

The background is a solid green color with a dense, repeating pattern of white line art. The illustrations include various botanical elements: leaves of different shapes and sizes, stems with small flowers, clusters of berries or seeds, and cross-sections of plant stems showing internal structures. The overall style is reminiscent of a traditional botanical field guide or a scientific illustration book.

*GROTEK*TM

SCIENCE FOR PLANTS

EUROPE - ENGLISH



After years of carefully assessing different formulas for efficacy, **Grotek™** is ready to help gardeners worldwide with non-synthetic 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.

Because of their indoor and greenhouse focus, all of the plant and mineral derived nutrients within the Grotek Green range 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.

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.

"Providing the right nutrient 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.

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

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

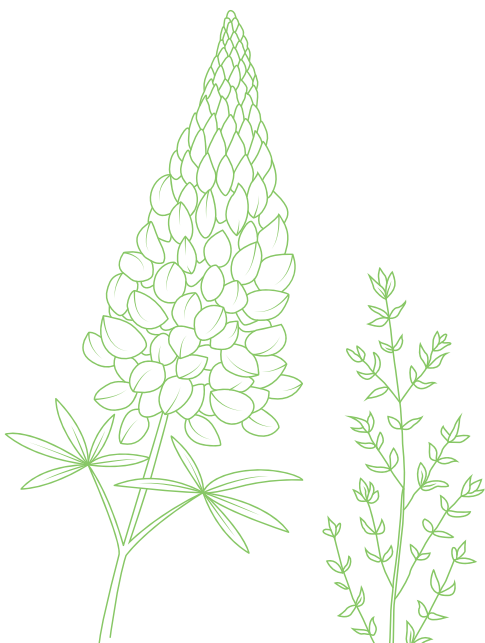
METHODS:

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!





500ml, 1L, 4L, 10L, 23L

CORE™

→ *Essential Elements*

3-2-3



Application rate:
3-4 mL/L



Derived from:
Sugar beet molasses.



Nutrient (ppm) per 1mL/L

Nitrogen (N)	30-35 ppm
Phosphorous (P_2O_5)	20-25 ppm
Potassium (K_2O)	30-40 ppm



KEY FEATURES



Drives plant growth



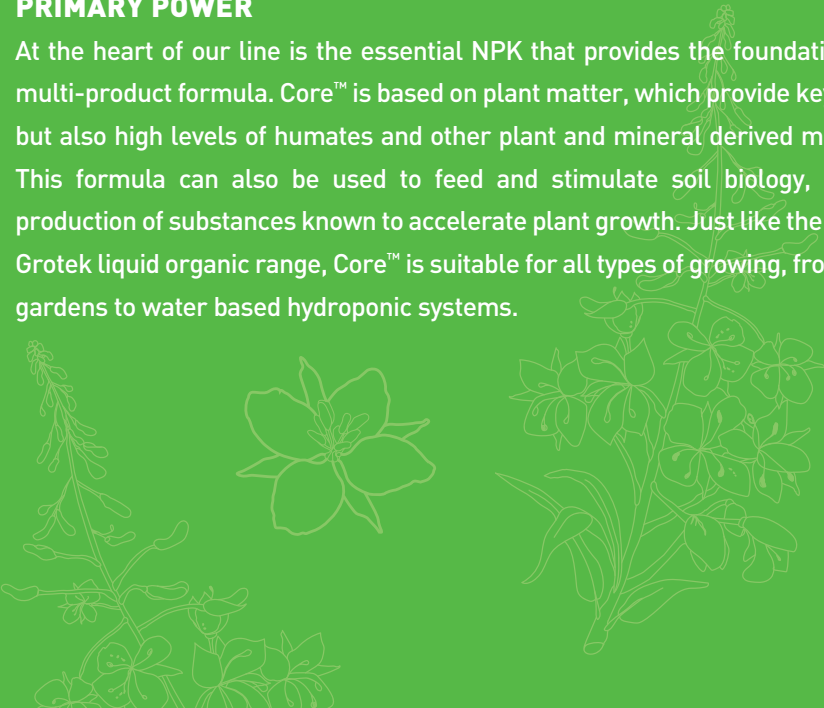
Improves soil quality



Stimulates soil biology

PRIMARY POWER

At the heart of our line is the essential NPK that provides the foundation for our multi-product formula. Core™ is based on plant matter, which provide key minerals but also high levels of humates and other plant and mineral derived metabolites. This formula can also be used to feed and stimulate soil biology, increasing production of substances known to accelerate plant growth. Just like the rest of the Grotek liquid organic range, Core™ is suitable for all types of growing, from outdoor gardens to water based hydroponic systems.





500ml, 1L, 4L, 10L, 23L

VITAL™

→ Calcium Supplement

5% Ca



Application rate:
2-3 ml/L



Derived from:
Calcium Carbonate



Nutrient (ppm) per 1ml/L

Calcium [Ca]..... 50 ppm

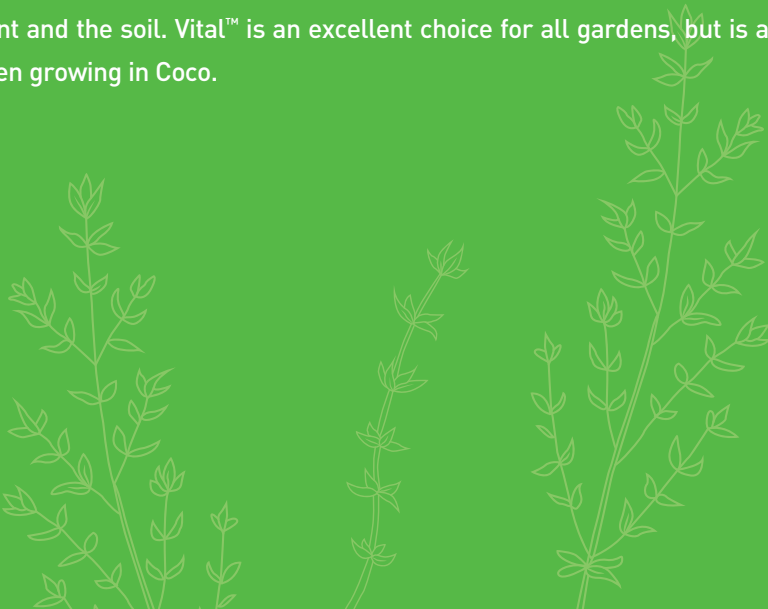


KEY FEATURES

- > *Helps build plant structure*
- > *Ultra-low chloride content*
- > *Excellent for coir gardeners*

STRENGTH OF SUCCESS

Calcium is key to a plant’s success, and Grotek™ Vital™ gives growers a chance to get the level of calcium just right for their plants. As an isolated component, it is possible to dial in a precise level of calcium. The formula also has ultra-low chloride content to ensure better health for the plant and the soil. Vital™ is an excellent choice for all gardens, but is a necessity when growing in Coco.





500ml, 1L, 4L, 10L, 23L

MICRO POWER

0-0-2

→ *Micronutrients*



Application rate:
1-2 ml/L



Derived from: Magnesium sulphate, Potassium sulphate, iron sulphate, zinc sulphate, copper sulphate, manganese sulphate, boric acid.



Nutrient (ppm) per 1ml/L

Magnesium (Mg) 40 ppm
Sulphur (S) 60 ppm
Potassium (K₂O) 20 ppm
Iron (Fe) 2 ppm

Manganese (Mn) 1 ppm
Zinc (Zn) 0.3 ppm
Copper (Cu) 0.2 ppm
Boron (B) 0.2 ppm

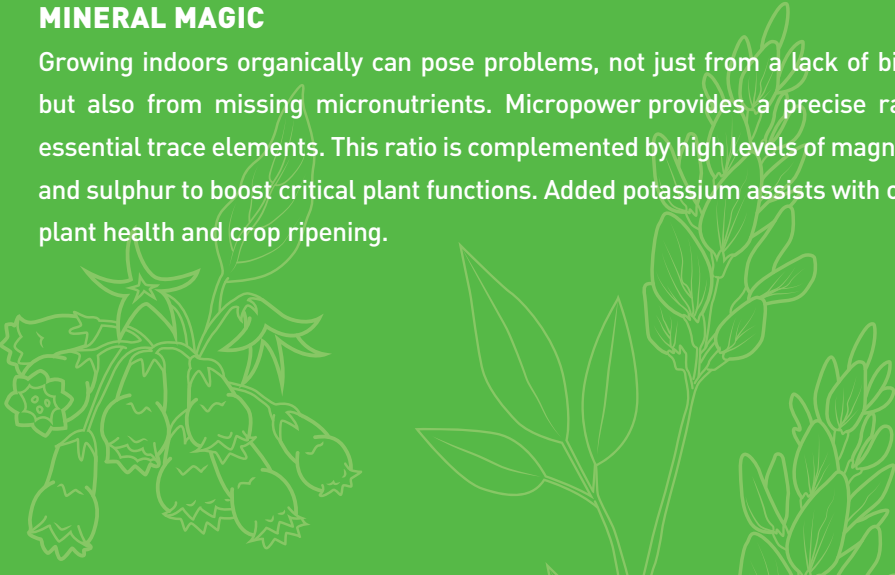


KEY FEATURES

- > ***Provides balanced micronutrients***
- > ***Contains elevated levels of sulphur to increase essential oils***
- > ***Reduces deficiencies in indoor and greenhouse crops***

MINERAL MAGIC

Growing indoors organically can pose problems, not just from a lack of biology, but also from missing micronutrients. Micropower provides a precise ratio of essential trace elements. This ratio is complemented by high levels of magnesium and sulphur to boost critical plant functions. Added potassium assists with overall plant health and crop ripening.





GROTEK
SCIENCE FOR PLANTS

1-0-0

ROOT DEVELOPMENT • DÉVELOPPEMENT RACINAIRE •
DESARROLLO DE LA RAÍZ

**ROOT
FORCE™**

1 L
1 qt
Guaranteed by: Greenstar Plant Products Inc.
#284 Univ. Rd. 6860 210th St.
Langley, BC Canada V1M 2Y2

Net Weight
Poids Net
1 kg
2.2 lb



500ml, 1L, 4L, 10L, 23L

ROOT FORCE™

1-0-0

→ *Root Development*



Application rate:
1 ml/L



Derived from: Fermented plant proteins,
zinc sulphate, and glucose syrup.



Nutrient (ppm) per 1ml/L

Nitrogen (N) 10 ppm
Zinc (Zn) 3 ppm



KEY FEATURES

- > ***Builds roots without hormones or phosphorous***
- > ***Accelerates secondary root development***
- > ***Enhances soil biology such as mycorrhizae***

RAPID ROOTS

Accelerating root development is key to crop success. Root Force™ drives key secondary root structures. These can improve nutrient uptake, boost connections with mycorrhizae, and help build stronger plants. This formula can also provide a buffer against environmental pressure such as drought and under-watering. This gives plants a chance to bounce back more quickly from stressful conditions. Root Force™ is designed to stimulate biology, especially bacteria. Even for fungi it's a friend, because it enhances roots without added phosphorous- an element that can inhibit the development of mycorrhizae.



GROTEK
SCIENCE FOR PLANTS

0.2-0.1-0.9

**KELP CONCENTRATE • CONCENTRÉ DE VARECH •
CONCENTRADO DE ALGAS**

**GROWTH
MAX™**

1 L
1 qt

Guaranteed by: Gro-Tek Plant Products Inc.
#204 Unit 555 8849 118th St.
La Jolay, BC Canada V1M 2Y2

Net Weight
Poids Net
Puro Neto

1.1 kg
2.4 lb



500ml, 1L, 4L, 10L, 23L

GROWTH MAX™

0.2-0.1-0.9

→ *Kelp Concentrate*



Application rate:

1-2 ml/L



Derived from:

Ascophyllum nodosum.



Nutrient (ppm) per 1ml/L

Nitrogen (N) 2 ppm

Phosphorous (P_2O_5) 1 ppm

Potassium (K_2O) 9 ppm

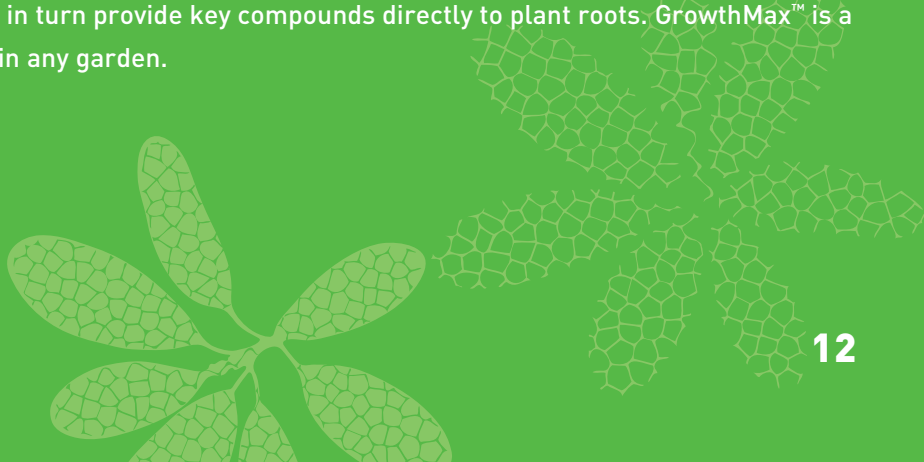


KEY FEATURES

- > ***Cold-processed kelp high in bioactive compounds***
- > ***Stimulates biological activity in soil***
- > ***Provides ocean based minerals***

AN OCEAN OF GROWTH

Kelp has long been known as an amazing natural supplement. GrowthMax™ is a highly concentrated, cold-processed kelp rich in organic compounds and minerals. This product helps plants, in all stages, achieve their maximum potential. The carbohydrates found in kelp also stimulate soil microorganisms, which in turn provide key compounds directly to plant roots. GrowthMax™ is a must in any garden.





500ml, 1L, 4L, 10L, 23L

RYPE™

3-0-0

→ *Ripening stage*



Application rate:
1-2 ml/L



Derived from:
Fermented sugar beet molasses,
glucose syrup.



Nutrient (ppm) per 1ml/L
Nitrogen (N)30 ppm



KEY FEATURES

- > *Provides nutrients for critical ripening phase*
- > *Multiple carbohydrates for microbial food*
- > *Plant proteins for explosive growth*

SWEET SUCCESS

Plants use the last of their energy in preparation to bear fruit. For gardeners, this is the time of judgement for their hard work. Rype™ is designed to support a high-quality crop with the most flavourful yield possible. This formula directly impacts the plant and also acts as a microbial catalyst with various beneficial ingredients such as amino acids, and carbohydrates.





900ml, 4L, 10L, 17L

BLACK PEARL™

→ *Soil Builder*

0-0-1



Application rate:
20-40ml/L to amend soil.



Derived from: Activated charcoal, volcanic rock dust, humates, kelp extract.



KEY FEATURES

- > *Improves soil quality*
- > *Drives biodiversity and biological activity*
- > *Provides key minerals for plant growth*

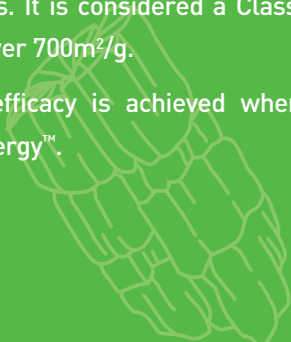
SOIL SUPERCHARGER

Black Pearl™ was the first product in our new Grotek™ Green line! Grotek™ was the first to bring engineered charcoal to our industry in 2009 as a means to improve soil quality, plant growth, and to stimulate soil biology.

Black Pearl™ is more than just high-quality charcoal. It is super mineralized with plant and mineral derived inputs like volcanic and sedimentary rock dust, natural chelates, and kelp extract. The harmony between ingredients provides a dramatic boost to crops when added to any nutrient program.

Remember that not all charcoal is the same. At Grotek™, we use virgin wood fibre from sustainably managed forests, charred in an engineered pyrolysis process. It is considered a Class 1 product by the IBI standards with a surface area over 700m²/g.

Peak efficacy is achieved when used to stimulate microbial products such as Synergy™.





140g, 400g, 800g

SYNERGY™

→ *Mycorrhizae*

*Regional Availability



Application rate:
1g per 4L of soil



Derived from: *Glomus iranicum*
var tenuihypharum



Active Ingredients:
Glomus iranicum var tenuihypharum 120 propagules/g



KEY FEATURES

- > **A mycorrhizae that works with fertilizers**
- > **Industry leading colonization**
- > **Directly impacts plant growth and yield**

SYMBIOTIC SUCCESS

Synergy™ is a water-soluble powder containing fungi, which help plants achieve explosive root development and overall growth all the way to harvest. Arbuscular Mycorrhizal Fungi (AMF) stimulates growth and productivity in the majority of plants on our planet, and they also directly help improve soil conditions.

The variety of mycorrhizae found in Synergy™ is particularly effective in intensive agriculture when using fertilizers. Not all Mycorrhizae have constant positive results with crops. This is due to a lack of colonization, which can be impacted by the use of any fertilizer. This particular strain adapts to and tolerates saline (high EC) environments found in intensive agriculture far better than *glomus intraradices* and *glomus mosseae*. Under these conditions, Synergy™ shines with rapid colonization and improved impact on plants and soil structures.

GREEN LINE

COMPONENT	Seeding	Transplant	Vegetative	Pre-Flower	Week 1
FOUNDATION					
Core	1	1	3	3	4
Vital	1	1	2	2	3
Micro Power	1	1	2	2	2
ENHANCED					
Root Force	0.5	0.5	1	1	1
GrowthMax	0.5	0.5	1	1	2
OPTIMUM					
Rype	-	-	-	-	-
ACTIVATE					
Black Pearl	-	20-40g SUBSTRATE	-	-	-
Synergy	0.25g SUBSTRATE	0.25g SUBSTRATE	0.25g SUBSTRATE	0.25g SUBSTRATE	0.25g SUBSTRATE

NE



ml/L
ENGLISH

Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
4	4	4	4	3	3	flush
3	3	3	3	2	2	flush
2	2	2	2	1	1	flush
1	1	-	-	-	-	flush
2	2	1	1	1	-	flush
-	-	1	2	2	3	flush
-	-	-	-	-	-	flush
0.25g SUBSTRATE	0.25g SUBSTRATE	0.25g SUBSTRATE	0.25g SUBSTRATE	0.25g SUBSTRATE	0.25g SUBSTRATE	flush



GROTEKTM

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