

# GH Grower Advisor

Newsletter for the Greenhouse Industry

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### Virkon Greenhouse

## When the Job Gets Tough, the Tough Get Going

**Virkon GH the most effective and proven Greenhouse clean up (including Viruses)!**



Sign up at [www.vetoquinolclub.ca](http://www.vetoquinolclub.ca) to save over \$20.00 on each 10 kg pail of Virkon Greenhouse.

TerraLink Horticulture and Vetoquinol are pleased to launch Virkon GH for use in greenhouses. Virkon GH is a registered sanitizing agent and an inorganic buffered acid peroxygen compound combining strong oxidizing and detergent properties and possessing a broad spectrum of virucidal, bactericidal and fungicidal activity.

Virkon GH has been registered with PCP number 24210 as a disinfectant. It is proven as an effective bactericide, virucide and fungicide at a 1% solution. Virkon has been used effectively for years in footbaths and as a disinfectant spray in the greenhouse prior to planting new crops; the PCP allows for its legal usage with efficacy, safety and rates approved by government regulation. Virkon is also effective for disinfecting harvest bins, pruning/picking knives during harvest to prevent disease transmission in the crop and other greenhouse equipment.

Virkon GH effectively controls: Alternaria (early blight), Botrytis (grey mould), Clavibacter (bacterial canker), Collectotrichum (black dot root rot), Didymella (black stem rot), Fusarium (wilt), Penicillium (stem rot), Phomopsis (black root rot), Pseudomonas (bacterial speck), Pyrenochaeta (corky root rot), Pythium (damping off), Rhizoctonia (damping off), Sclerotinia (white mould), Thielaviopsis (root rot), Verticillium (wilt) and Xanthomonas (bacterial spot).

Sanitation is the best preventative measure against most pathogens. Start clean wherever possible. Proven on farm efficacy provides producers with biosecurity reassurance even when low temperatures and high levels of organics can present serious problems to other disinfectants.

For general disinfection, Vetoquinol offers Biosenty 904, a fifth generation Quarternary Ammonia. It is the most powerful Quat on the market, with 23% active ingredients. Applied cost is significantly less than other Quats (some with only 7.5% active ingredients).

### Effective Solution for Tough Pests

## Kontos - The Only True Systemic

Kontos Insecticide, with its recent label expansion for greenhouse and outdoor ornamental use, offers growers an effective solution for controlling a broad range of pests, including aphids, whitefly, spider mites, euonymus scale and mealy bug. In addition, Kontos offers excellent suppression of thrips when applied to low level infestations or as a preventative treatment.



**KONTOS™**  
INSECTICIDE

Kontos, containing spirotetramat, is a group 23 insecticide from the tetramic acid family. It contains the active ingredient spirotetramat, which is the second group 23 product (following Forbid, containing spiromesifen) to be registered for greenhouse vegetable, greenhouse ornamental and outdoor ornamental use. It is the only true systemic insecticide (xylem and phloem mobile), making it an ideal solution for difficult to control pests. Kontos can be applied as a drench or foliar treatment for most greenhouse and ornamental pests offering application flexibility.

Kontos is considered soft on beneficials and therefore is well suited for IPM programs. It is also long lasting, providing up to 30 days residual

control and can be applied two times per crop cycle (with the exception of cut flowers which can only be treated once per crop cycle). For more information on this innovative technology from Bayer please contact your TerraLink Representative or visit <http://bayeres.ca/environmental-sciences/en/products/greenhouse-and-ornamental/kontos/>.

### Combination Product

## Pylon for Fall Insect Clean-Up

This fall, vegetable and ornamental greenhouse growers should try Pylon as a great way to control various pests in the greenhouse. Pylon miticide-insecticide is a new class of chemistry, belonging to the Pyrolles (Group 13). Pylon is, registered for control of a broad spectrum of greenhouse insect and mite pests. Pylon's active ingredient, Chlorfenapyr, is brand new in the Canadian market, which should make pests quite susceptible to it. To date, growers have reported excellent results on Two Spotted mites and Western Flower Thrip.

Pylon is quickly absorbed into the leaf within 1 hour and will not wash off, however, coverage is very important as it is not systemic. Once in the plant, Pylon provides 14 – 21 days of residual control and with the cooler, shorter days ahead should carry us to when insect and mite pressure is much lower. Pylon has a 12 hour REI and 0 Days to harvest which makes it easy to implement in your spray program. Pylon is not safe with bees and most beneficial insects, so product should be used when pollination is completed for the season and introductions of biological parasites and predators is finished. Pylon may be used on non-edible ornamental plants and listed greenhouse fruiting vegetables. DO NOT apply to greenhouse cut flowers.

Pylon is conveniently sold in 475 mL bottles with 4 bottles per case.

### Pests Controlled

- ✓ Alfalfa looper
- ✓ Cabbage looper
- ✓ Foliar nematodes

- ✓ Spider mite, Two-spotted
- ✓ Tobacco budworm
- ✓ Tomato hornworm
- ✓ Western flower thrips (ornamental only)

### Crops

- ✓ Fruiting Greenhouse Vegetables
- ✓ Ornamentals

Get a clean start... and finish with PYLON.®  
Always consult the label for instructions and limitations.

### Media

## Benefits of RichGROW Coco

Depending on the texture you choose, you can expect to:

- open up your soilless mix, providing aeration and drainage with RichGROW chips, crush, and fiber;
- retain moisture and improve rewetting ability with RichGROW fine or coir;
- encourage a safe rooting and growing environment with RichGROW low EC product line;
- have consistent texture and EC as RichGROW has industry leading quality control;
- have the convenience of direct ship product and pricing, as well as on demand inventory from TerraLink warehouse;
- find RichGROW coco easy to store as compressed product takes up little space;
- find RichGROW coco easy to hydrate.

RichGROW Coco has proven itself in trials and in commercial greenhouse applications over the past year. It has proven itself in quality through the consistency of its homogeneous texture, as well as EC levels at or below expected levels. RichGROW Coco is now an important product for vegetable growers (compressed slabs) and for ornamental flower and nursery growers (5 kg compressed blocks).

RichGROW Coco is a diverse product line with the ability to complement your crop requirements.

Factors such as texture, EC, packaging, product size/quantity and price point are key to making a good media/substrate decision. The product line is outlined below as well as some options that are available as we continue to move forward meeting the future needs and demands of growers.



### Washing Levels (E.C.) – RichGROW's uniqueness

It is well known that coco in its raw form contains high levels of salts including sodium and chlorides. Both of these salts interfere with fertilizer exchange and can inhibit rooting within the crop. Washing coco removes most of these ions and also reduces the amount of tannins that give off the dark colour when slabs are watered in. ALL RichGROW Coco is washed; resulting in relatively low EC so you have the opportunity to root in your crops quickly and safely. RichGROW coco is available in 3 different wash or EC levels, which provides flexibility to match crop sensitivity, and your growing style.

Our standard RichGROW vegetable grow slab is washed resulting in a salt level of less than 2.0 Ms/cm. Super washed coco is an option that further reduces EC to approximately 0.5 Ms/cm. Low tannin coco can be custom ordered, resulting in a further reduction of the coco EC level as well as reduced tannin coloration exiting the slab in 1st drain leach water. For Greenhouse and Nursery ornamentals, TerraLink stocks super washed with EC <0.5, packed as single or palletized 5 kg blocks. Super washed ensures a safe and fast start for all crops, especially sensitive propagation material.

### 1. Coco Slabs (for GH Vegetables)

RichGROW Coco vegetable grow slabs are typically stocked/shipped compressed with white/black PE outer wrap, with various options for plant hole precuts, and vents for draining. Different textures are available to match up with the crop, growing style and irrigation capacity.



Texture consistency in RichGROW slabs are available as follows:

**CONTROL SLABS** – Provide the maximum amount of aeration while still retaining a reasonable amount of water holding capacity. Control slabs give the grower the most control by being able to more quickly manipulate the water content, pH and EC levels.

**ADVANTAGE SLABS** – Offer approximately 20% higher water holding capacity while still allowing for a high level of control over water content, pH and EC levels. Advantage slabs have a higher amount of fine material that decreases the air pocket size allowing for more water to be stored in the air matrix.

**PERFORMANCE SLABS** – Offer approximately 20% higher water holding capacity than the Advantage slabs. They provide a higher water content buffer during hot, dry weather or in crops that do not need to be steered as much by slab moisture content. Typically used for inland arid climates or for crops that are not as sensitive to root problems or where crop rotation is more frequent.

**BALANCE SLABS** – Provide the highest water holding capacity of the RichGROW line. They are useful in older irrigation systems or where watering capacity during the peak of the day cannot meet crop demand if a drier type slab were to be used.

## 2. Coco Blocks

RichGROW COMPRESSED BLOCKS - RichGROW Coco is available in 5 kg compressed blocks. The blocks, when hydrated, may be used directly as a media depending on block texture and crop, or more commonly, hydrated and mixed with other additives to create custom soilless potting mixes. Blocks will need to be hydrated with at least 13 L of water and will fully hydrate in approximately 15 minutes. Each kg of material will yield from 8 to 14 L of hydrated coco, depending on texture. Coco blocks are available either washed or super washed and in texture grades of: 100% Chips; 60% Chips/40% fine material, or 100% fine material. The chip size of the blocks is of varying sizes.

RichGROW POTTING MIXTURES - differ from blocks in that the chip is optimally size controlled. This greatly benefits the uniform filling of small volume pots. Additionally, the uniformity of texture increases the predictability with watering decisions. POTTING MIX is available in 5 kg blocks requiring hydration. Two textures are available: Potting Mix 600 (holds more moisture) or the Potting Mix 800 (holds less moisture).

## 3. Coco Fiber

RichGROW Coco is also offered as a fiber only. The coco fiber aids with water distribution in any media mix as it breaks the surface tension of water droplets and spreads the water out over the length

of the fiber. The fibers make water more readily available to plant roots as there is a greater chance for the roots to come into contact with the water molecules. The coco fiber itself is cut into lengths between 3-5cm long and is loose filled in large bags (8 bags per skid).

The RichGROW coco line continues to strive to achieve customer's needs in product variation, quality and consistency. The right product for you may depend on a number of factors so if you are interested, please speak with your TerraLink Rep for more information.

## Pest Control

# New Chemicals and Registrations

### Rhapsody ASO Fungicide

User Requested Minor Use Label Expansion (URMULE) for the use of Rhapsody ASO (*Bacillus subtilis* strain QST 713), PCP# 28627, for the suppression of powdery mildew (*Erysiphe* spp., *Oidium* spp., *Sphaerotheca* spp.) and botrytis blight (*Botrytis cinerea*) on ALL ornamentals grown indoors, outdoors, in greenhouses and nurseries. Rhapsody is a broad spectrum fungicide applied preventatively for disease suppression. No maximums for number of applications and no known harmful effects to beneficials.

## Fertilizer

# New Food Safe Calcium Chloride

Many Calcium Chloride (CaCl) products are available, each serving a purpose. Calcium Chloride 77%, Industrial Grade\*, is the least expensive however it should not be used as a hydroponic fertilizer, especially for food production. Industrial Grade 77% is NOT food safe, nor is it registered as a fertilizer. Traditionally, food grade CaCl has been expensive relative to industrial. However some good news, TerraLink recently introduced Briner Choice-CaCl FOOD GRADE, labelled Food

Safe, and is affordable. Yes, it does cost a little more than Industrial 77%, however the product concentration goes from 77 % Ca to 93% Ca. Briner Choice is available in a 22.7 kg bag and is in stock at TerraLink. For more information please contact your TerraLink Representative.

*\*77% is used as a road salt; in summer for dust control, in winter as to melt ice, it contains significant impurities which can lead to various problems in hydroponic irrigation systems.*

Prevention is the Best Medicine

## Disease and Insect Management

### ROOT PROTECTION

#### Rootshield WP®

A biological fungicide with the active ingredient *Trichoderma harzianum*, strain T-22, RootShield WP protects roots from many pathogens including *Pythium*, *Rhizoctonia*, and *Fusarium*. Within 24 hours RootShield WP blocks and actively attacks pathogens by “eating” them: ensuring uninterrupted plant growth. One application protects roots for up to 12 weeks. Registered for a variety of crops including Greenhouse Ornamentals, Vegetables, and nursery stock. Compatible with many chemical fungicides, insecticides and plant growth regulators.

### FOLIAR PROTECTION

#### Cease®

Cease® is another broad spectrum bio-fungicide with the active ingredient *Bacillus subtilis* strain QST713. Labeled for the suppression and control of a broad range of foliar and root diseases. Use as a preventative spray for *Botrytis*, downy mildew, powdery mildew and many bacterial diseases such as *Rhizoctonia* and *Xanthomonas* spp. Performs as well as copper-based products without phytotoxicity or residues. Excellent tank mix or rotational partner. Compatible with most commonly used pesticides, nutrients and adjuvants. Typical rate is 2 L of Cease per 100 L of



water. Apply every 5 to 7 days.

#### Milstop®

Milstop® is a preventative and curative contact fungicide for powdery mildew. Kills on contact and provides 1 to 2 weeks of residual protection. Tank mixing with Cease gives an additional synergistic effect. Combined they are more effective. Can be used with low volume equipment such as foggers. Max rate of 5.6 kg/ha in 1000 – 2000 L water every 1 to 2 weeks.

### INSECT CONTROL

#### BotaniGard® ES and 22WP

For use in ornamental, vegetable and greenhouse crops. A myco-insecticide with the highest concentration of live spores in a *Beauveria* containing insecticide. For control of all life stages of whitefly, aphids and thrips. Spores adhere to the insect and grow into the cuticle. It can be mixed with a contact insecticide or IGR for initial application if insect pressure is very high. Follow up with BotaniGard in 3 to 5 days. Make at least

2 applications before returning to a longer spray interval. ES version is better for drenches and for root aphids. WP version is better as a foliar spray. Rates depend on target insect pest and formulation. Excellent for control of resistant populations of insects. May decrease predatory bug populations such as *Orius* spp. Use BotaniGard until *Orius* is introduced. No ill effects on predatory mites.



## BioWorks®

How You Grow Matters™

Give your plants a healthy start and keep them clean throughout production with the BioWorks' family of products. Compatible with IPM Programs and most beneficial insects.