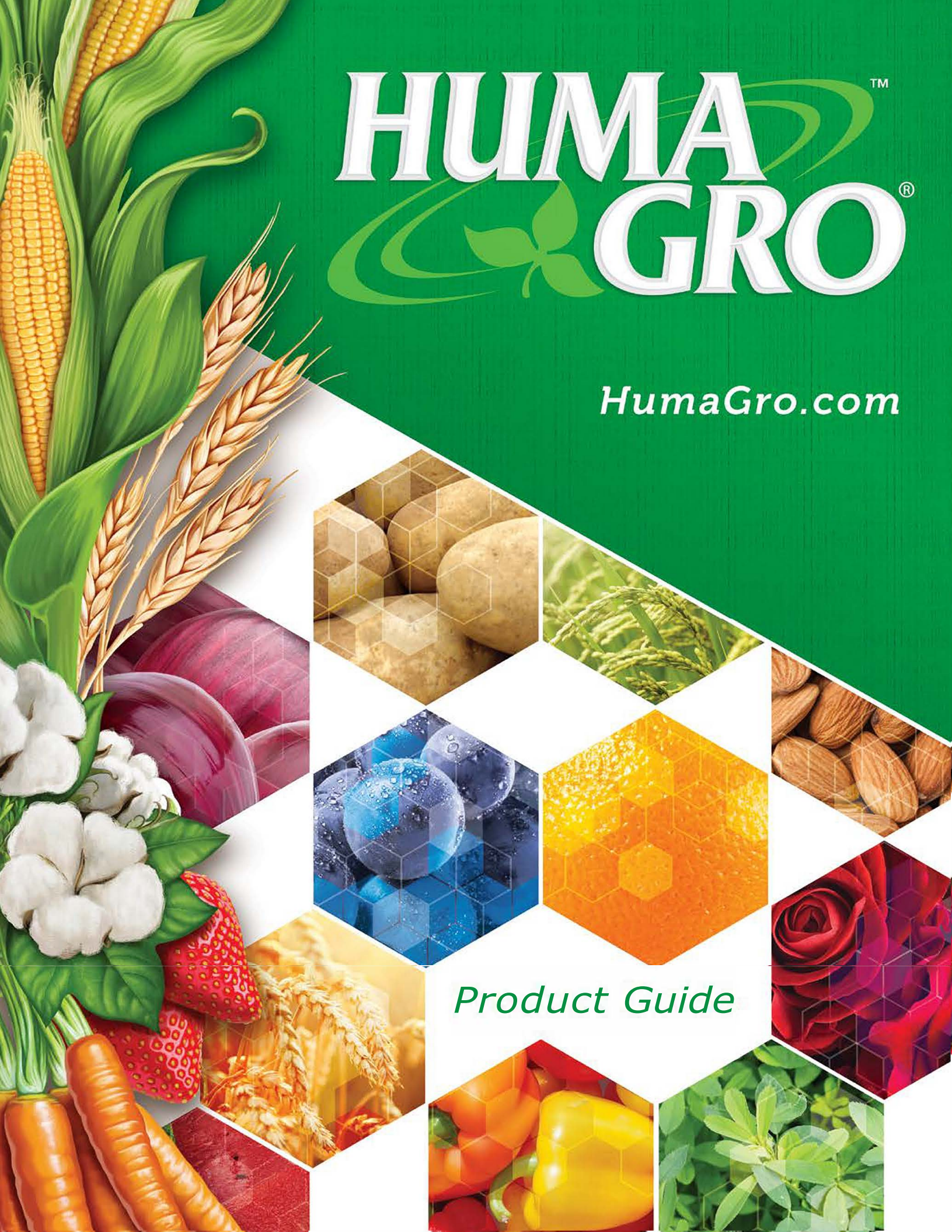


HUMA GROTM

HumaGro.com

Product Guide





Welcome

At the heart of every grower lives the desire to push limits. As they work hard from early morning till late, they push not just themselves, but their land, soil, seeds, inputs, and machinery—all to deliver more than the year before. Increasing yield, while keeping costs as low as possible, is at the heart of all they do.

Since 1972, growers from around the globe have experienced not only unprecedented yield increases, but also dramatically improved crop quality, uniformity, taste, longevity, and soil conditions—all from using Huma Gro® products with Micro Carbon Technology®. Our products are made in the U.S.A. and work so effectively, those who experience the results rarely go back!

As you do, we understand the need to not only push the limits of agriculture production, but to do it responsibly. Our carefully engineered products are environmentally safe. They are rigorously tested by independent growers and distributors. When used consistently, they dramatically improve the soil structure and produce a sustainable ecosystem resulting in a compounded effect—bringing even richer results year after year, while protecting our earth for future generations.

At Huma Gro®, we believe in the power of agriculture and in the ability of every grower to make a difference. We are dedicated to strengthening your crop and your business by providing you with products that push limits, so that you can achieve more!

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Our Vision

We seek to be the global leader in providing sustainable solutions to the world's environmental challenges for agriculture through our constantly improving Micro Carbon Technology®.



Our Mission

We provide technologically advanced and ecologically sustainable quality products and services that replenish the earth by reviving soil fertility and renewing food and fiber values—enhancing the quality of life worldwide.



Our Operating Values



Quality Relationships: Whether distributor, grower, or someone in between—we treasure these relationships by honoring and valuing each person's contributions toward success.



Honesty and Integrity: We assert that these values are the foundation for successful business and communications.



"Win-Win" Outcomes: We focus on results that foster a culture of synergy and mutual success.

The Abundance Mentality: Resources properly managed allow everyone to share in the fruits of the harvest.



Who We Are & What We Do

Huma Gro® is a product line of liquid plant nutrition and specialty agriculture input products. **Huma Gro® products are unique due to a proprietary “complexing” process that combines nutrients with very small organic particles that allow the nutrients to be absorbed into the plant at an efficiency rate far higher than other competitive products.** These small organic particles are referred to as “Micro Carbon Technology®” (MCT). Huma Gro® products with MCT allow nutrients to be delivered with extreme precision—increasing overall efficiency and effectiveness, more than any other product on the market. The results are a higher yield of a more premium quality crop, while also significantly reducing storage, handling, and application costs.

Huma Gro® is one of many subsidiaries of Bio Huma Netics, Inc.® (BHN), located in Gilbert, Arizona. BHN was founded under the name Sunburst Mining Company in 1973 by Dr. Jordan Smith², Don Organ¹, and Delworth Stout³. These men discovered a unique oxidized humate material in a mine in the northwestern United States. This material was rich in natural organic compounds and minerals. When it was first applied to farm soils as a dry compound, it improved soil conditions, accelerated nutrient uptake, enhanced crop vigor, and increased yields.

By 1981, Sunburst Mining had become Bio Huma Netics, Inc.® and had developed a proprietary process to extract organic acids, valuable minerals, and other organic components from this material. This extract contains the base of MCT that is the foundational ingredient used in almost all of the nearly **50 unique formulations of Huma Gro® products.**

Throughout the years, Huma Gro® products have been constantly refined and improved upon. **These highly sustainable liquid solutions allow growers to control their crop with unparalleled precision** by utilizing sustainable soil fertility, ultra-efficient crop nutrition, optimal growth managers, zero-residue crop protection, and carbon-rich organic acids.



1. Mr. Donald Organ
2. Dr. Jordan Smith
3. Mr. Delworth Stout



Micro Carbon Technology®

What is Micro Carbon Technology®?

Micro Carbon Technology® (MCT) is a proprietary blend of extremely small organic carbon- and oxygen-rich molecules that act as a source of carbon and provide an ultra-efficient vehicle to move nutrients and other molecules into the plant through the soil and/or the leaves.

Where does MCT come from?

The beginning of MCT can be traced back to 1973, when our scientists discovered a unique organic material that, when applied to farm fields, improved both the soil's fertility and the plants' nutrient uptake. We now know this material to be mainly composed of a high-quality leonardite. Our leonardite is a soft, humic material, rich in carbon, that was never compressed or heated to become coal.

What can MCT-based products do that other products do not?

- MCT is an ultra-efficient delivery system that allows growers and crop managers to achieve far more with much less product. **Lower input volume = increased yield.**
- Many inputs harm the soil. Huma Gro products have a **positive environmental impact by promoting overall soil and plant health** through efficient foliar nutrition and the growth of roots and beneficial microorganisms in the soil.

What makes Huma Gro® products unique and so efficient?

The secret to our high efficiency rates is Micro Carbon Technology®. Using MCT as the base, we have developed many highly effective products for virtually every type of application. By building upon this base, the result is:

- **Enhanced activity and diversity of beneficial microorganisms.**
- **Improved soil physical structure.**
- **Enhanced nutrient availability and uptake.**
- **Suppression of crop pests and diseases.**

Our products efficiently supply your crop with the essential nutrition it needs for optimal growth, fruiting, and vigor. **The results are higher quality, increased yield, and maximum profit.**

Why should I use or sell Huma Gro® products with MCT?

Our products containing MCT are:

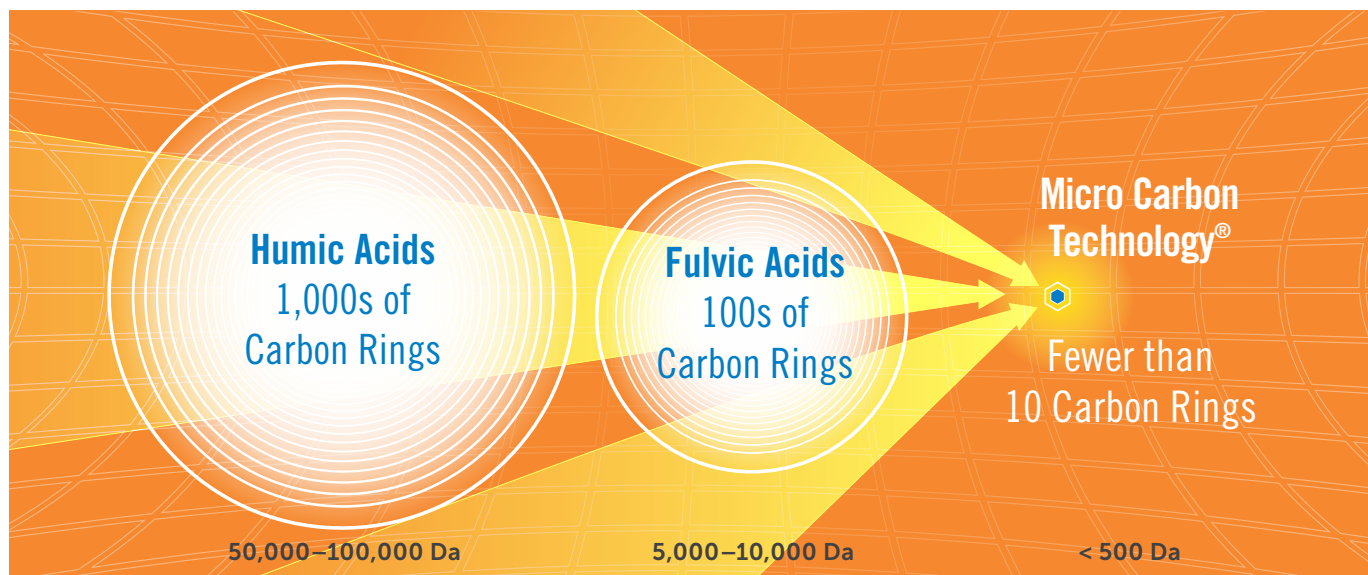
- **Exclusive—no one else has them.**
- **Based on a highly active form of carbon.**
- **More nutritionally rich.**
- **Ultra-concentrated, dramatically reducing storage requirements.**
- **Environmentally friendly.**
- **Compatible with most agrochemical applications.**



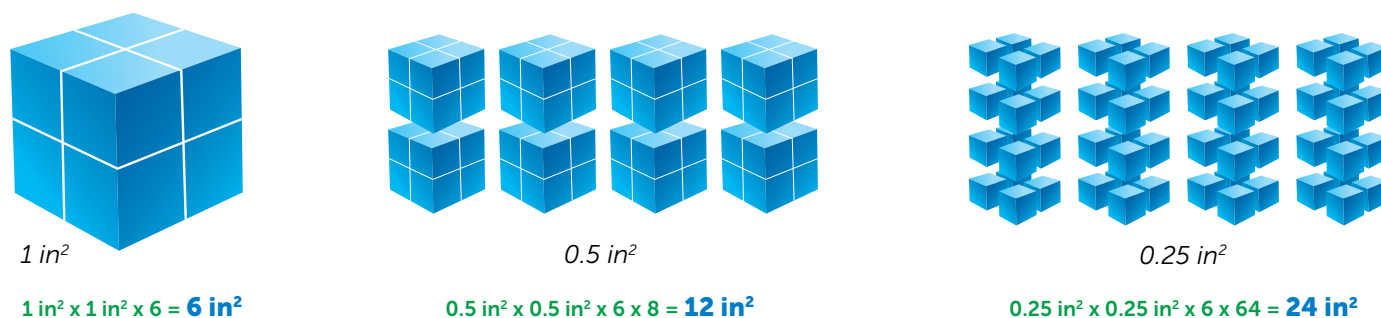
How does MCT produce such compelling results?

The carbon molecule size makes the difference.

The significantly smaller particle mass allows nutrients to be transported through leaf and root at a far higher rate.



MCT produces organic matter with greater specific surface area.



Greater specific surface area = incredibly more efficient products.

What are the key benefits of Micro Carbon Technology?

NON-SELECTIVE: works with both metallic (+) and non-metallic (-) ions.

VERSATILE DELIVERY: sprayed on the soil directly or applied through all irrigation systems and/or as a foliar.

LOW ENERGY: requires less effort to uptake nutrients and protects them from being tied up in the soil profile.

The MCT Difference!

SUSTAINABLE SOIL FERTILITY

Unlike Conventional Products, Huma Gro® Soil Fertility Products:

- Activate beneficial microorganisms in the soil.
- Flocculate clay particles or aggregates sand for improved soil structure.
- Buffer stress from soil toxicities (salts & heavy metals).
- Improve water penetration and water holding capacity.
- Increase root mass development naturally—up to 25% and more.



OPTIMAL GROWTH MANAGEMENT

Unlike Synthetic Hormones, HUMA GRO® Growth Products:

- Achieve uniform blooming, fruit set, fruit sizing, and maturity.
- Use natural plant metabolic processes without long-term side effects.
- Do not create environmental hazards and have no public health concerns.
- Manipulate the plant to do what you want it to do, when you want it to do it.



ULTRA-EFFICIENT CROP NUTRITION

Unlike Conventional Nutrition Products, HUMA GRO® Products:

- Save costs by lowering the amount of N-P-K that needs to be applied.
- Are based on organically complexed nutrients, with significantly higher efficiency rates.
- Lower the salt index and buffer nutrients—preventing phytotoxicity and root burn.
- Decrease N-P-K residues for reduced toxicity and environmental impact.



ZERO-RESIDUE CROP PROTECTION

Unlike Conventional Pesticides, HUMA GRO® Biopesticides:

- Leave zero harmful chemical residues.
- Do not damage the environment or create concern for human health.
- Can be used long-term. Pests do not develop resistance.
- Have zero re-entry level requirements. Minimal protective gear is needed.
- Will kill on contact, and can be applied anytime up to the day of harvest.



CARBON-RICH ORGANIC ACIDS

Unlike Conventional Organic Acids, HUMA GRO® Products:

- Are higher-performing fertility products based on organic acid compounds.
- Allow the nutrients to easily assimilate through the roots and leaves.
- Buffer roots against the damaging effect of highly acidic or alkaline soils.
- Maximize the potential of your fertilizer, resulting in better germination, efficient foliar applications, and a more vigorous growth.



The Huma Gro[®] Advantage

FEATURES	ADVANTAGES	BENEFITS
Proprietary Delivery System	Sub-molecular carbon-rich particles enter and transport nutrients throughout the plant.	Saves input and handling costs. Up to 4 times more efficient than conventional products.
Optimal Nutrition	Complete nutritional packages that fulfill all fertility needs. Achieve better plant health.	Use fewer chemicals, save costs, and be more environmentally sound. Achieve true sustainability with more options.
Liquid Versatility	Can be applied in a variety of methods. Can be sprayed or injected into all types of irrigation.	Flexibility. Apply the product with your current practices. No need to change.
Ultra-Concentrated	Smaller volume needed to cover more crops. Easier to transport, ship, and store.	Reduce storage space. Lower application rates. Less handling.
Smaller Molecule Size	Facilitates the absorption of essential nutrients through both roots and leaves.	Nutrient deficiencies can be treated more effectively. Increased nutrient performance.
Easily Mixes	Can be applied simultaneously with other products, allowing MCT to become a carrier for all.	Blends well with other nutrients and most pesticides and herbicides. Makes each of the products that are applied more effective.
Increased Nutrient Availability	Resists soil tie-up and releases nutrients that are blocked.	More of the applied nutrient is utilized by the plant, which increases plant quality and yield.

“Farmers see the Micro Carbon Technology[®] working in their fields. They are seeing stronger, healthier plants that they don’t see with other products.”

—Adolfo Meneses





Products

SUSTAINABLE SOIL FERTILITY

SOIL PRO™	ENCAPSALT®
FERTIL HUMUS®	KLEENUP™
ZAP®	

OPTIMAL GROWTH MANAGEMENT

VITOL®	ACTIVOL®	GOLDEN PRO™
BREAKOUT®	CROP-GARD®	SILI-MAX®
JACKPOT® (YIELD-MAX™)	D-FEND®	

MACRONUTRIENTS

SUPER NITRO®	2-16-16™	SIL-K™
SUPER PHOS® (PHOS-MAX™)	38 SPECIAL®	
SUPER POTASSIUM™	C-PHOS™	
LUCKY 7®	BUFFER K®	

SECONDARY MACRO AND MICRONUTRIENTS

MAX PAK®	IRO-MAX™	COPPER	PUR CAL™
44 MAG®	BORO-MAX®	MANGANESE	SULFUR
Z-MAX®	COBALT	MOLYBDENUM	
CALCIUM	COMOL™	NICKEL	

ZERO-RESIDUE CROP PROTECTION

PROMAX®
PROUD 3®

MISC. PRODUCTS

SURF-MAX®
START-L™

CARBON-RICH ORGANIC ACIDS

X-TEND®	HUMA BURST®
X-TEND® B	HUMA PRO®
FULVI PRO®	

Sustainable **SOIL FERTILITY**

Huma Gro® sustainable soil fertility products improve the quality of soil by providing the nutrients necessary to increase the activity and diversity of beneficial bacteria and fungi in crop fields. This increased microbial community delivers many benefits to the soil, such as improving soil physical properties and increasing nutrient availability. More importantly, these organisms break down available organic matter into nutrient-rich humus – the key element in highly productive soils.

Other product benefits include the capacity to buffer extremes of pH and EC in the soil to make nutrients available under conditions in which they would not normally be available or would be reduced.

Benefits of Investing in Your Soils

By improving soil structure, Huma Gro® increases moisture retention and aeration, bringing more effective distribution of water, oxygen, and nutrients directly to the plants' root zones. Improved root mass development promotes better seedling emergence and faster starts. Extensive root growth, particularly in the early stages of plant development, helps increase plant tolerance to adverse environmental conditions, even during periods of extreme heat or drought.





SOIL PRO™ (FORMERLY SOIL-MAX™)

The Solution for Building a Living Soil

Huma Gro® SOIL PRO™ complexed with Micro Carbon Technology® improves soil structure and feeds the beneficial bacterial activity in the soil. This balances the carbon-oxygen ratio, creating a carbon-rich soil that allows the soil and rhizosphere interface to be more active. SOIL PRO™ increases availability of nutrients blocked by mineralization in soils. SOIL PRO™ indirectly helps to diminish the stress of saline soils and pH extremes.

BENEFITS:

- *Activates beneficial aerobic bacteria and actinomycetes*
- *Aerates soils and flocculates clay particles*
- *Increases water penetration*
- *Buffers salts in high alkaline, high salinity soils*
- *Increases nutrient availability for easier plant uptake*
- *Stimulates root-mass development*

GUARANTEED ANALYSIS: 5-0-0

Total Nitrogen (N).....	5.00%	Manganese (Mn).....	0.05%
5.00% Urea Nitrogen		0.05% Chelated Manganese (Mn)	
Iron (Fe).....	0.10%	Zinc (Zn).....	0.05%
0.10% Chelated Iron (Fe)		0.05% Chelated Zinc (Zn)	

Derived From: Urea, Iron HEDTA, Manganese EDTA, Zinc EDTA. Chelating Agents are Hydroxyethylethylenediaminetriacetate and Ethylenediaminetetraacetate.

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	N/A	1–2 qt/ac 2.5–5 L/ha	Apply 15–20 days prior to planting and as needed during the crop cycle.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.

“One of the benefits of Soil Pro™ is that it helps to create a greater bio-mass, but it also helps create a more diverse bio-community; you’re going to get several different forms of beneficial bacteria that proliferate in an environment that’s created by Soil Pro™.

—Lyndon Smith



FERTIL HUMUS®

The Solution for Building Soil Humus

Huma Gro® FERTIL HUMUS® complexed with Micro Carbon Technology® has the nutrients necessary to feed beneficial fungal activity in the soil and to increase carbon and nutrient availability in the root zone. FERTIL HUMUS® enhances aerobic decomposition of organic matter and builds a humus-rich soil, which releases nutrients tied up in organic matter. FERTIL HUMUS® also helps buffer the plant from the effects of heavy metals and toxic substances in the soil.



BENEFITS:

- *Aids in the decomposition of organic residues in soils*
- *Increases recycling of nutrients tied up in organic matter*
- *Aids in improving soil condition*
- *Helps to buffer harsh chemicals and degrade toxic compounds in soil*
- *Increases soil water retention*
- *Stimulates root growth*

GUARANTEED ANALYSIS: 24-0-0

Total Nitrogen (N).....	24.00%	Manganese (Mn).....	0.05%
5.75% Ammoniacal Nitrogen		0.05% Chelated Manganese (Mn)	
5.75% Nitrate Nitrogen		Zinc (Zn).....	0.05%
12.50% Urea Nitrogen		0.05% Chelated Zinc (Zn)	
Iron (Fe).....	0.10%		
0.10% Chelated Iron (Fe)			

Derived From: Urea, Ammonium Nitrate, Iron HEDTA, Manganese EDTA, Zinc EDTA. Chelating Agents are Hydroxyethylethylenediaminetriacetate and Ethylenediaminetetraacetate.

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	N/A	1–2 qt/ac 2.5–5 L/ha	Apply 15–20 days prior to planting and anytime during the crop cycle.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.

"I use Huma Gro because it makes my corn taste better! I also have less dust in my bins, the kernels hold together far better."

—Dan Hilger



ZAP®

Huma Gro® ZAP® complexed with Micro Carbon Technology® is an organic-based formulation of nutrients for feeding the native beneficial soil microbial balance. ZAP® feeds a strong, vigorous soil biology, which indirectly results in the natural improvement of soil health.

- *Improved plant health and disease resistance*
- *Beneficial suppression of soil pathogens and parasitic nematodes*
- *Improvement in beneficial soil microbial activity*
- *Establishment of soil biological balance and species diversity*
- *Reduced need for chemical pesticidal controls*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	N/A	0.5–1 gal/ac 5–10 L/ha	Apply 15–20 days prior to planting and as needed during the crop cycle.

ENCAPSALT®

Huma Gro® ENCAPSALT® combines nutrients and surfactants on an MCT base, which helps diminish salt stress in the root zone. ENCAPSALT® is also used to break free the Na ion, allowing irrigations to move salts down into the soil profile. It improves soil penetration and resolves crusty, hard soils.

TREATS THE FOLLOWING PROBLEMS:

- *Salt damage or toxicity to plants*
- *Anaerobic soil conditions*
- *Low soil organic matter*
- *Poor water penetration*
- *Inhibited root growth, small root mass*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	N/A	1–2 qt/ac 2.5–5 L/ha	Apply 15–20 days prior to planting and as needed during the crop cycle.

KLEENUP™

Huma Gro® KLEENUP™ is a nutrient and soil surfactant formulation with Micro Carbon Technology® that creates a favorable soil environment, improves aeration, and increases the water-holding capacity of soils. KLEENUP™ buffers heavy metals from being toxic to roots and breaks the hydrocarbon chains to speed up the degradation and breakdown of chemical residues.

BENEFITS OF USE:

- *Aids in breakdown of chemical and petroleum contaminants in soil*
- *Aids in detoxification of plants*

TREATS THE FOLLOWING PROBLEMS:

- *Chemical or toxic compound contamination*
- *Residue from pesticides or herbicides*
- *Petroleum-based spills or leaks*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	N/A	0.5–1 gal/ac 5–10 L/ha	Apply 15–20 days prior to planting and as needed during the crop cycle.

GUARANTEED ANALYSIS: 8-0-0

Total Nitrogen (N) 8.00%
 3.0% Ammoniacal Nitrogen
 2.0% Nitrate Nitrogen
 3.0% Urea Nitrogen
 Sulfur (S) 1.00%
 1.00% Combined Sulfur (S)
 Iron (Fe)..... 0.10%
 0.10% Chelated Iron (Fe)
 Manganese (Mn) 0.05%
 0.05% Chelated Manganese (Mn)
 Zinc (Zn)..... 0.05%
 0.05% Chelated Zinc (Zn)



Location: Spain
Crop: Broccoli
HG Products: ZAP®
Results: Healthier plant, increased size and yield



GUARANTEED ANALYSIS: 5-0-0

Total Nitrogen (N) 5.00%
 5.0% Urea Nitrogen



ENCAPSALT® buffers salts in highly alkaline soils, stimulates biomass development, aerates and increases water penetration in soils.



GUARANTEED ANALYSIS: 15-0-0

Total Nitrogen (N) 15.00%
 3.75% Ammoniacal Nitrogen
 3.50% Nitrate Nitrogen
 7.75% Urea Nitrogen
 Iron (Fe)..... 0.05%
 0.05% Chelated Iron (Fe)
 Manganese (Mn) 0.03%
 0.03% Chelated Manganese (Mn)
 Zinc (Zn)..... 0.03%
 0.03% Chelated Zinc (Zn)





Optimal

GROWTH MANAGEMENT

Huma Gro® offers high quality, easy-to-use plant growth management nutrient products that may indirectly cause the plant to naturally produce beneficial hormones. By enhancing nutrient uptake through plants' roots or leaves, Huma Gro® Optimal Growth Managers help improve flowering, budding, fruit set, fruit size, and maturity. This helps you achieve more uniform maturity and consistent size, resulting in improved crop quality and yields. Huma Gro® products add to plant size and vigor, even late in the season, which diminishes the effects of stress associated with disease, insects, and weather.

These benefits combine to make you more efficient, more productive, and more profitable at harvest.



"I use Vitol® with Roundup®. It helps my plants grow stronger while the MCT allows the Roundup® to get into the weeds far more easily, enhancing its effectiveness. "

—Dan Hilger



VITOL®

The Solution for Vigorous, Healthy Plant Growth

Huma Gro® VITOL® complexed with Micro Carbon Technology® feeds the natural metabolic processes within the plant for vegetative development and fruit sizing. It increases the nutrient uptake of the plant and smoothly transitions the plant through its growth stages. It also improves plant recovery from environmental stresses during peak crop demand periods. When soil-applied, VITOL® provides necessary nutrients for root growth and elongation that are critical in tap root crops.



BENEFITS:

- Increase foliar growth at emergence
- Maintain late-season growth and vigor
- Increase fruit size
- Improve uniformity of fruit size
- Give plants energy

GUARANTEED ANALYSIS: 8-16-4

Total Nitrogen (N) 8.00%
 1.10% Ammoniacal Nitrogen
 6.90% Urea Nitrogen
 Available Phosphate (P₂O₅)..... 16.00%
 Soluble Potash (K₂O) 4.00%
 Sulfur (S) 1.00%
 1.00% Combined (S)
 Iron (Fe)..... 0.10%
 0.10% Chelated Iron (Fe)
 Manganese (Mn)..... 0.05%

0.05% Chelated Manganese (Mn)
 Zinc (Zn)..... 0.05%
 0.05% Chelated Zinc (Zn)

Derived From: Urea, Phosphoric Acid, Potassium Carbonate, Ammonium Sulfate, Iron HEDTA, Zinc EDTA, Manganese EDTA. Chelating agents are Hydroxyethylethylenediaminetriacetate and Ethylenediaminetetraacetate.

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply at least 7 days apart as needed during the crop cycle.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.

“I know a potato grower who used Vitol® on 20 acres and a competitor's product on another 20 acres. He applied 1 gal/acre of the Vitol®, as compared to 4 gal/acre of the other product. By the end of the season, he had over a \$12k loss on the acres he used the competitor's products on. Vitol® not only increased his yield, it increased the distribution in red potatoes that is needed to make money.”

—Rudy Allen





BREAKOUT®

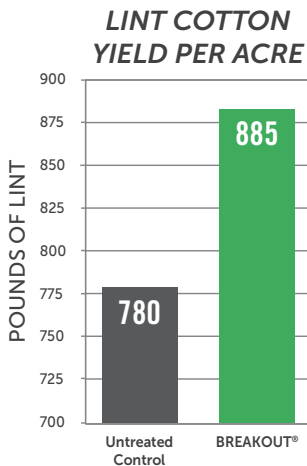
The Solution for Improved Flowering and Fruiting of Plants

Huma Gro® BREAKOUT® complexed with Micro Carbon Technology® is designed to feed the natural metabolic process within the plant for enhanced bud initiation, flowering, and fruit set. When applied to soils, BREAKOUT® is effective at providing needed nutrients for fibrous root growth and enhanced root mass development.

BENEFITS:

- Provides energy needed to push "bud-break" uniformly
- Accelerates the emergence of fruiting buds
- Provides energy needed to promote uniform flowering, increasing the number of flowers and improving fruit set
- Can be used to acidify/buffer spray solutions (pH 2.0)
- May be applied with other foliar nutrients for maximum effect on flowering and fruit set
- Can be used at seeding or when transplanting to maximize new root growth

[See page 22 for additional field report data on Breakout®](#)



Cotton Trial in Missouri, USA
BREAKOUT® versus an untreated control.
 Single application of 1 qt/acre.
 Ask a Huma Gro® rep to see the full study
Result: 13.5% YIELD INCREASE

GUARANTEED ANALYSIS: 4-14-2

Total Nitrogen (N)	4.00%	Available Phosphate (P ₂ O ₅).....	14.00%
0.55% Ammoniacal Nitrogen		Soluble Potash (K ₂ O)	2.00%
3.45% Urea Nitrogen			

Derived From: Urea, Phosphoric Acid, Potassium Carbonate, Ammonium Sulfate

APPLICATION:



CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply at least 7 days apart as needed during the crop cycle.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.



"A grower brought in a picture of his peppers that were struggling. We gave him some Huma Gro® products that we determined could be helpful. The very next day he came back and told us he had seen improvements!"

—Doug Henderson



JACKPOT[®] (YIELD-MAX[™])

The Solution for Increasing Quality of Yields

Huma Gro[®] JACKPOT[®] complexed with Micro Carbon Technology[®] is a concentrated formulation of potassium and boron that feeds the metabolic processes necessary for uniform fruit maturity and improved shelf life, resulting in higher quality fruit. Potassium in JACKPOT[®] promotes translocation of nutrients, proteins, carbohydrates, and sugars from leaves and stems into the fruit. JACKPOT[®] may indirectly improve yield, size, color, quality, and uniformity of all crops.



BENEFITS:

- Promotes sizing and maturity of crops
- Enhances the movement of carbohydrates and proteins from leaves, stems, and roots to the harvested portion of the crop
- Improves quality, ship-ability, and shelf life of produce
- JACKPOT[®] can always be applied with CALCIUM for maximum results:



GUARANTEED ANALYSIS: 0-1-20

Available Phosphate (P₂O₅).....1.0%
 Soluble Potash (K₂O) 20.0%
 Boron (B).....0.5%

Derived From: Phosphoric Acid, Potassium Hydroxide, Boric Acid.

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	N/A	Apply 3–4 weeks prior to defoliation or harvest.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro[®] Rep for more information.

“We have had great success getting increased yields in Arkansas, Missouri, and Mississippi using Huma Gro[®] products. We’ve seen soybean yields go up 16–17 bushels/acre, rice yields increased up to 10 bushels/acre, and cotton yields increased 100–150 lb/acre.”

—Mark Gregory



ACTIVOL®

Huma Gro® ACTIVOL® complexed with Micro Carbon Technology® is a concentrated formulation of nutrients and refined plant oils that increases plant tolerance to foliar disease and facilitates nutrient uptake and translocation throughout the plant.

- *Enhances natural plant resistance to disease and insects through improved nutritional balance*
- *Enhances natural activity to aid in the prevention and management of plant diseases*
- *Organically complexes foliar nutrients*
- *Will carry and enhance sulfur-copper fungicidal sprays and most chemical fungicide formulations*
- *Minimizes leaf burn or phytotoxicity associated with foliar nutrient sprays*
- *Usually eliminates the need for wetting agents*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply at least 7 days apart as needed during the crop cycle.

CROP-GARD®

Huma Gro® CROP-GARD® complexed with Micro Carbon Technology® provides nutrients and refined plant oils for natural plant vigor. CROP-GARD® also achieves balanced plant nutrition for better plant color, growth, development, and production.

- *Enhances natural plant resistance to disease and insects through improved nutritional balance*
- *Will carry and enhance sulfur-copper fungicidal sprays and most chemical fungicide formulations*
- *Provides essential plant nutrients*
- *Minimizes leaf burn or phytotoxicity associated with foliar nutrient sprays*
- *Usually eliminates the need for wetting agents or sticker spreaders*
- *Can be used to carry any combination of HG product*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply at least 7 days apart as needed during the crop cycle.

D-FEND®

Huma Gro® D-FEND® complexed with Micro Carbon Technology® is a foliar formulation of nutrients and refined plant oils that facilitates nutrient uptake and translocation throughout the plant.

- *Provides essential plant nutrients*
- *Nutrients plus natural oils and extracts help enhance plants' natural resistance to pests without developing pest resistance*
- *Tank-mix with most chemical pesticides*
- *Delivers maximum performance with no negative environmental impact*
- *Can carry any combination of Huma Gro® nutrients*
- *Minimizes leaf burn or phytotoxicity associated with foliar nutrient sprays*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply at least 7 days apart as needed during the crop cycle.

GUARANTEED ANALYSIS: 0-5-0

Available Phosphate (P_2O_5)..... 5.00%
 Iron (Fe)..... 0.10%
 0.10% Chelated Iron (Fe)
 Manganese (Mn)..... 0.05%
 0.05% Chelated Manganese (Mn)
 Zinc (Zn)..... 0.05%
 0.05% Chelated Zinc (Zn)



GUARANTEED ANALYSIS: 1-7-1

Total Nitrogen (N) 1.00%
 1.00% Urea Nitrogen
 Available Phosphate (P_2O_5).....7.00%
 Soluble Potash (K_2O) 1.00%
 Sulfur (S) 2.00%
 Copper (Cu)..... 0.20%
 Manganese (Mn) 0.50%
 Zinc (Zn)..... 2.00%

“My grape crop has bigger leaves, no deficiencies, and better root development than before. I can also say that the quality has gone up. I have more bunches that are longer than ever before. I'm very happy”

—Grower in China



GUARANTEED ANALYSIS: 0-5-0

Available Phosphate (P_2O_5)..... 5.00%
 Iron (Fe)..... 0.10%
 0.10% Chelated Iron (Fe)
 Manganese (Mn)..... 0.05%
 0.05% Chelated Manganese (Mn)
 Zinc (Zn)..... 0.05%
 0.05% Chelated Zinc (Zn)



GOLDEN PRO™ (FORMERLY GOLDEN GRO™)

Huma Gro® GOLDEN PRO™ complexed with Micro Carbon Technology® is a unique formulation that provides plants with the nutrients to feed the metabolic processes necessary for fruit sizing and improved quality and yield. GOLDEN PRO™ enables N-P-K and calcium to be combined in a stable nutrient formulation that is effective and efficient while maintaining individual characteristics of each element.

BENEFITS OF USE:

- Increased fruit size and quality
- Improved uniformity of fruit size
- Improved sugar levels (Brix)

WHEN TO APPLY:

- To improve fruit shape and size
- To improve levels of N, P, K, and calcium
- To increase sugar levels in fruit

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply at least 7 days apart as needed during the crop cycle.

SILI-MAX®

Huma Gro® SILI-MAX® complexed with Micro Carbon Technology® is a highly available source of silica, which is essential in grains and grasses for stronger heads, shoots, and blades. It increases the strength and rigidity of the plant cells to prevent lodging.

- Essential in grains, grasses, and turf for stronger heads, shoots, and blades
- Increases the strength and rigidity of plant cells
- Strengthens cell walls to prevent lodging

- Reduces the tendency of crops and turf to wilt during the initial stages of drought
- Increases resistance to some pests and diseases such as powdery mildew

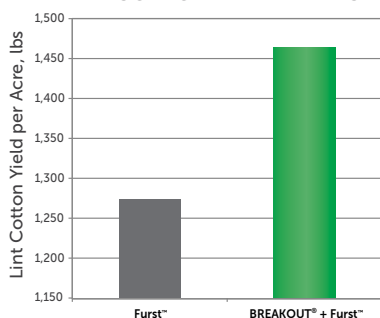
CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	Up to 1 pint/ac 1.25 L/ha	1 pint–1 qt/ac 1.25–2.5 L/ha	Apply at least 7 days apart as needed during the crop cycle.

Field Report Results

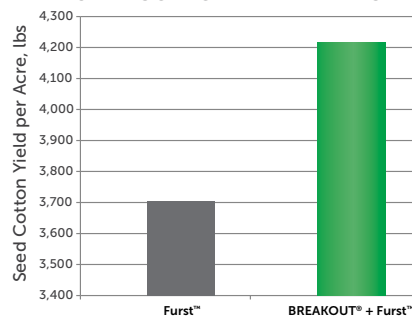
Breakout® on Cotton: Johnson Farms

A field trial using treatment product Furst™ alone versus using Huma Gro® BREAKOUT® + Furst™ on a Johnson Farms Inc. cotton crop in Glendale, Arizona. One application of BREAKOUT® applied at 1 qt/acre.

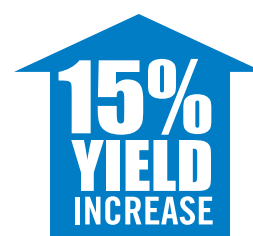
LINT COTTON YIELD PER ACRE



SEED COTTON YIELD PER ACRE



Huma Gro® BREAKOUT® yielded **191 lbs more lint/acre (15% INCREASE)** and **513 lbs of additional seed cotton/acre.**



Ask a Huma Gro® rep to see the full field report.

GUARANTEED ANALYSIS: 5-23-4

Total Nitrogen (N) 5.00%
 5.00% Nitrate Nitrogen
 Available Phosphate (P₂O₅)..... 23.00%
 Soluble Potash (K₂O) 4.00%
 Calcium (Ca) 4.00%



GUARANTEED ANALYSIS: 0-0-0

Silica (Si) 10.00%

"Farmers in Mississippi raising watermelons saw Huma Gro® products increase their yields over that of any other products. They are now only using HG products and they are very excited about the results."

—Mark Gregory



"[Thanks to Huma Gro®] we have managed to get fruits with excellent finishing in terms of size, color, and taste, and, more importantly, of consistency," says the production manager. Specifically, the color of the grape harvested ranged between RG1.5 and RG2, the Brix degree reached 16, and the average diameter was between 1.17 in (29.9 mm) (J) to 1.18 in (30 mm) (JJ). In terms of quality, 85% of the grape was premium, and sold at a high price per box. The final volume was significant, as it reached 2300 boxes per hectare. "It was a show. Everybody wanted to work there," remembers Uculmana, after pointing out that in other table grape areas, the daily average is 40 boxes/picker, while in Olaechea it was 100 in the last season."

—Red Agricola, Apr 2015, Issue 21 pg 28–29



Ultra-Efficient

MACRO NUTRIENTS

Now you can improve the uptake and efficiency of N-P-K applications, thanks to Huma Gro® macronutrient fertilizer products. Our concentrated and complex formulations maximize nutrient availability for improved plant quality. The added efficiency of Huma Gro® products will let you achieve superior results with less fertilizer—and lower fertilizer expense. Thus, in addition to saving money, you reduce the amounts of N, P, and K residue, which is better for the environment and more sustainable for the future.

Your Huma Gro® representative can work with you to determine the best combinations and concentrations of macronutrients, secondary nutrients, and micronutrients which will be most beneficial for your crop.



“Using Huma Gro®, my production has increased 30%! I am also getting 5% higher prices because of better quality. My peppers are spicier, longer, better skin, and generally far more healthy.”

—Pepper grower in China



SUPER NITRO®

The Solution for Improving Nitrogen Availability

Huma Gro® SUPER NITRO® with Micro Carbon Technology® is a complexed nitrogen source that can be foliar-applied, according to label directions, without the risk of phytotoxicity. It can also be soil-applied for nitrogen uptake while keeping it stable in the root zone. It reduces nitrogen losses from leaching and volatilization. SUPER NITRO® enhances cellular respiration that promotes a longer productive crop life.



BENEFITS:

- *Resists nitrogen leaching and volatilization to remain water soluble and available to plant roots*
- *Provides quick crop response and can be applied just prior to actual crop need*
- *Moves with irrigation water to aid in proper placement*
- *Can be tank-mixed to improve availability of other nitrogen solutions*
- *Is non-salt-forming*

GUARANTEED ANALYSIS: 30-0-0

Total Nitrogen (N).....30.00%

Derived From: Urea and Ammonium Nitrate.



APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	2.5–5 gal/ac 25–50 L/ha	Apply as needed.



*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.

“Plants can use the incredibly small, light MCT molecules so much easier than the large humic acid molecules. In a side-by-side comparison MCT always comes out on top.”

—Rudy Allen





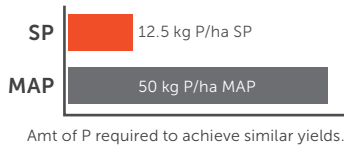
SUPER PHOS® (PHOS-MAX™)

The Solution for Maximum Phosphate Availability

Huma Gro® SUPER PHOS® complexed with Micro Carbon Technology® can be foliar-applied, according to label directions, without the risk of phytotoxicity. When soil-applied, it keeps phosphate available and soluble in the soil solution for rapid uptake by plant roots without being blocked by clays, metal ions, or organic matter. Phosphate encourages the production of amino acids, proteins, and carbohydrates necessary for cellular division.

RESEARCH:

SUPER PHOS® has been proven to be 4 TIMES more efficient than conventional P fertilizer.



Research conducted at the Univ. of AZ concluded that only 12.5 kg P/ha of Super Phos® was equal in efficiency to 50 kg P/ha MAP—that's using 75% LESS fertilizer to achieve the same results.

*Ask a Huma Gro® rep to see the full study.
(Super Phos® on Potatoes, Super Phos® on Lettuce)*

BENEFITS:

- *Resists "tie-up" with calcium or aluminum to remain water soluble and available to plant roots*
- *Moves with irrigation water to aid in proper placement*
- *Can be tank-mixed to improve availability of other phosphorus solutions*
- *Is non-salt forming*
- *Aids in phosphorus uptake in cold or waterlogged soils*
- *Is useful in the cleaning and maintenance of drip irrigation systems*
- *Aids in phosphorus uptake in high pH or calcareous soils*

GUARANTEED ANALYSIS: 0-50-0

Available Phosphate (P₂O₅)..... 50.00%

Derived From: Phosphoric Acid.

APPLICATION:



CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	2.5–5 gal/ac 25–50 L/ha	Apply as needed.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.

"Using Super Phos®, we noticed the root growth 12 days after the application. Based on our evaluations, we initially had 45-hair white root formation and, just two weeks after applying Super Phos®, we counted up to 150 hairs."

—Carlos Choque



SUPER POTASSIUM[®] (FORMERLY SUPER K[™])

The Solution for Maximum Potassium in Plants

Huma Gro[®] SUPER POTASSIUM[®] with Micro Carbon Technology[®] is a complexed potassium source that can be foliar-applied, according to label directions, without the risk of phytotoxicity. It can also be soil-applied for potassium uptake while keeping it stable in the root zone. SUPER POTASSIUM[™] promotes internal cellular strength for fruit development and maturity, and it helps to regulate the movement of water and nutrients within the plant.



BENEFITS:

- *Resists tie-up in the soil and remains available through the plant root system*
- *Provides quick crop response and can be applied just prior to actual crop need*
- *Can be tank-mixed to improve availability of other potassium solutions*
- *Is non-salt-forming and does not contain chloride*
- *Aids in potassium uptake in heavy clay, compacted, or high-salinity soils*
- *Can be mixed with nitrogen solutions for easy application*
- *Is completely water soluble and can be water incorporated*

GUARANTEED ANALYSIS: 0-0-40

Soluble Potash (K₂O).....40.00%

Derived From: Potassium Hydroxide.

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	2.5–5 gal/ac 25–50 L/ha	Apply as needed.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro[®] Rep for more information.

“The liquid MCT base makes the difference! You see it in the blueberry soil samples over that of dry fertilizer. When the blueberries leaf out we are not seeing the phosphorus deficiencies we used to see.

Super Phos doesn’t tie up in the soil—that means the plant can actually use it!”

—Jim Herndon



LUCKY 7®

Huma Gro® LUCKY 7® is a broad-spectrum liquid nutrient formulation complexed with Micro Carbon Technology®. LUCKY 7® is a complete nutrient package containing most macro- and micronutrients. LUCKY 7® provides excellent foliar and soil nutrition. This is a complete nutrient product designed for all types of crops, trees, vines, turf, and ornamentals in a wide range of conditions. It provides an excellent foundation to support vigorous growth.

- *“Leaf friendly” to ensure maximum uptake*
- *Stimulates root growth in seedlings/transplants*
- *Improves health and vigor*
- *Excellent balanced nutrient blend for all crops*
- *Complexed form for easy, rapid uptake*
- *Blended for all soil types and regions*
- *Increases tolerance to environmental stresses*
- *Excellent product for fertigation*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–2 gal/ac 5–20 L/ha	Apply as needed.

2-16-16®

Huma Gro® 2-16-16™ with Micro Carbon Technology® is a complexed nitrogen-phosphorus-potassium (N-P-K) source that can be foliar-applied, according to label directions, without the risk of phytotoxicity. It can also be soil-applied for nutrient release while keeping it stable in the root zone. N-P-K nutrients are essential to crop health, growth, and yields.

- *Resists tie-up in the soil and remains available through the plant root system and leaves*
- *Provides quick crop response and can be applied just prior to actual crop need*
- *Can be used as a starter or pop-up product*
- *Is non salt-forming and does not contain chloride*
- *Is completely water soluble*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–2 gal/ac 5–20 L/ha	Apply as needed.

38 SPECIAL®

Huma Gro® 38 SPECIAL® complexed with Micro Carbon Technology® is designed for a wide range of uses and can be applied to promote germination, fruiting, and crop vigor. Great as a starter mix.

- *Stimulates root growth in seedlings and transplants*
- *Improves health and vigor of plants*
- *Increases phosphorus levels that promote flowering and fruit set*
- *Organically complexed and salt-buffered to reduce leaf burn and phytotoxicity*
- *Foliar nutrients are “leaf friendly” to ensure maximum uptake and translocation*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–2 gal/ac 5–20 L/ha	Apply as needed.

GUARANTEED ANALYSIS: 7-7-7

Total Nitrogen (N)	7.00%
1.5% Ammoniacal Nitrogen	
3.0% Urea Nitrogen	
2.5% Nitrate Nitrogen	
Available Phosphate (P ₂ O ₅).....	7.00%
Soluble Potash (K ₂ O)	7.00%
Magnesium (Mg).....	0.50%
Sulfur (S) (Combined)	1.00%
Boron (B).....	0.02%
Cobalt (Co)	0.01%
Copper (Cu).....	0.003%
Iron (Fe).....	0.10%
Manganese (Mn)	0.05%
Zinc (Zn).....	0.05%



GUARANTEED ANALYSIS: 2-16-16

Total Nitrogen (N)	2.00%
Available Phosphate (P ₂ O ₅).....	16.00%
Soluble Potash (K ₂ O)	16.00%

"MCT sets the standard for everybody . . . it is leaps and bounds above every other technology out there!"

—Mark Gregory



GUARANTEED ANALYSIS: 4-14-12

Total Nitrogen (N)	4.00%
4.00% Ammoniacal Nitrogen	
Available Phosphate (P ₂ O ₅).....	14.00%
Soluble Potash (K ₂ O)	12.00%
Sulfur (S)	8.00%
8.00% Combined Sulfur (S)	



BUFFER K[®]

Huma Gro[®] BUFFER K[®] complexed with Micro Carbon Technology[®] is a potassium product with a more neutral pH that is complexed to maximize potassium uptake by plants. BUFFER K[®] promotes internal cellular strength for fruit development and maturity, and it helps to regulate the movement of water and nutrients within the plant.

- **Resists tie-up in the soil and remains available through the plant root system**
- **Provides quick crop response and can be applied just prior to actual crop need**
- **Is non salt-forming and does not contain chloride**
- **Can be tank-mixed to improve availability of other nutrient solutions**
- **Aids in potassium uptake in heavy clay, compacted, or high-salinity soils**
- **Can be mixed with nitrogen solutions**

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	2–4 gal/ac 20–40 L/ha	Apply as needed.

C-PHOS[™]

Huma Gro[®] C-PHOS[™] complexed with Micro Carbon Technology[®] nourishes crops and corrects calcium and phosphorus deficiencies in a uniquely clear and stable formulation that retains the effectiveness and efficiency of the individual elemental components.

- **Resists “tie-up” with calcium or aluminum to remain water soluble and available to plant roots**
- **Moves with irrigation water for proper placement**
- **Can be tank-mixed to improve availability of other nutrient solutions**
- **Is non-salt-forming**
- **Aids in phos uptake in cold/waterlogged soils**
- **Is useful in the cleaning and maintenance of drip irrigation systems**
- **Aids phos uptake in high pH or calcareous soils**

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	2–4 gal/ac 20–40 L/ha	Apply as needed.

SIL-K[™]

Huma Gro[®] SIL-K[™] complexed with Micro Carbon Technology[®] provides the potassium and silica essential in all crops for stronger fruit holding and thicker stems and leaves. It increases the strength and rigidity of the plant cells, resulting in the prevention of premature fruit drop or lodging. It increases fruit quality and shelf life.

- **Increases the strength and rigidity of the plant cells**
- **Reduces the tendency of plants to wilt during the initial stages of drought**
- **Indirectly increases resistance to some pests and diseases such as powdery mildew**

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	0.25–1 qt/ac 0.75–2.5 L/ha	0.5–2 qt/ac 1.25–5L/ha	Apply as needed.

GUARANTEED ANALYSIS: 0-0-25

Soluble Potash (K_2O) 25.00%



GUARANTEED ANALYSIS: 4-25-0

Total Nitrogen (N) 4.00%
4.00% Nitrate Nitrogen
Available Phosphate (P_2O_5) 25.00%
Calcium (Ca) 5.00%

"We saw amazing results using Vitol®, Super Phos®, and Super Potassium™ on pineapple crops in Costa Rica. We had uniform, bigger fruit and an increase in production of 20%–30% per acre."

—Adolfo Meneses



GUARANTEED ANALYSIS: 0-0-10

Potassium (K_2O) 10.00%
Silica (Si) 5.00%



Grapes grown with Huma Gro® products in Peru.



SECONDARY MACRO

Ultra-Efficient AND MICRONUTRIENTS

Secondary macronutrients (Magnesium, Calcium, and Sulfur) and micronutrients (Boron, Chlorine, Copper, Iron, Manganese, Molybdenum, Nickel and Zinc) are known to play many complex roles in plant development and crop yield. In many ways, they hold the key to how well the other nutrients are used. They promote the strong, steady growth of crops that produce higher yields and increase harvest quality—maximizing a plant’s genetic potential. In particular, their presence can have a great impact on root development, fruit setting, grain filling, seed viability, and plant vigor. However, these nutrients are quickly mined out of any soil that is repeatedly farmed, resulting in the need for applying ever-increasing amounts of fertilizers to get the same crop yield.

Huma Gro® offers a complete line of liquid fertilizer formulations powered by Micro Carbon Technology® (MCT) that allow a grower to foliarly apply these secondary macronutrients and micronutrients at the exact growth stage when they are most needed. The MCT improves the absorption of nutrients by crops; this improved efficiency saves money and reduces waste because less fertilizer is needed to get great results. Whatever your crop, whatever your soil, we can help you find the best nutrient solution for vigorous crop growth and optimal yield.

“With MCT, we have something no one else has. We are able to get nutrients into the plant faster and with less product. It is without a doubt the most trend-setting technology out there!”

—Mark Gregory



MAX PAK®

The Solution for Micronutrient Nutrition in Plants

Huma Gro® MAX PAK® is a liquid micronutrient formulation containing a complexed, highly stable source of many important micronutrients. MAX PAK® is leaf friendly, salt buffered, and formulated with Micro Carbon Technology® to ensure maximum uptake and translocation of nutrients.



BENEFITS:

- **Micronutrient and fungicide booster**
- **Penetrates the leaf with minimum disruption of leaf cell membranes**
- **Nutrient buffer for tank mixes**
- **Improved plant vigor and suppression of plant diseases**
- **Essential components in chlorophyll, plant enzyme systems, protein and carbohydrate metabolism, photosynthesis, respiration, vitamins, and hormones**
- **Provides essential plant nutrients**

GUARANTEED ANALYSIS:

Sulfur (S) 3.00%
 3.0% Combined (S)
 Boron (B)..... 0.60%
 Cobalt (Co) 0.05%
 Copper (Cu)..... 1.00%
 Iron (Fe)..... 2.00%
 Manganese (Mn) 1.00%

Molybdenum (Mo)..... 0.05%
 Zinc (Zn)..... 3.50%

Derived From: Boric Acid, Cobalt Chloride, Sodium Molybdate, Zinc, Manganese, Copper, and Ferrous Sulfates.

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/acre 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.

"HUMA GRO® liquid fertilizers can save up to 90% of your storage space. They come in a concentrated liquid form, instead of dry sacks as conventional products do. This also makes things easier for the worker in charge of mixing the products, as he not only has to lift less weight but also reduces his exposure to potentially harmful conventional products. 'The staff, the plant, and the environment all benefit.' "

—Red Agricola, Apr 2015, Issue 21, pg 28-29





44 MAG[®]

The Solution for Improved Magnesium Nutrition in Plants

Huma Gro[®] 44 MAG[®] complexed with Micro Carbon Technology[®] ensures maximum assimilation of magnesium, which is the essential part of the chlorophyll molecule that gives plants their green color.

BENEFITS:

- *Essential core of the chlorophyll molecule*
- *Is active in the translocation of starches and necessary for sugar formation*
- *Acts as a carrier for phosphorus in the plant*
- *Regulates the uptake of other plant nutrients*
- *Enhances oil and fat formation*

GUARANTEED ANALYSIS:

Magnesium (Mg)..... 5.00%
 5.00% Water Soluble Magnesium (Mg)
 Sulfur (S) 5.50%
 5.50% Combined Sulfur (S)

Derived From: Magnesium Sulfate

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply as needed.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro[®] Rep for more information.



"Agrícola San José (reduced) not only the size of the warehouses from 2,152 sq. ft. (200 sq. m) to 107 sq. ft. (10 sq. m), but also the irrigation system maintenance investment. 'Thanks to the Huma Gro[®] products' solubility, drip emitters no longer get clogged, resulting in savings for us.' –Agrícola San José manager"

—Red Agricola, Sep 2015, Issue 25, pg 42-43



Z-MAX[®]

The Solution for Improved Zinc Nutrition in Plants

Huma Gro[®] Z-MAX[®] complexed with Micro Carbon Technology[®] ensures efficient and effective uptake of zinc, sulfur, manganese, and copper to optimize micronutrient nutrition of the plant and helps suppress certain external and internal plant stresses. This highly concentrated micronutrient solution is designed to improve plant nutrition and vigor. Z-MAX[®] is a great additive to your pest management arsenal.



BENEFITS:

- *Micronutrient and fungicide booster*
- *NPK booster*
- *Nutrient buffer for tank mixes*
- *Improved plant vigor and suppression of plant diseases*
- *Essential components in chlorophyll, plant enzyme systems, protein and carbohydrate metabolism, photosynthesis, respiration, vitamins, and hormones*
- *Regulation of NPK, water, and plant solubles*



GUARANTEED ANALYSIS:

Sulfur (S) 5.00%
 5.0% Combined Sulfur (S)
 Copper (Cu)..... 0.50%
 Manganese (Mn)..... 2.00%
 Zinc (Zn)..... 8.00%

Derived From: Copper Sulfate, Manganese Sulfate, Zinc Sulfate.

APPLICATION:



CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply as needed.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro[®] Rep for more information.

“We saw really big yield increases in corn and milo these last couple of years using Huma Gro[®] products. We also saw disease control benefits using Z-Max.”

—Mark Gregory





CALCIUM

The Solution for Improved Calcium Nutrition in Plants

Huma Gro® CALCIUM complexed with Micro Carbon Technology® ensures maximum calcium uptake and translocation within the plant. CALCIUM is a required nutrient for cellular strength and growth, plant health, and fruit development—which indirectly reduces the risk of fungal diseases.

BENEFITS:

- *Increases stalk strength and reduces lodging in grain crops*
- *Increases shelf life and reduces shipping/storage disorders in fruits/vegetables*
- *Promotes maturity and improves fiber quality in cotton*
- *Reduces susceptibility to fungal disease infection*
- *Enhances nodulation in legumes*
- *Promotes early root growth*
- *Promotes maturity and viability in seed crops*



GUARANTEED ANALYSIS: 8-0-0

Total Nitrogen (N) 8.00%
 8.00% Nitrate Nitrogen
 Calcium (Ca) 10.00%

Derived From: Calcium Nitrate.



APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply as needed.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.



“These products are highly compatible and can be mixed with all kinds of nutrients without generating any antagonism whatsoever, even when dealing with complex combinations. ‘When we visited the premises, we confirmed that they mixed pure calcium and phosphorous without problem, what is not commonly achieved.’ ”

—Red Agricola, Apr 2015, Issue 24, pg 11



IRO-MAX™

The Solution for Improved Iron Nutrition in Plants

Huma Gro® IRO-MAX™ complexed with Micro Carbon Technology® provides effective and quick iron uptake into the plant. Iron is a key micronutrient involved in photosynthesis that also enables other biochemical processes such as respiration, symbiotic nitrogen fixation, and transfer of ATP within the plant.



BENEFITS:

- Iron is required by plants for the formation of chlorophyll
- Iron is a component of enzymes that activate other biochemical processes within plants such as respiration, symbiotic nitrogen fixation, and energy transfer
- IRO-MAX™ relieves chlorotic symptoms of iron-deficient plants.



GUARANTEED ANALYSIS: 12-0-0

Total Nitrogen (N) 12.00%
 12.00% Nitrate Nitrogen
 Sulfur (S) 4.00%
 Iron (Fe)..... 8.00%

Derived From: Urea, Ferrous Sulfate

APPLICATION:

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply as needed.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.



"I think Huma Gro®'s main advantage is the fast response of the products after application. Another benefit is that inventory, stock, and storage management is much easier, we don't even need big warehouses anymore. The third comparative advantage, which is very important in my view, is the return on investment. . ."

—Red Agricola, Nov 2015, Issue 27, pg 34-35



BORO-MAX®

Huma Gro® BORO-MAX® complexed with Micro Carbon Technology® ensures efficient and effective uptake of boron, which is required for cell division, plant metabolism, cell structure, sugar transport, pollination, and seed development. It enhances pollen viability and pollination in flowering crops, and supplies boron nutrition necessary for proper growth and maturation.

- *Is required for cell division and normal tissue differentiation and maturation*
- *Functions with calcium to form an "intercellular cement" to maintain plant structural integrity*
- *Improves protein metabolism and reduces nitrate accumulation in leaves*
- *Improves sugar transport in plants*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/ac 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

COBALT

Huma Gro® COBALT complexed with Micro Carbon Technology® is an essential micronutrient involved with nodulation of legumes, microbial function, and recovery from plant stress. It is the center element of the B-12 vitamin.

- *May be applied with Huma Gro® VITOL® or a foliar nutrient to overcome stress caused by over-application of herbicides and pesticides*
- *Essential element for nodulation or nitrogen fixation in legumes*
- *Buffers excessive ethylene concentrations in plant tissue, preventing the production of abscisic acid and premature fruit drop*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/ac 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

COMOL™

Huma Gro® COMOL™ complexed with Micro Carbon Technology® ensures efficient nutrient uptake and translocation of phosphorus, cobalt, and molybdenum, which indirectly encourages production of amino acids, proteins, and carbohydrates necessary for cellular division, nodulation of legumes, microbial functions, recovery from plant stress, enzyme activities, and nitrogen metabolism.

- *May be applied with Huma Gro® VITOL® or a foliar nutrient to overcome stresses caused by severe weather or herbicide and pesticide residues*
- *Buffers ethylene concentrations in plant tissue*
- *Produces coenzymes necessary to convert nitrogen to amino acids for protein synthesis*
- *Stimulates natural production of enzymes that are required in ascorbic acid synthesis*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/ac 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

GUARANTEED ANALYSIS:

Boron (B)..... 10.00%



GUARANTEED ANALYSIS:

Cobalt (Co) 5.00%



GUARANTEED ANALYSIS: 0-5-0

Available Phosphate (P₂O₅)..... 5.00%
Cobalt (Co) 1.00%
Molybdenum (Mo)..... 3.00%



COPPER

COPPER complexed with Micro Carbon Technology® ensures efficient and effective uptake of copper, which is a micronutrient involved in many plant metabolic processes including photosynthesis, enzyme activity, protein metabolism, nitrogen regulation, and plant vigor.

- *Increases enzyme activity for greater plant metabolism*
- *Has a role in the production of Vitamin A within the plant and functions in chlorophyll formation*
- *Has a regulatory effect when soil nitrogen is high*
- *May be used with sulfur to aid in the control of a number of pathogenic fungal and bacterial diseases*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/ac 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

MANGANESE

Huma Gro® MANGANESE complexed with Micro Carbon Technology® ensures efficient and effective uptake of manganese, which is a micronutrient involved in many plant metabolic activities including photosynthesis, enzyme activity, and nutrient regulation.

- *An enzyme activator— aids in chlorophyll synthesis*
- *Activates the lipid enzymes*
- *Essential for assimilation of carbon dioxide in photosynthesis*
- *Functions in the formation of riboflavin, ascorbic acid, and carotene*
- *Improves formation of lateral roots*
- *Closely associated with copper and zinc*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/ac 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

MOLYBDENUM

Huma Gro® MOLYBDENUM complexed with Micro Carbon Technology® ensures efficient and effective uptake of molybdenum, which is a micronutrient necessary in enzyme activities and particularly in nitrogen metabolism.

- *Essential for nitrogen fixation*
- *Is a coenzyme necessary to transform nitrogen to amino acids for protein synthesis*
- *Is essential for the functions of symbiotic nitrogen-fixing bacteria*

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/ac 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

GUARANTEED ANALYSIS:

Sulfur (S) 3.00%
3.00% Combined Sulfur (S)
Copper (Cu)..... 5.00%



GUARANTEED ANALYSIS:

Sulfur (S) 2.50%
2.50% Combined Sulfur (S)
Manganese (Mn) 5.00%
5.0% Water Soluble Manganese (Mn)



GUARANTEED ANALYSIS:

Molybdenum (Mo)..... 5.00%



NICKEL

Huma Gro® NICKEL complexed with Micro Carbon Technology® is a critical source of nickel, which is necessary in the production of various tree, vine, and nut crops. Nickel is an irreplaceable constituent of the urease enzyme, essential in converting urea to ammonium (NH⁴⁺). When Nickel is insufficient and urea is the major source of nitrogen, urea can accumulate in leaves to the point of plant toxicity—manifested as necrosis of leaf tips.

- **Protects plants against urea toxicity**
- **Involved in the synthesis of chemicals (phytoalexins) that plants produce to defend against pathogens**
- **Contributes to lignin production, a component of cell walls that strengthens plants and contributes to disease resistance**

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1 pt–1 qt/ac 1.25–2.5 L/ha	1–2 qt/ac 2.5–5 L/ha	Apply as needed.

PUR CAL™

Huma Gro® PUR CAL™ complexed with Micro Carbon Technology® ensures maximum nitrogen-free calcium uptake and translocation within the plant. Calcium is a required nutrient for cellular strength & growth, plant health, and fruit development—which indirectly reduces the risk of fungal diseases. PUR CAL™ provides calcium without the nitrogen associated with other calcium products, allowing plants to benefit from calcium nutrition for fruiting without the nitrogen stimulus for vegetative growth.

- **Increases stalk strength**
- **Reduces lodging in grain crops**
- **Promotes maturity and viability in seed crops**
- **Reduces susceptibility to fungal diseases**
- **Enhances nodulation in legumes**
- **Promotes early root growth**

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply as needed.

SULFUR

Huma Gro® SULFUR complexed with Micro Carbon Technology® enables sulfur nutrient absorption by the plant. Sulfur is a major nutrient involved in respiration, photosynthesis, amino acid metabolism, plant growth, and vigor.

- **Improves plant respiration**
- **Plays a key role in Ferredoxin, a protein involved in electron transfer**
- **Involved in the formation of amino acids such as Cystine and Methionine, which help form protein**
- **Plays an important role in carbohydrate and lipid metabolism**
- **Sulfur deficiencies have been known to increase incidence of certain plant diseases**
- **Increases photosynthetic rates**

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–1 gal/ac 5–10 L/ha	Apply as needed.

GUARANTEED ANALYSIS:

Nickel (Ni) 10.00%
Sulfur (S) 6.00%

Huma Gro® NICKEL can help correct deficiencies that lead to "mouse ears" in pecan tree leaves.



GUARANTEED ANALYSIS:

Calcium (Ca) 8.00%
Derived From: Calcium Acetate.



GUARANTEED ANALYSIS: 8-0-0

Total Nitrogen (N) 8.00%
8.00% Ammoniacal Nitrogen
Sulfur (S) 10.00%
10.00% Combined Sulfur (S)



Zero Residue

CROP PROTECTION

Huma Gro® Zero-Residue Crop Protection products have had great success in treating disease-infested fields and soils. Our organic pesticides use natural materials (such as essential oils, proteins, minerals, etc.) to control nematodes, fungi, bacteria, and insects.

Use our organic pesticides at any time during the crop cycle. These products are so safe you can even use them on the day of harvest. Our organic pest control products are designed to work on specific pests and then decompose safely without posing a risk to humans, and they are much better for the environment than traditional, highly toxic pesticides—but they still get the job done.

Huma Gro® Zero-Residue Crop Protection products are OMRI® (Organic Materials Review Institute) listed for organic growing.



"There was good emergence of the crop following the PROMAX®/ZAP® application. These products were easy to apply and I experienced tremendous results. I look forward to using the products again next season!"

—Green chile grower in New Mexico, USA



PROUD 3®

Broad-Spectrum Foliar Insecticide, Miticide, and Fungicide

Huma Gro® PROUD 3® is an organic-listed crop protection product. It is a safe and effective, foliar-applied insecticide, miticide, bactericide, and fungicide. The mode of action is as a contact killer. As an insecticide, it works best on soft-bodied insects or on the juveniles.



BENEFITS:

- *Directly affects soft-bodied insects and mites*
- *Provides excellent control against fungal/bacterial diseases in crops*
- *Activates resistance mechanisms in plants*
- *Offers proven control of some human pathogens found on crops*
- *Safe for crops, humans, and the environment*
- *Fungicidal effect against all types of fungal spores*
- *The product's natural chemistry has no documented cross-resistance*
- *Cost-effective performance*
- *Fast-acting upon contact*
- *Restricted Entry Interval (REI): 0 days*
- *Pre-Harvest Interval (PHI): 0 days*

GUARANTEED ANALYSIS: 0-0-0

Thyme Oil.....5.6%
 Inert Ingredients* 94.4%
 Total Ingredients..... 100.0%
 *Contains water, molasses, and glycerin

Contact a Huma Gro® Representative for a list of controlled diseases and pests.



CROP	MIX RATE WITH WATER*	FREQUENCY
All Crops	Up to 1 qt for every 25 gal/ac Up to 2.5 L for every 250 L/ha	Every 5–7 days as needed for the control of pests and diseases.

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro® Rep for more information.

“A greenhouse grower in Costa Rica used Proud 3® to control mites, white flies, and aphids. One application and they were 100% gone. The grower wanted to purchase 400 liters right then and there!”

—Adolfo Menesas





PROMAX[®]

Broad-Spectrum Soil Fungicide and Nematicide

Huma Gro[®] PROMAX[®] is an organic-listed, EPA-exempt crop protection product. It is a protective and curative pesticide recommended for control of plant parasitic nematodes and soil-borne diseases. The mode of action is as a contact killer. There is no restricted use, so it can be applied throughout the entire growing season.

BENEFITS:

- *Inhibits nematode activity*
- *Provides excellent control of fungal diseases in soils*
- *Activates resistance mechanisms in plants*
- *Safe for crops, humans, and the environment*
- *Fungicidal effect against all types of fungal spores*
- *The product's natural chemistry has no documented cross-resistance*
- *Cost-effective performance*
- *Fast-acting upon contact*
- *Restricted Entry Interval (REI): 0 days*
- *Pre-Harvest Interval (PHI): 0 days*



GUARANTEED ANALYSIS: 0-0-0

Thyme Oil.....3.5%
 Inert Ingredients*96.5%
 Total Ingredients.....100.0%

*Contains water, molasses, glycerin

Contact a Huma Gro[®] Representative for a list of controlled diseases and pests.

APPLICATION:



CROP	IRRIGATION*	FREQUENCY
All Crops	1–2 gal/ac 10–20 L/ha	Every 15–20 days as needed for the treatment of diseases and nematodes

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro[®] Rep for more information.



“I also use Promax[®] to treat wine, table, and raisin grapes. I’m specifically targeting the root knot and ring nematode. I apply 1 gal/acre at root flush. In addition to excellent nematode control, I regularly have the additional positive results of increased growth, more canes on the vine, a heavier canopy, and more bunches with increased size.”

—Alan Nakashima



Field Trial Results

Field #1: A 70-acre field of onions in Arizona was showing signs of stress due to nematodes. With Vydate® in short supply and the grower being newly introduced to Huma Gro® Promax®, the two products were combined. The PROMAX®/Vydate® mix was applied in hours 22 and 23 of a 24 hr. irrigation cycle. Rate: Promax® at 1 gallon per acre, Vydate® at 50% rate.

Result: *Grower saw a significant crop response by day 5.*

Field #2: After seeing the results in the 70-acre field of onions, the farmer decided to apply only Promax® to the second field, 75 acres of onions. The rate of application was 100% Huma Gro® Promax® at 1 gallon per acre. The product was applied through solid set sprinkler irrigation, during hours 22 and 23 of a 24-hour set of irrigation.

Result: *Grower called at day 4 and said his plants are vibrant and green, as seen below.*



FIELD 2 - 1 gal/ac PROMAX®

CONTROL - No PROMAX®

Location: Washington, USA

Crop: Onions

HG Products: Promax®

Results: The grower applied his standard nutrient program to both fields. On one field he also applied Promax®. In addition to the nematode and disease protection, the crop also showed increased strength, resilience, and overall health.



CONTROL



PROMAX®

Carbon-Rich **ORGANIC ACIDS**

Exclusive processes allow Huma Gro® to offer high-performing fertility products based on organic acid compounds rich in carbon. These natural organic acids are similar to the chemical make-up of the plants themselves, so it's easier for the roots or leaves to assimilate nutrients and put them to work more effectively. Our organic acids also work in buffering roots against the damaging effect of highly acidic or alkaline soils. With Huma Gro® carbon-rich organic acid products, your crops can maximize the potential of your fertilizer, resulting in better germination, more efficient foliar applications, and strong, vigorous growth.

"We needed help to reduce electrical conductivity and to make nutrients available to plants. HUMA GRO® was the solution to all our problems. By using the HUMA GRO® liquid fertilizer line, we're not only nurturing our plants but also improving the biological, physical, and chemical conditions of our soils."

—Claudio Falcone



X-TEND®/X-TEND® B

The Solution for Improving Fertilizer Efficiency

X-TEND®

Huma Gro® X-TEND® is an excellent source of Micro Carbon Technology® formulated with organic acids and nutrients to improve the efficiency and uptake of fertilizers. X-TEND® is excellent to release nutrients tied up in soils and is an outstanding additive for complexing most foliar nutrients and pesticides.

X-TEND® B

Huma Gro® X-TEND® B is a concentrated Micro Carbon Technology® product with high levels of organic acids and nutrients. X-TEND® B is formulated to be blended in liquid fertilizers or to be impregnated onto dry fertilizers, extending the effectiveness of the fertilizer or fertilizer solutions. X-TEND® B has a blue dye so that application can be verified.



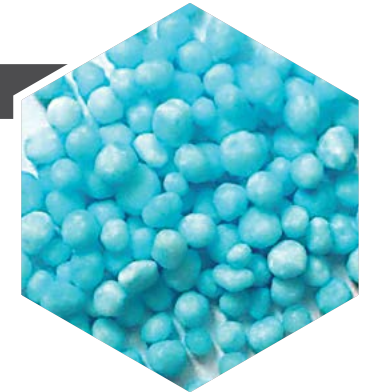
BENEFITS:

- Complexes nutrients for easier plant uptake
- Encourages root growth
- Buffers salts in high alkaline or sodium soils

GUARANTEED ANALYSIS: 6-2-0

Total Nitrogen (N)6.0%
 6.0% Urea Nitrogen
 Available Phosphate (P₂O₅).....2.0%

Derived From: Urea, Phosphoric Acid.



APPLICATION METHOD

SUGGESTED RATE*

General application in soil	Up to 1 qt/ac, 2.5 L/ha
Liquid fertilizer solutions (soil-applied)	Up to 1 qt/40 gal of liquid, 1 L/160 L of liquid
Dry, non-coated, granular fertilizers	Up to 2 qt/ton of granular, 2 L/metric ton of granular



"Agricola Don Luis closed its season with 95% of its grapes collected in the first field run 'for export,' with 85% sold as premium quality, according to César Augusto Uculmana, Table Grape Manager, and Helio Gonzales. They credit their success to HUMA GRO® liquid fertilizers, with Micro Carbon Technology®."

—Red Agricola, Apr 2015, Issue 21, pg 28-29



FULVI PRO®

Huma Gro® FULVI PRO® complexed with Micro Carbon Technology® is an activated liquid fulvic-acid source derived from highly oxidized leonardite material. FULVI PRO® provides a liquid carbon-rich foliar additive as well as a food substrate for the beneficial microbes in the soil.

- **Complexing of chemicals and fertilizers enabling a quicker uptake by plants**
- **A carbon food source for the beneficial microbial population of the soil food web**

CROP	FOLIAR*	IRRIGATION*	FREQUENCY
All crops	1–2 qt/ac 2.5–5 L/ha	0.5–2 gal/ac 5–20 L/ha	Apply as needed.

HUMA PRO®

Huma Gro® HUMA PRO® complexed with Micro Carbon Technology® is an activated liquid humic-acid source derived from a highly oxidized, naturally occurring carbon and mineral deposit. HUMA PRO® treats unbalanced soil conditions caused by a lack of humic acid, promoting a stronger, healthier soil for sustainable plant growth.

- **Long-term soil organic matter building**
- **Long-term soil microbial activation**

APPLICATION METHOD	SUGGESTED RATE
Soil banded	1–2 gal/ac, 10–20 L/ha
Soil broadcast	2–4 gal/ac, 20–40 L/ha

HUMA BURST®

Huma Gro® HUMA BURST® is a dry, uniform, granulized humic acid product derived from a highly oxidized, naturally occurring carbon-rich material called leonardite. HUMA BURST® was created for the treatment of carbon-depleted soil conditions and improved organic matter balance.

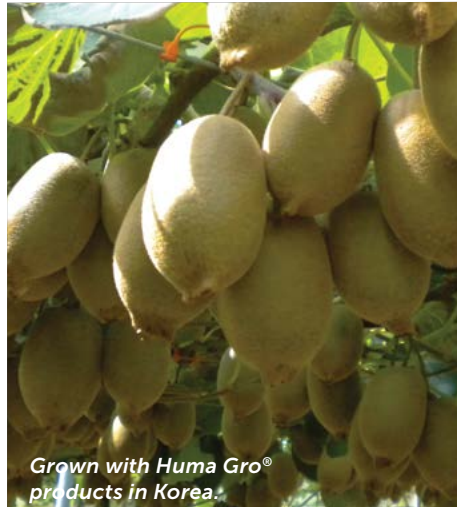
- **Uniform granular size promotes even coverage/ distribution of humic acid for long-term carbon benefit**
- **Long-term soil organic-matter building**
- **Increased water penetration**
- **Increased soil flocculation**
- **Promotes conversion of fertilizer into plant-available food**
- **Increases nutrient mineralization**
- **Long-term soil microbial activation**

APPLICATION METHOD	SUGGESTED RATE
Soil banded	50–100 lb/ac, 50–100 kg/ha
Soil broadcast	100–200 lb/ac, 100–200 kg/ha

GUARANTEED ANALYSIS:

Total Fulvic Acid (FA) 20.00%*

*The standard for ascertaining Fulvic Acid percentage has not been established.



GUARANTEED ANALYSIS:

Total Humic Acid (HA) 6.00%*

*Analysis using the Verploegh & Brandvoid method (1990).



GUARANTEED ANALYSIS:

Total Humic Acid (HA) 70.00%

*Analysis using the Verploegh & Brandvoid method (1990).

"HUMA GRO® products are easier to handle and take up less storage space, and their cost is lower."

—Carlos Coloma



Specialty **PRODUCTS**



"HG products are made from high-grade materials and are very consistent from year to year. You can trust that the products you are using this year will perform the same year after year. That says a lot about the company and the quality of assurance."

—Rudy Allen



SURF-MAX[®]

Water Conservation and Surfactant Technology for Agriculture

Huma Gro[®] SURF-MAX[®] complexed with Micro Carbon Technology[®] is a blend of nonionic surfactants designed to improve both penetration and lateral movement of water within the root zone and increase soil moisture retention. By improving the infiltration and distribution of water in the soil profile, SURF-MAX[®] ensures that growers can increase yields while improving water use efficiency.

BENEFITS:

- *Use up to 25% less irrigation water while attaining better water movement through the soil, more effectively providing moisture and delivering water-carried nutrients.*
- *Due to the complexed Micro Carbon Technology[®], the benefits of carbon are carried directly through the soil to the root zone, enabling plants to more effectively absorb nutrients.*
- *SURF-MAX[®] is fully biodegradable, non-hazardous, non-phytotoxic, and highly compatible with existing chemistries.*

GUARANTEED ANALYSIS:

Dipropylene Glycol Methyl Ether..... 90.0%
Inert Ingredients 10.0%

START-L[™]

The Solution for Improved Germination

Huma Gro[®] START-L[™] complexed with Micro Carbon Technology[®] is an excellent nutrient mix on seeds for rapid and increased germination and uniform early emergence. START-L[™] is also effective as a foliar spray for seedling growth and as a root dip or drench to keep transplants from going into shock.

BENEFITS:

- *Improved germination percentage*
- *Faster seed germination*
- *Healthier seedling root development*
- *Reduced seedling disease*
- *Establishes healthy rhizosphere*
- *Reduced transplant shock*

GUARANTEED ANALYSIS: 0-0-0

Cobalt (Co) 0.05%
Molybdenum (Mo)..... 0.10%



APPLICATION RATE*

INITIAL RATE
16–32 ounces/ac
1.25–2.5 L/ha

SUSTAINABLE RATE
8–12 ounces/ac
0.5–0.75 L/ha



APPLICATION RATE*

SPRAYED ON SEED
0.5–1 pt/ac
0.75–1.25 L/ha

TRANSPLANTING
0.5–1 qt/ac
1.25–2.5 L/ha

GENERAL WATERING
1–2 qt/ac
2.5–5 L/ha

*Rates depend on frequency, method of application, and water volume, etc. Please consult a Huma Gro[®] Rep for more information.

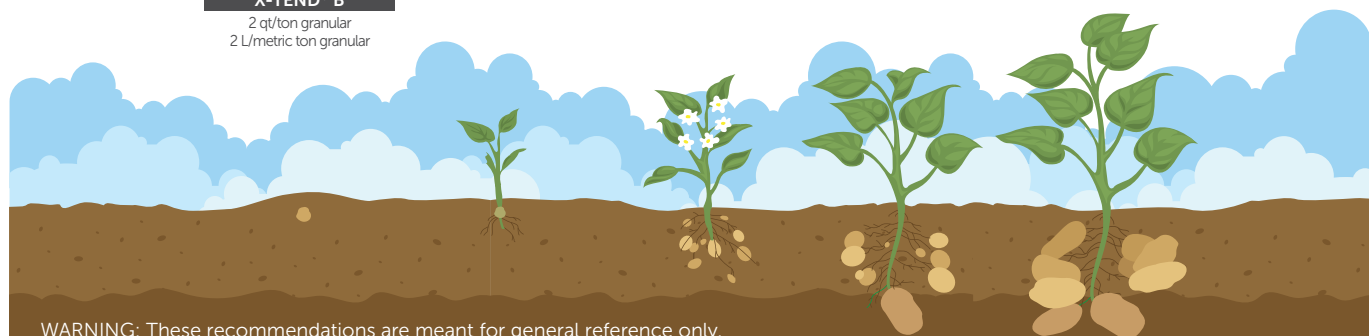


Crop Programs

STANDARD CROP PROGRAM **POTATO**



SOIL APPLICATION		FOLIAR APPLICATION				SOIL APPLICATION
PRE-PLANT	PLANTING	VEGETATIVE GROWTH <small>Can be repeated every 10 days during this stage</small>	TUBER INITIATION <small>Can be repeated every 10 days during this stage</small>	TUBER BULKING <small>Can be repeated every 10 days during this stage</small>	TUBER MATURITY	POST HARVEST
SOIL PRO® 1-2 qt/ac, 2.5-5 L/ha	SOIL PRO™ 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	JACKPOT® 1-2 qt/ac, 2.5-5 L/ha	FERTIL HUMUS® 1-2 qt/ac, 2.5-5 L/ha
ZAP® 0.5-1 gal/ac, 5-10 L/ha	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	SUPER NITRO® 0.5-1 qt/ac, 1.25-2.5 L/ha	SUPER POTASSIUM™ 0.5-1 qt/ac, 1.25-2.5 L/ha	SUPER POTASSIUM™ 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha	
	SUPER PHOS® 1-2 qt/ac, 2.5-5 L/ha	MAX PAK® 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha		
	X-TEND® B 2 qt/ton granular 2 L/metric ton granular					

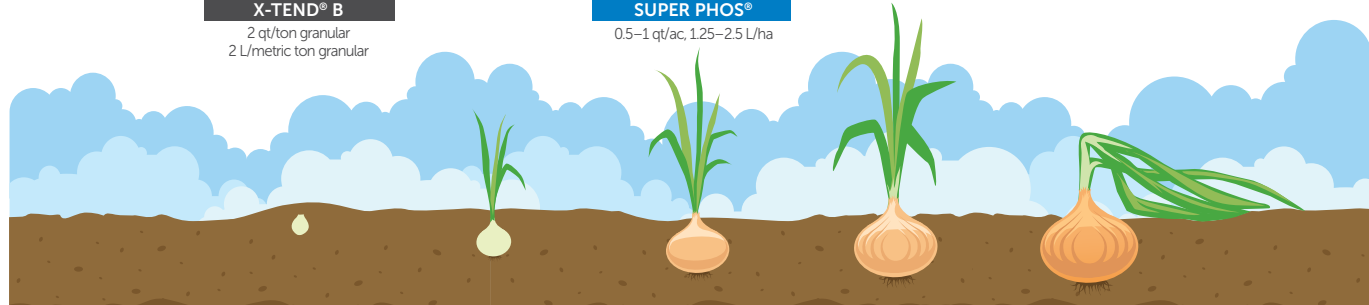


WARNING: These recommendations are meant for general reference only. Contact your Huma Gro® representative for a custom program designed for your crop's specific needs: (001) 480.961.1220 or HumaGro.com

STANDARD CROP PROGRAM **ONION**



SOIL APPLICATION		FOLIAR APPLICATION				SOIL APPLICATION
PRE-PLANT	PLANTING	LEAF GROWTH <small>Can be repeated every 10 days during this stage</small>	BULB INITIATION <small>Can be repeated every 10 days during this stage</small>	BULB GROWTH <small>Can be repeated every 10 days during this stage</small>	BULB MATURITY	POST HARVEST
SOIL PRO® 1-2 qt/ac, 2.5-5 L/ha	SOIL PRO™ 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	GOLDEN PRO™ 1-2 qt/ac, 2.5-5 L/ha	JACKPOT® 1-2 qt/ac, 2.5-5 L/ha	FERTIL HUMUS® 1-2 qt/ac, 2.5-5 L/ha
ZAP® 0.5-1 GAL/ ACRE	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	SUPER NITRO® 0.5-1 qt/ac, 1.25-2.5 L/ha	SUPER POTASSIUM™ 0.5-1 qt/ac, 1.25-2.5 L/ha	SUPER POTASSIUM™ 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha	
	SUPER PHOS® 1-2 qt/ac, 2.5-5 L/ha	MAX PAK® 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha		
	X-TEND® B 2 qt/ton granular 2 L/metric ton granular		SUPER PHOS® 0.5-1 qt/ac, 1.25-2.5 L/ha			




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STANDARD CROP PROGRAM PEPPERS



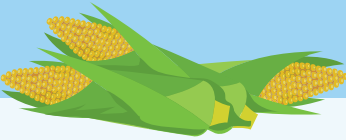
SOIL APPLICATION		FOLIAR APPLICATION			
TRANSPLANT	ESTABLISHMENT <i>Can be repeated every 10 days during this stage</i>	VEGETATIVE GROWTH <i>Can be repeated every 10 days during this stage</i>	FLOWERING <i>Can be repeated every 10 days during this stage</i>	FRUIT BULKING <i>Can be repeated every 20 days during this stage</i>	FRUIT BULKING/ FLOWERING <i>Can be repeated every 20 days during this stage</i>
SOIL PRO™ 1-2 qt/ac, 2.5-5 L/ha	VITOL® 0.5-1 qt/ac, 125-2.5 L/ha	VITOL® 0.5-1 qt/ac, 125-2.5 L/ha	BREAKOUT® 0.5-1 qt/ac, 125-2.5 L/ha	VITOL® 0.5-1 qt/ac, 125-2.5 L/ha	BREAKOUT® 0.5-1 qt/ac, 125-2.5 L/ha
BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha		SUPER NITRO® 0.5-1 qt/ac, 125-2.5 L/ha	SUPER PHOS® 0.5-1 pt/ac, 0.75-1.25 L/ha	CALCIUM 0.5-1 qt/ac, 125-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 125-2.5 L/ha
SUPER PHOS® 1-2 qt/ac, 2.5-5 L/ha		MAX PAK® 0.5-1 qt/ac, 125-2.5 L/ha	Z-MAX® 0.5-1 pt/ac, 0.75-1.25 L/ha	SUPER POTASSIUM™ 0.5-1 pt/ac, 0.75-1.25 L/ha	SUPER POTASSIUM™ 0.5-1 pt/ac, 0.75-1.25 L/ha
X-TEND® B 2 qt/ton granular 2 L/metric ton granular					



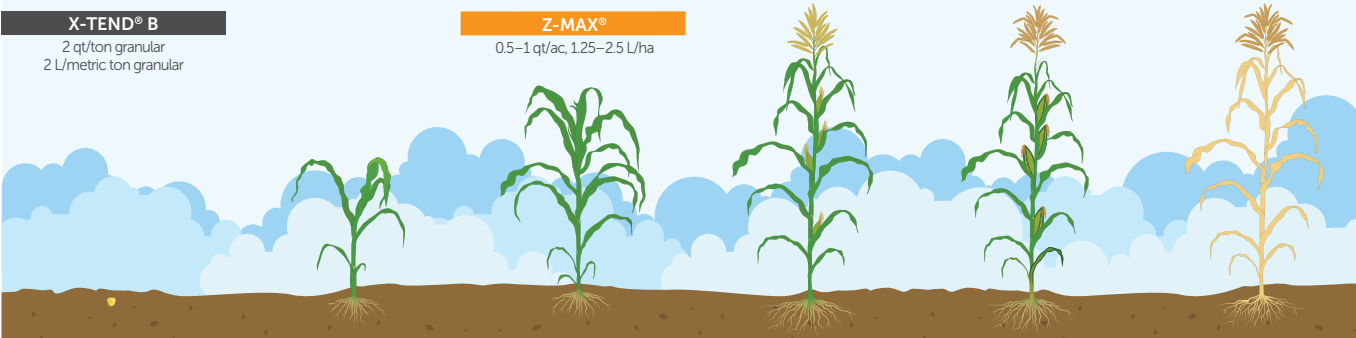
WARNING: These recommendations are meant for general reference only. Contact your Huma Gro® representative for a custom program designed for your crop's specific needs: (001) 480.961.1220 or HumaGro.com



STANDARD CROP PROGRAM CORN




SOIL APPLICATION		FOLIAR APPLICATION			SOIL APPLICATION
PLANTING	V4 4-LEAF	V12 12-LEAF	R1 SILKING	R5 MATURITY	POST HARVEST
SOIL PRO™ 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha			FERTIL HUMUS® 1-2 qt/ac, 2.5-5 L/ha
SUPER PHOS® 1-2 qt/ac, 2.5-5 L/ha	LUCKY 7® 1-2 qt/ac, 2.5-5 L/ha	LUCKY 7® 1-2 qt/ac, 2.5-5 L/ha			
X-TEND® B 2 qt/ton granular 2 L/metric ton granular		Z-MAX® 0.5-1 qt/ac, 125-2.5 L/ha			



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Crop Programs




STANDARD CROP PROGRAM


STRAWBERRIES



SOIL APPLICATION		FOLIAR APPLICATION				SOIL APPLICATION
TRANSPLANT	POST-TRANSPLANT <small>Can be repeated every 10 days during this stage</small>	FLOWERING <small>Can be repeated every 10 days during this stage</small>	BERRY SIZING <small>Can be repeated every 10 days during this stage</small>	PRE HARVEST <small>Can be repeated every 10 days during this stage</small>	POST-HARVEST	
SOIL PRO™ 1–2 qt/ac, 2.5–5 L/ha	VITOL® 1 pt/ac, 125 L/ha	BREAKOUT® 0.5–1 qt/ac, 125–2.5 L/ha	VITOL® 0.5–1 qt/ac, 125–2.5 L/ha	VITOL® 0.5–1 qt/ac, 125–2.5 L/ha	FERTIL HUMUS® 1–2 qt/ac, 2.5–5 L/ha	
BREAKOUT® 1–2 qt/ac, 2.5–5 L/ha	SUPER PHOS® 1 pt/ac, 125 L/ha	MAX PAK® 0.5–1 pt/ac, 0.75–1.25 L/ha	CALCIUM 0.5–1 qt/ac, 125–2.5 L/ha	CALCIUM 0.5–1 qt/ac, 125–2.5 L/ha		
SUPER PHOS® 1–2 qt/ac, 2.5–5 L/ha	SUPER NITRO® 1 pt/ac, 125 L/ha	SUPER PHOS® 0.5–1 pt/ac, 0.75–1.25 L/ha	SUPER POTASSIUM™ 0.5–1 pt/ac, 0.75–1.25 L/ha	SUPER POTASSIUM™ 0.5–1 pt/ac, 0.75–1.25 L/ha		
X-TEND® B 2 qt/ton granular 2 L/metric ton granular						




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STANDARD CROP PROGRAM

ALMONDS



SOIL APPLICATION		FOLIAR APPLICATION			
ROOT FLUSH	BLOOM	POLLINATION	NUT BULKING <small>Can be repeated every 10 days during this stage</small>	CRACKING OPEN	PRE-HARVEST
FERTIL HUMUS® 1–2 qt/ac, 2.5–5 L/ha	BREAKOUT® 1–2 qt/ac, 2.5–5 L/ha	BREAKOUT® 1–2 qt/ac, 2.5–5 L/ha	VITOL® 1–2 qt/ac, 2.5–5 L/ha	VITOL® 1–2 qt/ac, 2.5–5 L/ha	JACKPOT® 1–2 qt/ac, 2.5–5 L/ha
SUPER PHOS® 1–2 qt/ac, 2.5–5 L/ha	MAX PAK® 0.5–1 qt/ac, 125–2.5 L/ha	Z-MAX® 0.5–1 qt/ac, 125–2.5 L/ha	CALCIUM 0.5–1 qt/ac, 125–2.5 L/ha	CALCIUM 0.5–1 qt/ac, 125–2.5 L/ha	CALCIUM 0.5–1 qt/ac, 125–2.5 L/ha
X-TEND® B 2 qt/ton granular 2 L/metric ton granular				SUPER POTASSIUM™ 0.5–1 qt/ac, 125–2.5 L/ha	SUPER POTASSIUM™ 0.5–1 qt/ac, 125–2.5 L/ha



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STANDARD CROP PROGRAM APPLES



SOIL APPLICATION

FOLIAR APPLICATION

ROOT FLUSH	BUD SWELL	FLOWERING	FRUIT DEVELOPMENT <small>Can be repeated every 10 days during this stage</small>	MATURITY
FERTIL HUMUS® 1-2 qt/ac, 2.5-5 L/ha	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	JACKPOT® 1-2 qt/ac, 2.5-5 L/ha
SUPER PHOS® 1-2 qt/ac, 2.5-5 L/ha	MAX PAK® 0.5-1 qt/ac, 1.25-2.5 L/ha	Z-MAX® 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 1-2 qt/ac, 2.5-5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha
X-TEND® B 2 qt/ton granular 2 L/metric ton granular				SUPER POTASSIUM™ 0.5-1 qt/ac, 1.25-2.5 L/ha



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STANDARD CROP PROGRAM ORANGES



SOIL APPLICATION

FOLIAR APPLICATION

INITIAL PHASE	GROWTH	FLOWERING	FRUIT SET	FRUIT IS WALNUT SIZED	FRUIT DOUBLE IN SIZE <small>Can be repeated every 15 days during this stage</small>	30 DAYS PRE-HARVEST
FERTIL HUMUS® 1-2 qt/ac, 2.5-5 L/ha	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	BREAKOUT® 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	VITOL® 1-2 qt/ac, 2.5-5 L/ha	JACKPOT® 1-2 qt/ac, 2.5-5 L/ha
SUPER PHOS® 1-2 qt/ac, 2.5-5 L/ha	MAX PAK™ 0.5-1 qt/ac, 1.25-2.5 L/ha	Z-MAX® 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha	CALCIUM 0.5-1 qt/ac, 1.25-2.5 L/ha
X-TEND® B 2 qt/ton granular 2 L/metric ton granular					SUPER POTASSIUM™ 0.5-1 qt/ac, 1.25-2.5 L/ha	SUPER POTASSIUM™ 0.5-1 qt/ac, 1.25-2.5 L/ha



WARNING: These recommendations are meant for general reference only.

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Stories From The Field

Location: Italy

Crop: Peas

HG Products: 2 applications Breakout®, 1 application Vitol®

Results: Grower experienced far greater flowering and fruit set. Peas were more abundant and uniform. The plants were more lush and filled in, had far more height, and better coloring than the control group.



CONTROL



Location: Georgia, USA

Crop: Blueberries

HG Products: 1 application Breakout® at flowering

Results: The grower experienced an unprecedented level of fruit set and growth on first-year plants. He achieved a sizable yield in a year when he thought he would have none!



HUMA GRO®



HUMA GRO®

Location: China

Crop: Cherries

HG Products: Soil-applied Super Phos®, Super Potassium, Vitol®, Foliar-applied Calcium, Vitol®, Breakout®

Results: Grower experienced significant increase in yield and fruit quality. The biggest difference from previous harvests was the improved taste and sweetness.



HUMA GRO®



Contact your local Huma Gro® rep to get more info about these farmers' experiences or to discuss how our products can produce similar results with your crop.



CONTROL



HUMA GRO®



HUMA GRO®

Location: New Mexico, USA

Crop: Chiles

HG Products: PROMAX®, ZAP®

Results: Grower experienced nematode reduction and a 1.76 ton/acre increase in yield, or 15%. This allowed the grower to gain between \$750–\$1,000 per acre in profit.



HUMA GRO®



HUMA GRO®



HUMA GRO®



HUMA GRO®

Stories From The Field

Location: China

Crop: Tomatoes

HG Products: Breakout®, Super Potassium™, Vitol®, Calcium

Results: Grower experienced increased quality, shine, and uniformity. A box of 100 treated tomatoes weighed 15 kilos more than untreated. Tomato yield increased by over double, along with quality. The grower was able to make substantially more profit by switching to Huma Gro® products alone.



HUMA GRO®



HUMA GRO®

Location: Peru

Crop: Corn

HG Products: Full nutrient program

Results: The grower experienced significant increase in growth, deeper color, plant strength, quality, and greater root mass development.



CONTROL

HUMA GRO®

Location: Spain

Crop: Limes

HG Products: Breakout

Results: After applying Breakout® through his lime orchard, the grower experienced significant new shoot growth on his trees, more blossoms, and increased fruit set as well. Yield increased significantly.



HUMA GRO®



Contact your local Huma Gro® rep to get more info about these farmers' experiences or to discuss how our products can produce similar results with your crop.



Location: China
Crop: Peppers
HG Products: Breakout®, Super Potassium™
Results: Grower experienced 30% increase in production, with an extended harvest. Grower received 5% higher price on peppers. Produce had stronger skin, spicier flavor, and all-round better quality.



HUMA GRO®



HUMA GRO®

Location: China
Crop: Potatoes
HG Products: Super Potassium™
Results: The image to the far right shows the yield from 2 potato plants. The grower was thrilled that the potatoes were heavier, healthier, more uniform, thicker skinned, and that the dirt was able to fall right off the potato at harvest, which had not happened in the past. In addition, when a potato was cut open, the grower could visibly see at what stage SUPER POTASSIUM™ was applied.



HUMA GRO®



HUMA GRO®



HUMA GRO®



HUMA GRO®



HUMA GRO®

Product Comparison Guide

PRIMARY MACRONUTRIENTS	DESCRIPTIONS	PH
2-16-16™	A complexed nitrogen-phosphorus-potassium (NPK) source that can be foliar- or soil-applied.	6.5-7.5
38 Special® 4-14-12	A multi-purpose blend of primary nutrients. Can be used as a starter mix.	6.6-7.6
Buffer K® 0-0-25	A potassium product with a more neutral pH complexed to maximize potassium uptake by plants.	7.0-8.0
C-Phos™ 4-25-0	Corrects calcium and phosphorus deficiencies while resisting nutrient "tie-up."	0.3-1.0
Lucky 7® 7-7-7	Is a complete nutrient package containing most macro and micronutrients.	3.2-4.2
Sil-K™ 0-0-10	Provides potassium and silica for increased strength and rigidity of the plant cells. Prevents premature fruit drop or lodging.	14.0-15.0
Super Nitro® 30-0-0	A complexed nitrogen source that can be foliar-applied without phytotoxicity, or soil-applied for stable nitrogen release in the root zone.	7.0-8.0
Super Phos® 0-50-0	A concentrated phosphorus formulation for maximizing availability and uptake by plants.	0.1-1.0
Super Potassium™ 0-0-40	A concentrated potassium product, complexed to maximize uptake by plant.	15.7-16.7
SECONDARY MACRO* & MICRONUTRIENTS	DESCRIPTIONS	PH
44 Mag®	Provides maximum assimilation of magnesium.	1.5-2.5
Boro-Max®	Provides effective uptake of boron.	7.6-8.6
Calcium 8-0-0	Provides maximum calcium uptake and translocation within the plant.	0.1-0.5
Cobalt	Provides effective uptake of cobalt in plants.	2.0-3.0
Comol™ 0-5-0	Provides efficient uptake of phosphorus, cobalt, and molybdenum.	1.3-2.1
Copper	Provides effective uptake of copper in plants.	2.1-3.1
Iro-Max™ 12-0-0	Provides effective and rapid uptake of iron in plants.	2.5-3.5
Manganese	Provides effective uptake of manganese in plants.	1.4-2.0
Max Pak™	Is a highly stable source of many important micronutrients.	1.2-1.7
Molybdenum	Provides effective uptake of molybdenum in plants.	8.5-9.5
Nickel	Provides effective uptake of nickel in plants.	1.2-1.6
Pur Cal™	Provides maximum nitrogen-free calcium uptake and translocation within the plant.	2.5-3.5
Sulfur 8-0-0	Provides effective uptake of sulfur in plants.	0.7-1.7
Z-Max®	Provides effective uptake of zinc, sulfur, manganese, and copper in plants	2.5-3.5
OPTIMAL GROWTH MANAGEMENT	DESCRIPTIONS	PH
Activol® 0-5-0	Formulation of nutrients and refined plant oils that increases plant tolerance to disease.	1.4-2.4
Breakout® 4-14-2	Feeds the natural metabolic process within the plant for enhanced bud initiation, flowering, and fruit set.	1.7-2.7
Crop-Gard® 1-7-1	Achieves balanced plant nutrition for better plant color, growth, development, and production.	1.6-2.6
D-Fend® 0-5-0	A foliar formulation of nutrients and refined plant oils that facilitate nutrient uptake and translocation within the plant.	1.0-2.0
Golden Pro™ 5-23-4	Provides nutrients to feed the metabolic processes necessary for improved fruit sizing, quality, and yield.	0.3-0.6
Jackpot® (Yield-Max™) 0-1-20	Feeds the metabolic processes necessary for uniform fruit maturity and improved shelf life.	14.5-15.5
Sili-Max®	Increases the strength and rigidity of the plant cells and cell walls to prevent lodging or flopping.	11.5-12.5
Vitol® 8-16-4	Increases vertical foliar growth, fruit size, and uniformity. Improves plant recovery from environmental stresses.	1.8-2.8
SUSTAINABLE SOIL FERTILITY	DESCRIPTIONS	PH
Encapsalt® 5-0-0	Helps to diminish salt stress in the root zone.	7.0-8.0
Fertil Humus® 24-0-0	Feeds beneficial fungal activity, digests crop residue, and builds a humus-rich soil.	6.0-7.0
Kleanup™ 15-0-0	A nutrient and soil surfactant that aids in the breakdown and detoxification of harmful chemicals.	6.5-6.7
Soil Pro™ 5-0-0	Improves soil structure and feeds the beneficial bacteria activity in the soil.	8.0-9.0
Zap® 8-0-0	Creates a balanced soil environment by feeding a strong, vigorous soil biology.	5.5-6.5
CARBON RICH ORGANIC ACIDS	DESCRIPTIONS	PH
Fulvi Pro®	Fulvic-acid product that provides a carbon food source for the beneficial microbial population in the soil.	1.5-2.5
Huma Burst®	Granulized humic acid product used for carbon-depleted soil conditions.	(granular)
Huma Pro®	Liquid humic acid product used for carbon-depleted soil conditions.	8.0-9.0
X-Tend® 6-2-0	Increases efficiency, release, and uptake of fertilizers.	8.0-9.5
X-Tend® B 6-2-0	Increases efficiency, release, and uptake of fertilizers, with blue dye added.	8.0-9.5
ZERO-RESIDUE CROP PROTECTION	DESCRIPTIONS	PH
Promax®	Broad-spectrum soil fungicide and nematicide.	6.5-7.5
Proud 3®	Foliar insecticide, miticide, bactericide, and fungicide.	4.5-5.5
SPECIALTY PRODUCTS	DESCRIPTIONS	PH
Start-L™	Use on seeds for rapid and increased germination and uniform early emergence.	7.5-8.5
Surf-Max®	A surfactant that improves water penetration and lateral movement within the root zone.	3.5-4.0

WEIGHT	N %	P ₂ O ₅ %	K ₂ O %	CA %	MG %	S %	FE %	B %	MO %	ZN %	CU %	MN %	CO %	SIO ₂ %	NI %	FA	HA
11.30 lb/gal, 1.35 kg/L	2.00	16.00	16.00														
11.68 lb/gal, 1.40 kg/L	4.00	14.00	12.00			8.00											
12.80 lb/gal, 1.53 kg/L			25.00														
12.27 lb/gal, 147 kg/L	4.00	25.00		5.00													
10.80 lb/gal, 1.29 kg/L	7.00	7.00	7.00		0.50	1.00	0.10	0.02		0.05	0.003	0.05	0.01				
10.77 lb/gal, 1.29 kg/L			10.00											5.00			
10.60 lb/gal, 1.27 kg/L	30.00																
12.44 lb/gal, 1.49 kg/L		50.00															
12.18 lb/gal, 1.46 kg/L			40.00														
WEIGHT	N %	P ₂ O ₅ %	K ₂ O %	CA %	MG %	S %	FE %	B %	MO %	ZN %	CU %	MN %	CO %	SIO ₂ %	NI %	FA	HA
10.68 lb/gal, 1.28 kg/L					5.00	5.50											
10.85 lb/gal, 1.30 kg/L								10.00									
11.60 lb/gal, 1.39 kg/L	8.00			10.00													
8.40 lb/gal, 1.00 kg/L													5.00				
9.10 lb/1.09 kg		5.00							3.00				1.00				
9.77 lb/gal, 1.17 kg/L						3.00					5.00						
11.77 lb/gal, 1.41 kg/L	12.00					4.00	8.00										
9.18 lb/gal, 1.10 kg/L						2.50						5.00					
10.70 lb/gal, 1.29 kg/L						3.00	2.00	0.60	0.05	3.50	1.00	1.00	0.05				
8.34 lb/gal, 1.00 kg/L									5.00								
10.60 lb/gal, 1.27 kg/L						6.00									10.00		
10.85 lb/gal, 1.30 kg/L				8.00													
10.35 lb/gal, 1.24 kg/L	8.00					10.00											
11.51 lb/gal, 1.38 kg/L						5.00				8.00	0.50	2.00					
WEIGHT	N %	P ₂ O ₅ %	K ₂ O %	CA %	MG %	S %	FE %	B %	MO %	ZN %	CU %	MN %	CO %	SIO ₂ %	NI %	FA	HA
8.68 lb/gal, 1.04 kg/L		5.00					0.10			0.05		0.05					
10.77 lb/gal, 1.29 kg/L	4.00	14.00	2.00														
10.44 lb/gal, 1.25 kg/L	1.00	7.00	1.00			2.00				2.00	0.20	0.50					
8.85 lb/gal, 1.06 kg/L		5.00					0.10			0.05		0.05					
12.43 lb/gal, 1.49 kg/L	5.00	23.00	4.00	4.00													
10.87 lb/gal, 1.26 kg/L		1.00	20.00					0.50									
10.60 lb/gal, 1.27 kg/L														10.00			
10.10 lb/gal, 1.21 kg/L	8.00	16.00	4.00			1.00	0.10			0.05		0.05					
WEIGHT	N %	P ₂ O ₅ %	K ₂ O %	CA %	MG %	S %	FE %	B %	MO %	ZN %	CU %	MN %	CO %	SIO ₂ %	NI %	FA	HA
8.76 lb/gal, 1.05 kg/L	5.00																
10.43 lb/gal, 1.25 kg/Lg	24.00						0.10			0.05		0.05					
9.40 lb/gal, 1.13 kg/L	15.00						0.05			0.03		0.03					
8.76 lb/gal, 1.05 kg/L	5.00						0.10			0.05		0.05					
9.18 lb/gal, 1.10 kg/L	8.00					1.00	0.10			0.05		0.05					
WEIGHT	N %	P ₂ O ₅ %	K ₂ O %	CA %	MG %	S %	FE %	B %	MO %	ZN %	CU %	MN %	CO %	SIO ₂ %	NI %	FA	HA
9.18 lb/gal, 1.10 kg/L																20.00	
1.0 lb, 0.45 kg																	70.00
8.76 lb/gal, 1.05 kg/L																	6.00
8.68 lb/gal, 1.04 kg/L	6.00	2.00															
8.68 lb/gal, 1.04 kg/L	6.00	2.00															
WEIGHT	N %	P ₂ O ₅ %	K ₂ O %	CA %	MG %	S %	FE %	B %	MO %	ZN %	CU %	MN %	CO %	SIO ₂ %	NI %	FA	HA
8.34 lb/gal, 1.00 kg/L																	
8.34 lb/gal, 1.00 kg/L																	
WEIGHT	N %	P ₂ O ₅ %	K ₂ O %	CA %	MG %	S %	FE %	B %	MO %	ZN %	CU %	MN %	CO %	SIO ₂ %	NI %	FA	HA
8.34 lb/gal, 1.00 kg/L									0.10				0.05				
9.07 lb/gal, 1.09 kg/L																	

Mixing Guide / pH Chart

1. When in doubt as to compatibility, please perform a jar test before mixing in large quantities.
2. The mixing container should be fiberglass, plastic, stainless steel, or rubber lined, and capable of withstanding heat exchanges.
3. Use a large enough container to adequately handle the initial mixture, plus room in the container for at least twice the water.
4. Use a good stir rod such as a 3-to-6-foot PVC pipe, or use a mix tank agitation system.
5. Start making the mix by adding into the container half the water you plan to use.
6. Use a 3-gallon measuring bucket with a handle for measuring the products to add and/or use a 1-quart/1-liter measuring pitcher with ounces and/ or mL increments for small measurements.
7. Add in or mix the Huma Gro® products into the water in the order from most basic (alkaline) to most acidic. From pH (16.7) to pH (0.1) as shown below.
8. Fill the container capacity with the rest of the water.
9. If there is a reaction during mixing, it will be immediate and with a little patience and stirring, should mix in well. If agitation is not sufficient, add small amounts of an acidifier until solution clears.
10. If adding a pesticide or fungicide to the fertilizer solution, add after all the Huma Gro® products are thoroughly mixed and pH is verified. Do a jar test first for compatibility.
11. Never apply total Huma Gro® products plus other ag chemicals at more than 10% concentration of the finished application mix.

PRODUCT pH (Acidic to Basic)

CALCIUM	0.1–0.5	SURF-MAX®	3.5–4.0
SUPER PHOS® (PHOS-MAX™)	0.1–1.0	PROUD 3®	4.5–5.5
GOLDEN PRO™	0.3–0.6	ZAP®	5.5–6.5
C-PHOS™	0.3–1.0	FERTIL HUMUS®	6.0–7.0
SULFUR	0.7–1.7	KLEENUP™	6.5–6.7
D-FEND®	1.0–2.0	2-16-16™	6.5–7.5
NICKEL	1.2–1.6	PROMAX®	6.5–7.5
MAX PAK®	1.2–1.7	38 SPECIAL®	6.6–7.6
COMOL™	1.3–2.1	BUFFER K™	7.0–8.0
MANGANESE	1.4–2.0	ENCAPSALT®	7.0–8.0
ACTIVOL®	1.4–2.4	SUPER NITRO®	7.0–8.0
FULVI PRO®	1.5–2.5	START-L™	7.5–8.5
44-MAG®	1.5–2.5	BORO-MAX®	7.6–8.6
CROP-GARD®	1.6–2.6	HUMA PRO®	8.0–9.0
BREAKOUT®	1.7–2.7	SOIL PRO™	8.0–9.0
VITOL®	1.8–2.8	X-TEND® B	8.0–9.5
COBALT	2.0–3.0	X-TEND®	8.0–9.5
COPPER	2.1–3.1	MOLYBDENUM	8.5–9.5
IRO-MAX™	2.5–3.5	SILI-MAX®	11.5–12.5
PUR CAL™	2.5–3.5	SIL-K™	14.0–15.0
Z-MAX®	2.5–3.5	JACKPOT® (YIELD-MAX™)	14.5–15.5
LUCKY 7®	3.2–4.2	SUPER POTASSIUM™	15.7–16.7

BECOME MORE PRODUCTIVE

WITH THE **HUMA GRO[®] APP**

▶ *Calculate how much product to apply based on lab analysis.*

▶ *Store calculations and application info.*

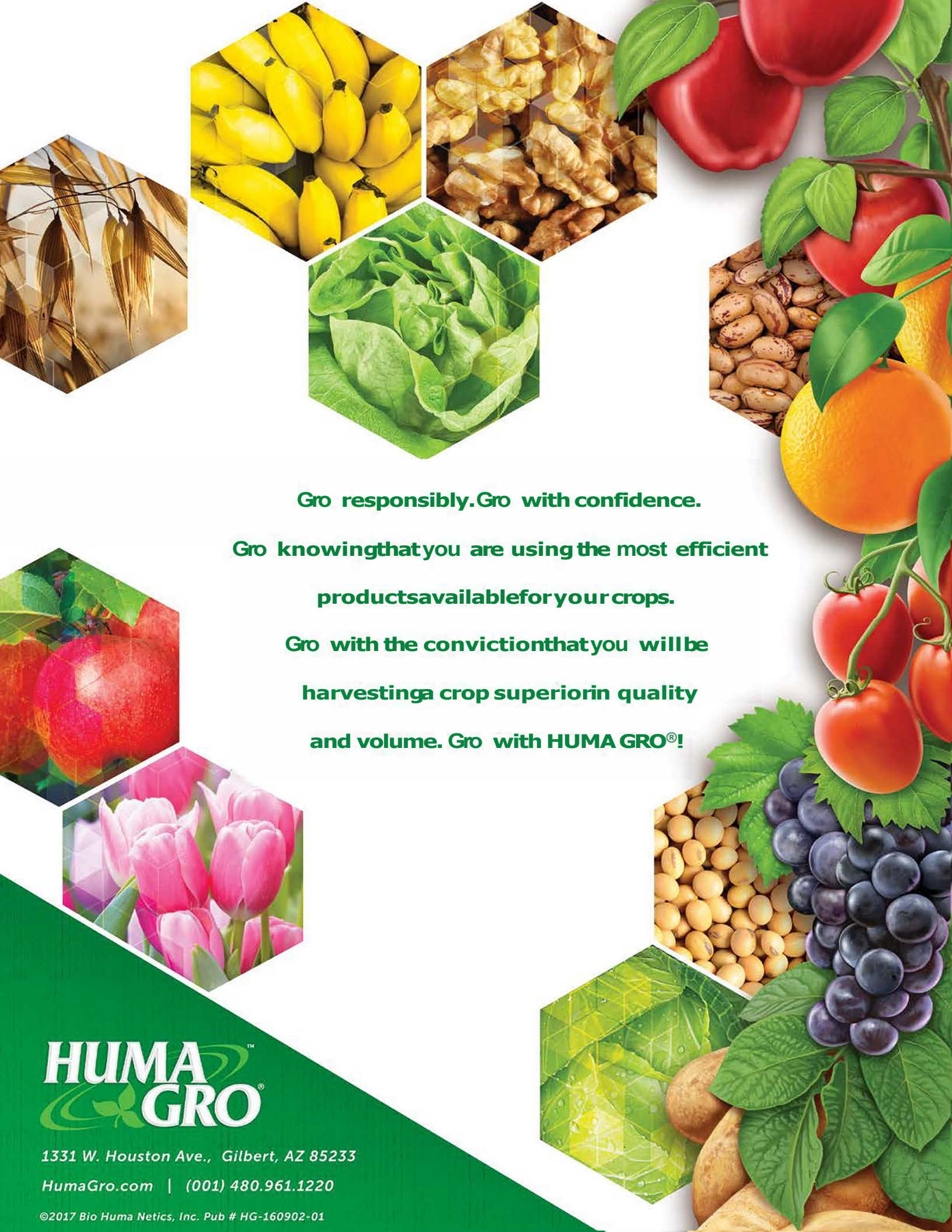
▶ *View all current products and their technical documents.*

▶ *Have mixing instructions available when you need them.*

Now you can have the most up-to-date information on every HUMA GRO[®] product at your fingertips! Plus, you can calculate how much product you need to apply to your specific crops on any size of field and store the data for later use.

The HUMA GRO[®] App is available on Android[®] for FREE in the Google Play Store.





Gro responsibly. Gro with confidence.

**Gro knowing that you are using the most efficient
products available for your crops.**

**Gro with the conviction that you will be
harvesting a crop superior in quality
and volume. Gro with HUMA GRO®!**

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