

# Farm Gate

Newsletter for Organic Growers

## New Registration

### RootShield HC Biological Fungicide

Another of an increasing number of bona fide organic pesticides registered by the Pest Management Regulatory Agency (PMRA), RootShield HC is a strain of *Trichoderma harzianum*, registered for suppression of root and foliar diseases in greenhouse crops, outdoor nursery plants, strawberries, geranium and lettuce. The active ingredient is a beneficial microbe which protects roots against Pythium, Rhizoctonia and Fusarium by forming a protective barrier around the roots. As a foliar application it suppresses *Botrytis cinerea*. The microbe feeds off root exudates and attacks other fungi that attempt to infect roots. RootShield HC can be applied in a wide range of methods. It is OMRI listed as 'allowed with restrictions.'

## Human Nutrition

### No Fooling With Flavonoids

Flavonoids are secondary plant metabolites that are yellow pigments. They are linked to protection against cardiovascular disease, cancer and age-related diseases like dementia. Some recent studies showed that levels of flavonoids in vegetables can be affected by crop inputs and by the type of production.

In one study, scientists demonstrated that application of Acadian Seaplants extract applied to spinach enhanced human health. They found that antioxidant levels increased with application of Acadian, and that the benefits are associated with flavonoids. Also, because of an increase in antioxidants the spinach had longer storage life too.

In 2007 a researcher with the University of California found that flavonoids in tomatoes harvested over a 10 year span were higher in organic production compared to conventional production. The increased flavonoids were linked to higher accumulated levels of organic matter. This study stated that documented changes such as this in tomato nutrients over a several year period have not previously been reported.

#### References:

- Fruit & Vegetable Magazine, Sept/Oct 2008; Mitchell, A. E. et al. *Ten-Year Comparison of the Influence of Organic and Conventional Crop Management Practices on the Content of Flavonoids in Tomatoes*. J. Agric. Food Chem. 2007, 55, 6154-6159.
- Fan, D., et al. In Press. *Commercial extract of the brown seaweed *Ascophyllum nodosum* enhances phenolic antioxidant content of spinach (*Spinacia oleracea* L.) which protects *Caenorhabditis elegans* against oxidative and thermal stress*. Food Chemistry (2010), DOI:10.1016/j.foodchem.2010.06.008.



## Crop Protection

### Slug Control in Organic Production

Traditionally, the only options for control of slugs in conventional agriculture involved using pesticides with the active ingredient metaldehyde. Besides not being allowed in organic production, metaldehyde is quite a toxic product and once distributed on the ground around crops and gardens it poses a danger to children and pets.



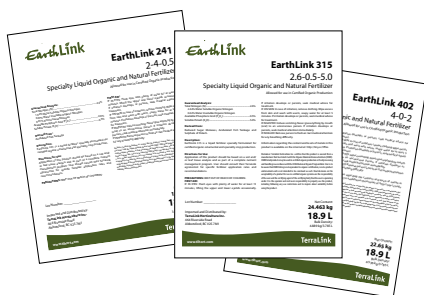
For organic producers, a chemical option for slug control is Sluggo Slug and Snail Bait, a registered product under the PCP Act that is also OMRI

listed. The active ingredient is not metaldehyde but iron phosphate, which has extremely low mammalian toxicity (oral LD50 is > 5000 mg/kg). Iron phosphate actually occurs naturally in the soil in small amounts. Sluggo pellets are very rain fast, and when the product eventually breaks down, it leaves iron and phosphorus that can be taken up as nutrients by plants. Available as a very durable extruded pellet, you can even mix Sluggo with organic fertilizer for top-dress applications. Slugs and snails attracted to Sluggo stop feeding immediately after ingesting the bait then die within 3 to 6 days. Sluggo can be applied at 22 to 44 lbs per acre, not in piles but in a broadcast format. Unlike metaldehyde slug products, Sluggo can be applied directly below and amongst the base of plants, right up to harvest and with no re-entry interval. Use the highest rate for severe infestations.

NEW!

## Liquid Organic & Natural Fertilizer Blends

A lot has changed since last season. One of the hardest organic/natural products to find is high analysis NPK liquid organic fertilizer. Now, Terralink has five new liquid blends!



### Earthlink Fish-Based Blends

Unlike many liquid organic fertilizers, Earthlink fish-based fertilizers provide immediately available nutrients. Three mixes are stocked; 4-0-2, 3-1-5 and 2-4-0.5. They have all been triple filtered through 200 mesh screens to ensure ease of application through fertigation systems, and have been lab verified as human and plant pathogen free.

### EcoFert Plant-Based Blends

Two products are stocked at Terralink: EcoGrow 3-3-4 and EcoBloom 2-4-5. Both products are manufactured largely through the fermentation of plant material. EcoGrow 3-3-4 maintains great plant growth by supplying N, P and K in balanced amounts as well as Ca and Mg. EcoBloom 2-4-5 is in ideal proportions to boost the flowering ability of all crops. Both liquid organic products are fortified with polyamines, amino acids, vitamins and plant hormones. They are designed to be applied as a drench application.

### Soil Amendments

## Debunking Greensand

Every so often we get asked about greensand as an organic crop input. Mostly, people want to use it as a fertilizer. Is it a fertilizer and if so, what qualifies it as a nutrient source? If not, what is it, exactly?

Several years ago an article about greensand appeared in *Better Crops with Plant Food*, at that time a publication of the Potash & Phosphate Institute (now it is published by the International Plant Nutrition Institute). The article outlined research done to determine what effects greensand had on plants. Their conclusion was that greensand can be considered to be a soil conditioner, or amendment. They demonstrated that greensand is definitely not a fertilizer.

Greensand is mostly glauconite, an olive-green mineral occurring mostly in eastern North America that probably originated in shallow marine seas a very long time ago. Greensand has many micro-pores, giving it a high water-holding capacity as well as a high cation exchange capacity, allowing it to store cations such as calcium, magnesium, potassium and sodium. Although glauconite can be up to 8% K<sub>2</sub>O, it can also be as low as 0.1% depending on the mine deposit from which it is taken. It often contains small amounts of phosphorous and trace elements as well. If you consider it a source of potash for your organic farm, make sure to ask for the guaranteed analysis, which should be on any fertilizer label anyway. There are no other properties attributed to it.

#### References:

Heckman, J. R. and J. C. F. Tedrow. *Greensand as a Soil Amendment*. pp16-17. Vol 88 (2004, No. 2)

### Reducing the Carbon Footprint

## Help us Go Green!

One way we can reduce our carbon foot-print is to eliminate hard copy technical bulletins and newsletters. You can help and at the same time win a prize! All you have to do is give us your e-mail address and updated information on the acres grown of each crop on your farm. We will enter your name in a draw for this cool jacket! When we have collected enough e-mail addresses from enough customers we will send you technical advisors electronically, stop sending you paper copies and help the environment.



### Convenient Locations

## More Locations to Serve You!

For convenience you can now pick up your crop supplies in Delta or on Vancouver Island. In Delta, visit Roddick Fertilizers at 4119 – 40th Street, phone 604-946-8338. On Vancouver Island, Terralink crop inputs are available at Top Shelf Feeds at 1895 Roberts Road in Duncan, phone 250-746-5101. These locations don't stock everything, but if you order ahead they will bring products in for you, and the friendly staff can help you just like in Abbotsford.

### Helpful Tools

## Check Out Our Web Site!

If you haven't been to [www.tlhort.com](http://www.tlhort.com) for a while, take a moment and check it out! Want to find a label or a Material Safety Data Sheet? Just use the search function. Want to know about a specific product? Use the menu bar on the left side, or again, use the search function. To make life easier, you can choose your specialty on the right side, then save that page to favorites. Link to a supplier site for more information on a product. Or, choose a technical link to use a converter tool, or try the PMRA's new buffer zone reduction calculator. Even better, dive into our library of agri advisors and newsletters to access current or previous publications and articles.

### TerraLink's Biological Controls Product Guide

Request a copy from [marketing@tlhort.com](mailto:marketing@tlhort.com), or pick one up in our Abbotsford location.

