

2018 / 2019

COMMERCIAL GUIDE

GROTEK[™]
SCIENCE FOR PLANTS



EST. 1998

20

YEARS

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GROTEK

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20 YEARS OF SUCCESS

Grotek's nutrients have been providing growers with quality science and exceptional results for 20 years. Our products, delivering high-performance results, have earned the trust of hobby and commercial growers around the world. At our core is a focus on plant science. Grotek has been an industry pioneer, combining key organic extracts with mineral fertilizers. This combination produces synergistic effects proven to maximize yield and enhance quality characteristics.

Grotek's fusion of ingredients gives growers the opportunity to achieve exceptional organic based results from soilless mixes and water gardens, vastly improving harvest quality.

With numerous field trials in process and even more planned, our team is committed to continuous improvement in formulation ratios, new opportunities, and grower specific data that drives our future business and grower success.



EXPERIENCE

From research and development to hands-on crop experience, our team has the background to assist our clients with brand advice and accepted crop production standards. Having expertise in agronomy, organic growing, crop inputs, facility design and more, we are equipped to support our customers with quality service to match our products.



CUSTOMER SERVICE IS IN OUR COMPANY DNA

We are growers helping growers, and we take client trust and our responsibility to crop production very seriously. Our team is available to troubleshoot and answer questions at any time to make sure grower confidence doesn't waiver, and there are no downtime issues related to the use of our product. We want the application of our products to run as smoothly as our manufacturing process. Our goal is to cultivate mutually beneficial, long-term relationships based on trust and world-class service.

Go to the 'Contact' page on our site to be directed to the right department.

HIGH QUALITY AND CONSISTENT PRODUCTS

At Grotek, we have invested in our client's success. It all starts in our production facility where we begin by sourcing ingredients based on quality rather than price. Virtually all of our ingredients are sourced within North America and Europe to ensure the highest specifications are met. Grotek's formulas are processed through our automated mixing stages where they are blended and tested according to exacting standards. Our strict manufacturing standards are complemented by Lean Manufacturing Principles which help our team strive for continuous improvement. Our manufacturing team keep strict quality standards, including batch tracking and conducting random 3rd party nutrient analysis to compare against samples and manufacturing standards. All of our commercially sized products are mixed fresh to order. At Grotek, we take our clients' business seriously and do not jeopardize their harvest by using banned ingredients or other high-risk substances.

GROTEK GREEN LINE: AN ENTIRELY NEW RANGE OF POSSIBILITIES.

The new Grotek *Green line* has arrived. This technical organic range gives growers worldwide an easy to use customizable organic option. The Grotek Green line is built for indoor and greenhouse use where plants can't access the natural biodiversity found in soil and for drip lines where low sediment levels are a requirement. Because of their soilless focus, these organic products are immediately available to the plant to help accelerate growth under controlled conditions. The Grotek Green line is exceptionally effective in true soil where they are designed to reduce adverse impacts on biology and enhance biodiversity. Our products can be custom tailored to all grow situations, and our on-staff organic experts can help growers find the right combination for their crops.

OUR CONCENTRATED FORMULAS WORK FOR COMMERCIAL OPERATORS.

Virtually all of our products are excellent choices for commercial application. Even our completely organic options are appropriate for injection systems due to their low particulate. As water-soluble concentrates, our products have application rates ranging from 1:300 to 1:2000. With a custom tailored formula build specifically to the grower needs our cost of application ranges from 0.05/L to 0.12/L based on commercial sizes. A custom formulation is also possible to meet an exact growers specification from our bank of quality inputs.

Grotek is a big part of Greenstar Plant Products. We like to think of it as our champion brand. The Greenstar organization consists of over 50 skilled employees. All of whom work to bring you a consistent and effective product. We have curated a strong team from Production to Regulatory to Marketing to Sales and Accounting. We are very proud of the team we are today and the experience we've gained from the last 20 years of business. We've highlighted some of our key employees so you can obtain some insight into Grotek.



MICHAEL NEMIROW

C.E.O

Michael is the CEO of Greenstar Plant Products, leading the day to day operations along with setting the strategic direction for the business. Michael has held multiple corporate leadership positions, successfully turning new concepts into a prosperous business. Before Greenstar, Michael has held key positions in a variety of interesting companies, including VP of Energy & Mining & VP/Senior Director of Strategic Initiatives roles at MDA Corporation. At MDA, Michael lead the creation of an oil & gas and mining business area that became the global leader in space-based monitoring programs. Michael was also the Co-Founder and CEO of Benevia Corporation with services geared toward ageing populations, and a COO/VP at various Fox Communications companies.



SIMON HART, B.A.

DIRECTOR OF BRAND DEVELOPMENT

Simon has 40 years experience in the horticultural industry with hands on knowledge in production, retail, wholesale, and manufacturing aspects of the business. Working in North and South America, Europe and Australia has given added impact through industry specific perspective while post secondary horticultural education has focused on the science driving our industry forward. As Director of Brand development Simon leads a team working on research and development through to brand support and market strategies . The team works to fuse science, opportunity and impact while growing Greenstar brands to meet customer needs. Responsive customer service is deeply imbedded through the whole process ensuring client confidence and satisfaction.



KIRK GLENDENING

DIRECTOR OF INTERNATIONAL B.D.

Kirk Has over 11 years' experience in the specialty gardening market. He has held multiple positions in that time such as purchasing, production, market manager and director of business development. The diversity of responsibility has given Kirk a wealth of Knowledge in the industry not just in fertiliser but all aspects of the market. Kirk has helped push Grotek to the next level with years of accelerated sales growth around the world. Breaking into new countries and helping to launch new products across the globe successfully. Kirk manages the sales team across multiple continents, ensuring Grotek is expertly represented around the world.

**GREG REKKEN, M.Sc.****AGRONOMIST**

Our Agronomist, Greg holds a B.Sc in sustainable agriculture and an M.Sc in Plant Science. He brings over 25 years of practical and academic agricultural experience spanning numerous countries and cropping systems. Greg ran his first market garden at the age of twelve, has worked as a farmer, a landscaper, developed a successful field crop research program and taught soil and weed science as well as sustainable agriculture on food security projects in Southeast Asia. Greg has a passion for plants and human relations with agriculture and the environment.

**GURBINDER SINGH, M.Sc.****QUALITY ASSURANCE SPECIALIST**

Prior to joining the Greenstar team in 2018, Gurbinder completed his M.Sc. in Food Technology and worked for Procter and Gamble for 12 years, leading quality assurance functions at various manufacturing locations in regulated categories of skin care, shave care, personal health care, oral care, and laundry. He also has experience managing QA capabilities at several greenfield projects and start-ups. At Greenstar, we promise to deliver superior products that enable growers to achieve the highest yields possible. Gurbinder contributes towards this promise through the implementation of high-quality standards focused on rigorous training, effective traceability systems, and detailed product quality testing.

The background features a dense arrangement of tropical plants. In the foreground, there are several bright green leaves with detailed vein patterns, including large monstera leaves and feathery fern fronds. Behind these, there are faint, grey-outlined versions of the same plants, creating a layered, jungle-like effect. The entire scene is set against a solid black background.

SOLO-TEK
GROWTM

6-3-7

SOLO-TEK GROW™

OVERVIEW

- Base nutrient formulation for vegetative growth
- Complete nutrient profile in optimum ratios for lush, green growth
- Humic acid base ensures nutrient availability and root uptake
- Nutrient suspension
- Solo-Tek has Excellent stand-alone performance
- More incredible results combined with yield boosting supplements in the Grotek line.

INGREDIENTS

- Calcium nitrate
- Ammonium nitrate
- Mono-potassium phosphate
- Potassium nitrate
- Magnesium nitrate
- Magnesium sulphate
- Iron EDTA
- Manganese EDTA
- Copper EDTA
- Zinc EDTA
- Sodium Molybdate
- Sodium Tetraborate
- Humic Acid

COMPOSITION

Total Nitrogen (N)	6%	Zinc (Zn) (actual)	0.03%
Available Phosphate (P ₂ O ₅)	3%	Copper (Zn) (actual)	0.02%
Soluble Potash (K ₂ O)	7%	Boron (B) (actual)	0.01%
Calcium (Ca)	3%	Manganese (Mn) (actual)	0.05%
Magnesium (Mg)	1%	Molybdenum (Mo) (actual)	0.0007%
Sulphur (S)	1%	EDTA (chelating agent)	0.5%
Iron (Fe) chelated (actual)	0.1%		

DIRECTIONS FOR USE

SOLO-TEK GROW	APPLICATION RATE	DILUTION RATE
Stand-alone	300 – 400 ml per 100 L	333:1 – 250:1
With Supplements	200 ml per 100 L	500:1

NOTES

- Solo-Tek is a very viscous product, ensure compatibility with your injection system prior to use. Product can be diluted to reduce viscosity.

Available Sizes: 23L, 205L, 1000L



***MONSTER
GROW™ PRO***

18-36-1

MONSTER GROW PRO™

OVERVIEW

- Vegetative growth enhancer
- High nutrient concentration in a soluble powder with low application rate
- Stimulates secondary Root Development
- Improves leaf area index
- High phosphorus content primes plant for flowering
- Amino acids aid nutrient uptake and protein synthesis
- Seaweed extract supplies trace elements and phyto-active compounds

INGREDIENTS

- Diammonium phosphate
- Soy protein hydrolysate
- Seaweed extract

COMPOSITION

Total Nitrogen (N) 18% Soluble Potash (K₂O) 1%
Available Phosphate (P₂O₅) 36%

DIRECTIONS FOR USE

MGP	APPLICATION RATE
As applied	10 g per 100 L

NOTES

- Conduct jar test to confirm compatibility with other fertilizer concentrates.



***KICK
START™***

5-8-5

KICK START™

OVERVIEW

- Complete liquid concentrate for early plant growth
- Ideal for seedlings and freshly rooted cuttings.
- Helps to develop a strong root structure
- Maximizes photosynthesis in young plants
- Like our other products Kick Start incorporates organic and mineral ingredients.

INGREDIENTS

- Urea
- Potassium Nitrate
- Monopotassium phosphate
- Manganese sulphate
- Ferrous sulphate
- Copper sulphate
- Zinc sulphate
- Alfalfa meal
- Kelp extract

COMPOSITION

Total Nitrogen (N)	5%	Copper	0.05%
Available Phosphate (P ₂ O ₅)	8%	Boron	0.001%
Soluble Potash (K ₂ O)	5%	Manganese	0.05%
Iron.	0.1%	Molybdenum.	0.00025%
Zinc	0.05%		

DIRECTIONS FOR USE

KICK START	APPLICATION RATE	DILUTION RATE
Seedlings	200 ml per 100 L	500:1
Rooted cuttings	200 – 300 ml per 100 L	500:1 – 333:1
Transplants	500 ml per 100 L	200:1

Available Sizes: 23L, 205L, 1000L



**INSTA-
GREEN™**

3-0-0

INSTA-GREEN™

OVERVIEW

- Addresses deficiencies most common in rapidly growing crops
- Also effective as a nitrogen, calcium, magnesium and iron supplement
- Effective for foliar and soil application
- Chelated minerals to promote maximum absorption

INGREDIENTS

- Ammonium nitrate
- Calcium nitrate
- Iron EDTA
- Magnesium nitrate

COMPOSITION

Total Nitrogen (N)	3%	Iron (Fe) chelated (actual)	0.1%
Calcium (Ca)	1%	EDTA (chelating agent)	0.5%
Magnesium (Mg)	0.5%		

DIRECTIONS FOR USE

INSTA-GREEN	APPLICATION RATE	DILUTION RATE
Foliar	100 ml per 10 L	100:1
Root drench	500 ml per 100 L	200:1

NOTES

- Nutrient deficiencies best remedied with foliar application. Tissue testing is the most reliable method for diagnosing nutrient deficiencies.
- Do not apply foliar treatment when plants are subjected to direct light.



SOLO-TEK
BLOOM™

3-8-8

SOLO-TEK BLOOM™

OVERVIEW

- Base nutrient formulation for vegetative growth
- Complete nutrient profile in optimum ratios for flower and fruit production
- Humic acid base ensures nutrient availability and root uptake
- Nutrient suspension
- Solo-Tek has Excellent stand-alone performance
- More incredible results combined with yield boosting supplements in the Grotek line.

INGREDIENTS

- Calcium nitrate
- Potassium nitrate
- Monopotassium phosphate
- Magnesium Sulphate
- Ammonium nitrate
- Iron EDTA
- Manganese EDTA
- Copper EDTA
- Zinc EDTA
- Sodium Molybdate
- Sodium Tetraborate
- Humic Acid
- Thiamine hydrochloride

COMPOSITION

Total Nitrogen (N)	3%	Zinc (Zn) (actual)	0.025%
Available Phosphate (P ₂ O ₅)	8%	Copper (Cu) (actual)	0.02%
Soluble Potash (K ₂ O)	8%	Boron (B) (actual)	0.01%
Calcium (Ca)	3%	Manganese (Mn) (actual)	0.05%
Magnesium (Mg)	0.5%	Molybdenum (Mo) (actual)	0.0007%
Sulphur (S)	1%	EDTA (chelating agent)	0.5%
Iron (Fe) chelated (actual)	0.1%		

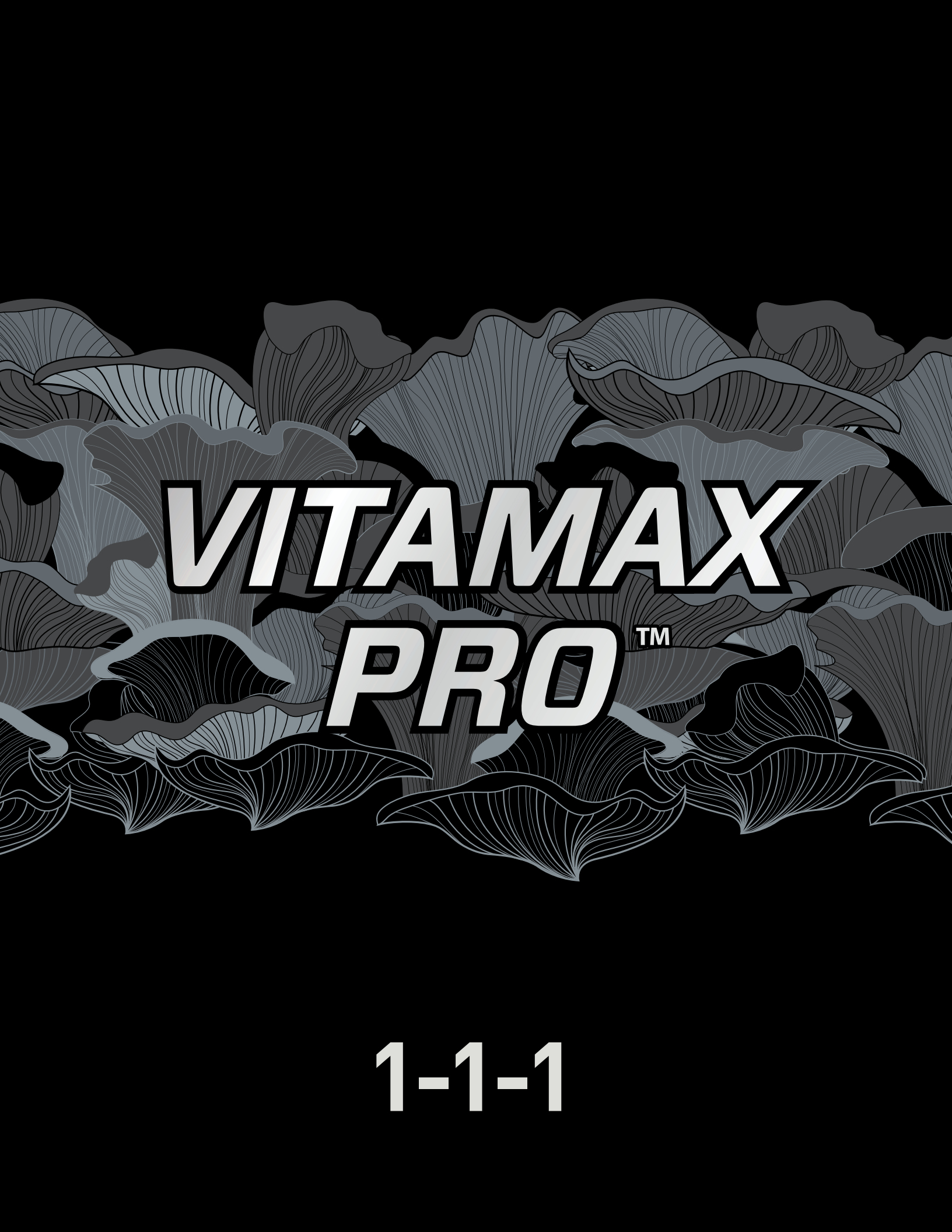
DIRECTIONS FOR USE

SOLO-TEK BLOOM	APPLICATION RATE	DILUTION RATE
Stand-alone	200 – 300 ml per 100 L	500:1 – 333:1
With Supplements	300 – 400 ml per 100 L	333:1 – 250:1

NOTES

- Solo-Tek is a very viscous product, ensure compatibility with your injection system prior to use. Product can be diluted to reduce viscosity.

Available Sizes: 23L, 205L, 1000L



VITAMAX
PRO™

1-1-1

VITAMAX PRO™

OVERVIEW

- Improves plant growth in all stages of development
- Provides multiple sources of amino acids
- High quality humic acid
- Suitable for soil and soilless gardens

INGREDIENTS

- Monopotassium phosphate
- Fermented molasses
- Kelp extract


COMPOSITION

Total Nitrogen (N) 1% Soluble Potash (K₂O) 1%
Available Phosphate (P₂O₅) 1%

DIRECTIONS FOR USE

VITAMAX PRO	APPLICATION RATE	DILUTION RATE
As supplement	100 ml per 100 L	1000:1

Available Sizes: 23L, 205L, 1000L



VITAMAX
PLUS™

1-1-2

VITAMAX PLUS™

OVERVIEW

- Essential nutrients to boost any fertilizer program
- Full cycle supplement suitable for all stages of crop development
- Multiple chelates for minerals in solution
- Added vitamins to improve plant functions
- Low organic content lending itself for use in water culture

INGREDIENTS

- Ammonium nitrate
- Magnesium nitrate
- Magnesium sulphate
- Potassium nitrate
- Monopotassium phosphate
- Low molecular weight humates

COMPOSITION

Total Nitrogen (N)	1%	Soluble Potash (K ₂ O)	2%
Available Phosphate (P ₂ O ₅)	1%	Magnesium	0.5%

DIRECTIONS FOR USE

VITAMAX PLUS	APPLICATION RATE	DILUTION RATE
As Supplement	100 – 200 ml per 100 L	1000:1 – 500:1

Available Sizes: 23L, 205L, 1000L



BUD FUEL™
PRO

1-3-4

BUD FUEL PRO™

OVERVIEW

- Transitional product to enhance floral initiation.
- Bioactive ingredients work with quality minerals to improve fruit set.
- Designed to work with Blossom Blaster Pro

INGREDIENTS

- Fermented molasses
- Kelp extract
- Monopotassium phosphate
- Diammonium phosphate

COMPOSITION

Total Nitrogen (N) 1% Soluble Potash (K₂O) 4%
Available Phosphate (P₂O₅) 3%

DIRECTIONS FOR USE

BUD FUEL PRO	APPLICATION RATE	DILUTION RATE
As supplement	200 – 300 ml per 100 L	500:1 – 333:1

NOTES

- Begin use 10 days prior to flower induction and continue through to mid-flowering.

The background features a cluster of red roses and leaves. Some roses are rendered with solid red coloring and black outlines, while others are shown as white line art. The leaves are also depicted in red with black outlines. The overall aesthetic is bold and graphic.

**BLOSSOM
BLASTER™
PRO**

1-4-0

BLOSSOM BLASTER PRO™

OVERVIEW

- High powered early flower enhancer
- Highly available source of phosphorus
- Unique carbohydrate chelated nutrients for rapid absorption
- Helps maximize cellular metabolism to improve growth and early flower development
- Increased results when combined with Bud Fuel Pro

INGREDIENTS

- Phosphoric acid
- Urea
- Ferrous sulphate
- Zinc oxide
- Sodium molybdate
- Boric acid


COMPOSITION

Total Nitrogen (N)	1%	Copper	0.03%
Available Phosphate (P ₂ O ₅)	4%	Boron	0.03%
Iron	0.1%	Molybdenum	0.01%
Zinc	0.2%		

DIRECTIONS FOR USE

BBP	APPLICATION RATE	DILUTION RATE
Stand-alone	200 – 300 ml per 100 L	500:1 – 333:1
As Supplement	100 ml per 100 L	1000:1

Available Sizes: 23L, 205L, 1000L



MONSTER
BLOOM TM

0-50-30

MONSTER BLOOM™

● OVERVIEW

- Classic bloom enhancer
- Renowned industry standard
- Highly soluble powder
- High quality inputs help plants reach peak potential
- Builds larger flower clusters
- Increases yield and helps crops ripen
- Explosive results when combined with Heavy Bud Pro

● INGREDIENTS

- Monopotassium phosphate

● COMPOSITION

Available Phosphate (P_2O_5) 50% Soluble Potash (K_2O) 30%

● DIRECTIONS FOR USE

MONSTER BLOOM	APPLICATION RATE
As supplement	10 g ml per 100 L

A stylized illustration of three cannabis buds with a textured, orange-brown surface. The buds are surrounded by green palm fronds and small, five-petaled flowers in green and orange. The background is black. The text 'HEAVY BUD' is written in a large, bold, white, italicized font with a black outline, and 'PRO' is written below it in a similar style. A small 'TM' trademark symbol is located to the right of 'HEAVY BUD'.

HEAVY BUD™
PRO

1-0-3

HEAVY BUD PRO™

OVERVIEW

- High performance ripening supplement focusing on harvest quality
- A catalyst for mid to late flowering when plants focus on flower density and fruit quality
- Improves essential oil content, flavour, aroma and shelf life
- Provides plant energy, increases nutrient availability and stimulates soil biology
- Amino acids accelerate plant production
- Unique carbohydrate chelation complex enhances nutrient availability and uptake
- Explosive results when combined with Monster Bloom

INGREDIENTS

- Potassium hydroxide
- Fermented molasses
- Boric acid

COMPOSITION

Total Nitrogen (N) 1% Boron 0.1%
Soluble Potash (K₂O) 3%

DIRECTIONS FOR USE

HEAVY BUD PRO	APPLICATION RATE	DILUTION RATE
As supplement	200 ml per 100 L	500:1

NOTES

- Use from flowering week 4 to end of flowering

Available Sizes: 23L, 205L, 1000L



PRO-SILICATE™

0-0-4

PRO-SILICATE™

OVERVIEW

- An excellent source of plant available silicon and potassium
- Silicon produces stronger, more resilient plants
- Increased drought and stress tolerance
- Silica produces stronger stems to support high yields
- Silica reinforces cell walls, creating an armour like barrier. Pro-Silicate is an excellent tool to include in your IPM program.
- Multiple sources of potassium enhance ripening and shelf life

INGREDIENTS

- Potassium silicate
- Potassium chloride

COMPOSITION

Soluble Potash (K₂O) 4% Silicon (SiO₂) 7.5%

DIRECTIONS FOR USE

PRO-SILICATE	APPLICATION RATE	DILUTION RATE
As supplement	50 – 125 ml per 100 L	2000:1 – 800:1

NOTES

- Pro-silicate is a strong base. Can be used to increase solution pH
- Do not add to nutrient concentrates
- Recommended to add to nutrient tank prior to the addition of nutrients
- Pre-dilute in a small amount of water if adding to nutrient tank already containing nutrients

Available Sizes: 23L, 205L, 1000L

A stylized illustration of strawberries and leaves. The strawberries are bright red with black outlines and small black seeds. The leaves are a vibrant green with black outlines and detailed vein patterns. The background is black, making the colors stand out. The text 'CARBO MAX' is overlaid on the center of the illustration.

**CARBO
MAX™**

0-0-1

CARBO MAX™

● **OVERVIEW**

- Water soluble simple sugars
- Added potassium for ripening
- Rapid source of energy for soil organisms and plants to enhance metabolism of minerals

● **INGREDIENTS**

- Potassium chloride
- 98% dextrose

● **COMPOSITION**

Soluble Potash (K₂O) 1%

● **DIRECTIONS FOR USE**

CARBO MAX	APPLICATION RATE
As supplement	25 g per 100 L

A stylized illustration of various peppers and vines. The scene is set against a black background. There are several large, bell-shaped peppers in shades of red and green. Interspersed among them are long, slender green peppers. A network of thin, grey, branching lines, resembling roots or vines, is scattered throughout the composition. Some of these lines are highlighted in red and green, matching the colors of the peppers. The overall style is graphic and modern.

CAL-MAX™

2-0-0

CAL-MAX™

OVERVIEW

- Corrects common deficiencies with fast acting calcium, magnesium, iron and nitrogen
- Excellent for conditioning coco coir
- Appropriate for foliar or soil drench

INGREDIENTS

- Calcium nitrate
- Magnesium nitrate
- Calcium chloride
- Iron EDTA

COMPOSITION

Total Nitrogen (N)	2%	Iron (Fe) chelated (actual)	0.1%
Calcium (Ca)	3%	EDTA (chelating agent)	0.68%
Magnesium (Mg)	1%		

DIRECTIONS FOR USE

BBP	APPLICATION RATE	DILUTION RATE
Soil /soiless	125 ml per 100 L	800:1
Hydroponics	125 - 200 ml per 100 L	800:1 – 500:1
Foliar	25 ml per 10 L	100:1

The background of the image is a dense, repeating pattern of stylized, abstract floral or leaf-like shapes. The shapes are rendered in two colors: a vibrant blue and a dark grey. Each shape has a central, rounded, bulbous part with vertical lines, and several elongated, pointed lobes extending outwards. The pattern is set against a solid black background.

LXR
BLACK™

0-0-1

LXR BLACK™

● **OVERVIEW**

- Humate based potassium supplement
- High levels of organic matter
- Suitable for soil and soilless growing
- Great addition to compost tea

● **INGREDIENTS**

- High quality humates derived from leonardite

● **COMPOSITION**

Soluble Potash (K₂O) 1%

● **DIRECTIONS FOR USE**

LXR BLACK	APPLICATION RATE	DILUTION RATE
As supplement	200 ml per 100 L	500:1

Available Sizes: 23L, 205L, 1000L

A dense, repeating pattern of stylized, ornate floral or leaf-like motifs. The design uses a color palette of dark grey, light grey, and a vibrant gold. The motifs are intricate, with many curved, pointed shapes and some circular elements, creating a rich, textured background.

LXR
GOLD™

0-0-1

LXR GOLD™

OVERVIEW

- High quality and fully soluble humate based potassium supplement
- Suitable for all garden types, especially water culture
- Low molecular weight humates improve nutrient availability and absorption through natural chelation
- Lower levels of organic matter compared to LXR Black

INGREDIENTS

- Potassium sulphate
- Fulvic acid

COMPOSITION

Soluble Potash (K₂O) 1%

DIRECTIONS FOR USE

LXR GOLD	APPLICATION RATE	DILUTION RATE
As supplement	100 – 200 ml per 100 L	1000:1 - 500:1
Foliar	20 – 40 ml per 10 L	500:1 – 250:1

NOTES

- For soil-based systems where high organic matter is desired we recommend using LXR Black



GREEN LINE

After years of carefully assessing different formulas for efficacy, Grotek™ is ready to help gardeners worldwide with organic products that are both easy to use and customize. Differentiated from our Grotek Main line by the recognizable green bar on the front label, our new Grotek Green line products are an excellent choice for indoor and greenhouse growing, where plants don't get the natural biodiversity that thrives in the soil. The Green line can be used on all outdoor crops as well, providing balanced nutrition no matter what stage of growth or season.

Providing the right nutrient at the right time is the key success

Because of their indoor and greenhouse focus, all of the plant and mineral derived nutrients within the Grotek Green line are immediately available to the plant. This helps plant growth accelerate quickly under peak conditions, building the energy to produce the highest yields possible. As digested liquids, most of our formulas are full of secondary metabolites (Such as amino and humic acids), further enhancing nutrition by impacting both plants and soil biology. All of the liquid formulas are an excellent choice for automated irrigation, such as drip systems and injection lines due to their low sediment content.

DEDICATED TO QUALITY AND SCIENCE

Our Main line is known for consistent quality that drives premium performance; the new Grotek Green Line continues that tradition while bringing its own natural style.

The range is built as components to give growers ultimate flexibility, while still getting all the essential elements to keep plants at peak efficiency. It is important to remember that plants don't always need more of every nutrient. Providing the right amount of nutrients at the right time is the key to success.

Our easy to use feed chart, located in this guide, offers a quick reference to using our product range. Split into categories, it helps growers decide which products are must-haves, and those that will push their gardens to maximum performance.



WHY USE MORE ORGANICS?

Organic compounds have built our planet into what it is today over billions of years, so it is hard to argue that it's not an effective system. Concerning gardening, organic techniques offer opportunities that chemical fertilizers never could. With their focus on the soil, organics build the foundation for healthy plants. Adding more organic content can improve all gardens, even those that aren't entirely organic.



ORGANIC GARDENING METHODS :

IMPROVE SOIL STRUCTURE

Of all garden inputs, organic matter has the greatest effect on soil health. It provides the glues that bind soil particles and stimulates biological activity that further enhance soil porosity and the formation of stable aggregates. A soil with good structure retains more nutrients and water, has a better gas exchange for healthy roots, and is the foundation for strong plant growth.

INCREASE MICROBIAL POPULATIONS

Organic methods focus on feeding the soil. This approach catalyzes microbial activity, increasing the abundance and diversity of species that benefit plant growth. In soils, only a small percentage of the total nutrient pool is available to plants. By stimulating microorganisms, like mycorrhizae and phosphate solubilising bacteria, a greater release of plant available nutrients is possible. Ecologically diverse soils also ensure, through competition and predation, that pests and pathogens do not proliferate. Healthy soils grow strong plants and happy gardeners who reap bountiful harvests!



CORE™

3-2-3

OVERVIEW

- Foundation formulation to drive plant growth
- High organic matter content focuses on improving soil quality to support strong plant growth
- Stimulates soil biology
- Contains soluble plant nutrients, high levels of humates and other plant derived metabolites
- Produced using a proprietary fermentation process from select plant residues
- Effective for all types of growing, including water culture
- Compatible with drip irrigation systems

INGREDIENTS

- Fermented sugar beet molasses

COMPOSITION

Total Nitrogen (N)	3%	Iron	0.01%
Available Phosphate (P ₂ O ₅)	2%	Zinc	0.001%
Soluble Potash (K ₂ O)	3%	Mn	0.003%
Calcium	0.25%	Mo	0.00003%

DIRECTIONS FOR USE

CORE	APPLICATION RATE	DILUTION RATE
Suggested	300 – 400 ml per 100 L	333:1 – 250:1

Available Sizes: 23L, 205L, 1000L

The image features a black background with a dense field of white line-art plants. In the center, a few plants are highlighted in a vibrant green color. Scattered throughout the white plants are several small, semi-transparent 'Ca' symbols. The word 'VITAL' is prominently displayed in the center in a bold, white, sans-serif font, with a 'TM' trademark symbol to its upper right.

VITAL™

5% Ca

VITAL™

OVERVIEW

- Fully soluble calcium supplement
- Ultra-low chlorides. Not derived from Calcium chloride!
- Allows growers to accurately dial in precise calcium levels
- Excellent for coir growers

INGREDIENTS

- Calcium carbonate

COMPOSITION

Calcium 5%

DIRECTIONS FOR USE

VITAL	APPLICATION RATE	DILUTION RATE
As supplement	200 – 300 ml per 100 L	500:1 – 333:1

Available Sizes: 23L, 205L, 1000L



MICRO POWER

0-0-2

MICRO POWER™

OVERVIEW

- A complete and balanced micronutrient formulation to meet your crops demands
- Contains elevated levels of sulphur to increase essential oils
- High magnesium to boost critical plant functions
- Reduces deficiencies in indoor and greenhouse crops

INGREDIENTS

- Magnesium sulphate
- Potassium sulphate
- Iron sulphate
- Zinc sulphate
- Copper Sulphate
- Manganese sulphate
- Boric acid

COMPOSITION

Soluble Potash (K ₂ O)	2%	Zinc	0.03%
Magnesium	4%	Cu	0.02%
Sulphur	6%	B	0.02%
Iron.	0.2%	Mn	0.1%

DIRECTIONS FOR USE

MICRO POWER	APPLICATION RATE	DILUTION RATE
As supplement	100 - 200 ml per 100 L	1000:1 – 500:1

NOTES

- Do not over apply. Excess micronutrients are toxic to plants and soil.

Available Sizes: 23L, 205L, 1000L

The background of the entire image is a dense, intricate pattern of stylized roots and leaves. The roots are depicted as thin, branching lines, with a central cluster highlighted in a golden-brown color. The leaves are small, five-pointed star shapes scattered throughout the composition. The overall aesthetic is clean and modern, set against a solid black background.

***ROOT
FORCE*** TM

1-0-0

ROOT FORCE™

OVERVIEW

- Targets root development without hormones or phosphorus
- Accelerates the secondary root structures
- Enhances biology, such as mycorrhizae
- Helps to buffer against environmental pressure, such as drought so plants bounce back more quickly from stressful conditions.

INGREDIENTS

- Fermented plant proteins
- Zinc sulphate
- Glucose syrup

COMPOSITION

Total Nitrogen (N) 1% Zinc 0.3%

DIRECTIONS FOR USE

ROOT FORCE	APPLICATION RATE	DILUTION RATE
As supplement	100 ml per 100 L	1000:1

Available Sizes: 23L, 205L, 1000L

The background features several stylized leaf patterns. Most are rendered in a light gray, wireframe-like style, showing the veins and cellular structure of the leaves. One leaf in the lower-left quadrant is highlighted in a vibrant green color. The text 'GROWTH MAX' is centered over these patterns.

GROWTH
MAX™

0.2-0.1-0.9

GROWTH MAX™

OVERVIEW

- High quality kelp concentrate
- Cold processing retains all the bioactive phyto-compounds kelp is known for
- Stimulates biological activity in the soil
- Provides ocean-based minerals

INGREDIENTS

- *Ascophyllum nodosum*

COMPOSITION

Total Nitrogen (N) 0.2% Soluble Potash (K₂O) 0.9%
Available Phosphate (P₂O₅) 0.1%

DIRECTIONS FOR USE

GROWTH MAX	APPLICATION RATE	DILUTION RATE
As supplement	100 - 200 ml per 100 L	1000:1 - 500:1

Available Sizes: 23L, 205L, 1000L



RYPE™

3-0-0

RYPE™

OVERVIEW

- A ripening agent that provides the nutrients critical to the final stage of development when the plant focuses on crop quality.
- Multiple carbohydrates stimulate soil biology
- Amino acid complex to guide metabolism during final ripening.

INGREDIENTS

- Fermented sugar beet molasses
- Glucose syrup

COMPOSITION

Total Nitrogen (N). 3%

DIRECTIONS FOR USE

RYPE	APPLICATION RATE	DILUTION RATE
As supplement	100 - 200 ml per 100 L	1000:1 - 500:1

Available Sizes: 23L, 205L, 1000L



***BLACK
PEARL™***

0-0-1

BLACK PEARL™

OVERVIEW

- Amazonians discovered the soil building benefits of biochar hundreds of years ago and Grotek was the first to bring engineered charcoal to our industry in 2009.
- Biochar improves numerous aspects of soil quality, including water and nutrient retention, soil biological diversity and microbe activity.
- Numerous studies have shown improved crop performance in soil amended with biochar.
- Black Pearl is more than just high-quality charcoal, it is super-mineralized with plant and mineral ingredients.
- Not all charcoal is the same. Grotek uses virgin wood from sustainably managed forests, charred in an engineered pyrolysis process.
- Biochar in Black Pearl is a class 1 product by the IBI standards, with a surface area over 700 m²/g. That is almost 3 tennis courts of surface area in a single gram!

INGREDIENTS

- Activated charcoal
- Volcanic Rock Dust
- Low molecular weight humates
- Kelp extract

COMPOSITION

Soluble Potash (K₂O) 1%

DIRECTIONS FOR USE

BLACK PEARL	APPLICATION RATE
Media amendment	20 – 40 ml per L of media/soil

NOTES

- Black Pearl is best incorporated into your growing media prior to planting.
- Not for use in water culture systems.

Available Sizes: 20 Kg



SYNERGY™

SYNERGY™

OVERVIEW

- A new strain of mycorrhizae well suited to intensive crop production.
- Existing commercial products containing *Glomus intraradices* and *Glomus mosseae* have reduced activity under high fertility conditions.
- Synergy is a naturally occurring mycorrhizae isolated from saline soils and has proven efficacy in higher EC and high fertility growing environments.
- Synergy can increase nutrient and water use efficiency
- Positively impacts growth and yield

INGREDIENTS

Glomus iranicum var. *tenuihypharum* 120 propagules/g

DIRECTIONS FOR USE

SYNERGY	APPLICATION RATE
Transplant	1 g per 4 L of media 5 days after transplanting
Root Drench	Suspend in water and apply 1 g per 4 L of media. Apply every 10 – 14 days to ensure high colonization of developing root.
Outdoor	1.5 kg per acre (3 kg/Ha). Apply 5 days after transplanting. Repeat 2 – 3 times during growing cycle.

Available Sizes: Currently unavailable pending registration review ask your rep for regional details.



www.GROTEK.com

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