

GH Grower Advisor

Newsletter for the Greenhouse Industry

Proper Feeding

Slow Release, Water Soluble or Both?

With so many choices for fertilizers available, growers at times will choose to combine a slow release fertilizer with a water soluble solution as a supplement or to correct where deficiencies may be noticed.

Combining controlled release fertilizers such as Osmocote or Nutricote with Plant Prod water solubles is a good option.

Osmocote is a coated NPK fertilizer that releases nitrogen, phosphate and potassium and trace elements over a pre-chosen period of time. The nutrients encapsulated in the organic resin coating are protected from leaching and release only a little every day. This means that all the nutrients are fully available to the plant and won't waste away due to leaching! The nutrition is efficient and very effective with minimal environmental impact.

Combining slow release and water soluble products enables a grower to apply a complete and perfectly balanced feeding program and a steady source of nutrition throughout the growing season. A grower may choose to use a short term slow release product in the spring and summer and feed with a water soluble later in the summer and fall to assist in hardening off the crops or use a supplemental water soluble when plants may need additional nutrition during the growing season.

Osmocote longevities available at TerraLink include 3-4 months, 5-6 months and 8-9 months.

Throughout the longevity, the level of release of nutrients is related to the temperature. Nothing else influences the release!

- 3-4 month release options: 14-14-14 (no Urea), 15-9-12, 19-6-12 (no Urea)
- 5-6 month release options: 15-9-12, 22-3-8 (with Poly S)
- 8-9 month release option: 20-4-8 (with IBDU for a cool weather nitrogen source), 18-6-12 (incorporation only in PNW, no Urea), 15-9-12, 19-5-8 (with Poly S), 19-6-12 (no Urea)

Match these with water soluble Plant Prod fertilizers as needed. Some options:

- 10-52-10 (Plant Starter)
- 15-15-30 (High K)
- 15-30-15 (High P)
- 20-20-20 (Classic All Purpose)
- 28-14-14 (High N)
- 7-22-27 (Hydroponic Veg Blend)
- 14-0-14 (With Ca & Mg)
- 20-8-20 (High N – rotate with Cal-Mag)
- 17-5-17 (Complete Solutions N-P-K-Ca-Mg)
- 15-0-20 (No Stretch Solutions)
- 12-2-14 (Plug Blend with 2:1 Ca & Mg)
- 18-6-20 (Poinsettia Plus)
- 20-5-30 (Super K)

Plant-Prod water-soluble fertilizers are increasingly popular for use on a wide range of agricultural, horticultural, turf, and forestry crops.

Plant-Prod can be used in transplanting solutions, in irrigation systems, and for foliar feeding. The excellent solubility of Plant-Prod makes nutrients quickly available to the growing plants.

Plant-Prod is easily applied through irrigation systems. Fertilizer application by this method allows delivery of the exact combination of nutrients the crop requires at different developmental stages.

Pest Control

Weevil Control Options

Black Vine Weevil (BVW) (*Otiorhynchus sulcatus*) and the Strawberry Root Weevil (*Otiorhynchus ovatus*) are common pests in nursery crops and landscape plants. They cause damage at both the adult and larval life stages.

The larvae are the serious component of the beetle's life cycle, and can heavily damage root systems and the crown of the plants. Usually, chemicals are used to gain control of the adults before they lay eggs. Other options such as beneficial predatory nematodes have been developed as an effective biological control.

Nematodes – For BVW, apply *Steinernema carpocapsae* at 2-3 billion nematodes per acre. These nematodes are targeting the larval stage of BVW so irrigation or rain must follow application to wash the nematodes down into the potting mix or soil. Best applied after eggs are laid and larvae are active in the soil. Temperatures should not be higher than 25 degrees or so, as the nematodes are more likely to dry out and die under warm conditions. The nematodes will be active for about 6 weeks after application, so watch your moisture levels. *Heterorhabditis bacteriophora*, also work on Black Vine Weevil, Leatherjacket and Beetle grubs in lawn and turf or nursery crops.

MET 52 Granular – Is a bio-insecticide that provides plant protection and powerful control of the larval stage of black vine weevil and strawberry root weevil. Met 52 is applied by incorporating into potting media prior to planting. It provides control for up to nine months, depending on cultural practices and environmental conditions. It is registered for use in commercial ornamental crops such

as nursery stock, perennials, flowers and potted plants. Met 52 is not dependent on ingestion – larvae only need to come into contact with the fungal spores for control. Active Ingredient: *Metarhizium anisopliae* strain F52. Do not premix in soil piles that will heat up and cook the fungus. Mix as needed. Can be used in conjunction with nematodes. Check fungicide compatibility sheets prior to spraying for fungal infections.

Apply chemical controls late in the day as weevils are nocturnal feeders and do not feed every night.

Actara 25 WG – A systemic insecticide used to control sucking and chewing insects through contact and ingestion. Foliar application only when damage is first observed. **Highly toxic to bees.** Take precautions such as removing flowers. For use on outdoor ornamentals.

Pounce 384 EC – Is a synthetic pyrethroid stomach and contact insecticide. Excellent coverage is necessary. For use on conifer seedlings and other nursery trees, shrubs and ornamentals. Apply in Spring for control of adults. Apply a second application in 21 days if monitoring shows continued presence of adult weevils.

Pest Control

New Registrations

Kontos – A true systemic insecticide that is mobile both up and down throughout the plant. Residual benefits last up to 30 days. Now registered for use on whitefly, western flower thrips, green peach aphid, citrus mealybug, euonymus scale and spider mites in outdoor and greenhouse grown ornamentals (excluding conifers outdoors and in greenhouses).

Pylon – Pylon is a unique miticide- insecticide for the control of tough greenhouse pests, including mites and thrips. It is a cost-effective, broad-spectrum product that controls the target insects by interfering with the energy production of the pest. Its translaminar movement throughout the leaves and unique mode of action result in mortality of most pests within 72 hours. Pylon also has effective contact and ingestion activity. No other pest control product has the same active ingredient. It is registered in Canada for control of two-spotted spider mites, loopers, foliar nematodes, and thrips on greenhouse grown ornamentals, tomatoes and peppers.

Prevention is the Best Medicine

Greenhouse: Disease & Insect Management

ROOT PROTECTION

Rootshield WP®

A biological fungicide with the active ingredient is *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® is another broad spectrum bio-fungicide with the active ingredient of *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® 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.

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.



Virkon® Greenhouse

Remarkably Clean Greenhouses

Newly registered by Vetoquinol for use in Greenhouses, Virkon S 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 S 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).

Vétoquinol
a Sign of Passion

TerraLink is the exclusive distributor of Virkon S in Western Canada. Contact us today to find out more about Virkon and what it can do for your greenhouse. Stay tuned for more upcoming Vetoquinol products available at TerraLink.