

The Grapevine

A TerraLink Technical Advisor

New Plant Growth Regulator

GS-4 Gibberellic Acid Now Registered

New at TerraLink: GS-4 gibberellic acid plant growth regulator. Gibberellic acid is used in many crops worldwide for many uses. In table grapes, GS-4 is registered for use to improve stretch, sizing and thinning. In wine grapes GS-4 increases cluster length, improves air circulation and light penetration within the cluster. As this is the first year in the market, try a small area and see for yourself the benefits. Refer to the label for recommendations on specific varieties.

Pest Control

New Registrations in Grapes

Forum Fungicide

Produced by BASF, Forum Fungicide is registered for control of downy mildew when applied as a tank mix with another fungicide that is active against downy mildew. It may be applied up to 4 times per season with a 14 day pre-harvest interval (PHI). As with most other fungicides, it is recommended to rotate with other downy mildew fungicides to avoid development of resistance. Begin applications prior to disease development.

Timorex Gold Biofungicide

A new generation product, Timorex Gold is a natural fungicide based on a plant extract. It is unusual in that the active ingredient is Tea Tree Oil. Use Timorex Gold 12 to suppress both powdery and downy mildew. In a unique mode of action, Timorex Gold actually breaks

open the cell wall and cell membrane of the target pathogen. It is important to completely penetrate the leaf canopy during application and cover both the tops and undersides of all leaves until runoff.

Fullback 125 SC Fungicide

Another powdery mildew product, Fullback 125 SC Fungicide is a Group 3 active ingredient. Apply beginning at 15 to 25 cm shoots in sufficient water for thorough coverage. The restricted entry interval (REI) is 7 days and the PHI is 14 days.



Sivanto Prime Insecticide

This new insecticide from Bayer is the first in a new chemical sub-class, Group 4D. It is aimed at sucking insects in a wide variety of fruit and vegetable crops. In grapes it is registered for leafhoppers. Its mode of distribution within the plant is acropetally systemic, moving upwards through the xylem. Therefore, it is effective used as a soil application. Sivanto Prime is readily absorbed into leaf tissue and becomes rainfast within an hour. It also moves translaminarily and will control sucking insects on the undersides of leaves, and very quickly causes cessation of feeding.

Kenja 400 SC Fungicide

New in mid 2015, Kenja 400 SC is a broad-spectrum fungicide for botrytis bunch rot. This Group 7 product is locally systemic with both preventative and curative properties. The PHI and REI are both 14 days. It is extremely rainfast. Best results will be had by adding a surfactant such as Xiameter (previously called Sylgard).

Cueva Fungicide

This is a liquid solution copper soap fungicide in Group M1 for both powdery and downy mildew. The active ingredient is copper octanoate, which has a long history of use in the United States. After several years of widespread use there have apparently been no reports of harm to beneficial insects, and is not toxic to bees. Cueva leaves low visible residues, has a PHI of 1 day and an REI of 4 hours. NOTE: do NOT mix with lime. Certain *Vitis vinifera* and French hybrid varieties may be sensitive to copper sprays resulting in marginal leaf burn. Make test sprays before spraying these varieties.

Nealta Miticide

Registered in 2015 for control of European red mite, Two-spotted spider mite and McDaniel Spider Mite. The active ingredient Cyflumetofen is in Group 25. Nealta is highly active against mites but will not harm beneficial arthropods. It is rainfast after an hour and has a PHI of 14 days.

How to Access TerraLink Crop Products

How Do I Buy From TerraLink?

Things have changed. To buy crop input products from TerraLink you can contact us one of these ways:

- Call our local Sales Representative; Paul Warkentin at 250-709-5440. Paul lives near you on Vancouver Island and can visit your operation any time.
- Call the TerraLink head office toll free at 1-800-661-4559.
- Fax the TerraLink head office at 604-864-8418.
- Visit the TerraLink website at www.tlhort.com.
- E-mail us at info@tlhort.com or sales@tlhort.com.

Foliar Applications for Wine Grapes

Dextro-Lac products have earned a reputation for over 20 years in grape-growing areas in the northwest US as the grower standard in performance. Dextro-Lac products are made using a proprietary encapsulation method that utilizes two important carbohydrate molecules – dextrose and lactose – as a complexing agent to keep nutrients in a readily available and plant-friendly form.

In BC Dextro-Lac foliar fertilizers are distributed by TerraLink Horticulture Inc under the brand TigerClaw.

For a sustainable disease program it is important to integrate a good foliar nutrition program with the proper fungicide program so they both work better, leading to much better grape quality and less over-use of fungicides. The key to this is utilizing foliar calcium during bloom and early post bloom sprays to increase the cell wall thickness and improve the N/Ca ratio. This will help make the berry more resistant to disease infections and allow the fungicide to work more effectively. We suggest TigerClaw Power-Cal at 2 liters per acre for these applications with your bloom and early post bloom sprays.

It can be challenging to get good colour and brix in red varieties. Well timed foliar potassium will be critical to getting the good finish to these red varieties and protect your reputation for quality. Potassium is critical for colour and sugar production, and foliar potassium is documented to be very consistent and beneficial for this purpose. An excellent tool is TigerClaw KDL 0-0-24. Apply TigerClaw KDL at 3-4 liters when the brix reaches 16, 18 and 20 respectively. This will dramatically increase brix and colour intensity for a much better finished wine grape. This is a good way to differentiate your product from your fellow vine growers!

Nutrition from the Sea

The Benefits of Stella Maris

Sustainably hand-harvested *Ascophyllum nodosum* seaweed from the intertidal shores of Nova Scotia's Bay of Fundy is exclusively used in Stella Maris. Evolved in the freezing but nutrient rich water it contains very

unique, bioactive components that when applied to plants allow for higher quality crops. Popular around the world for use on grapes, research has demonstrated a full range of benefits, such as improvements to rachis length, colour, size uniformity, as well as increased bunch weight and berries per bunch.



In nineteen of twenty field trials on wine grapes where bunch length was measured, Stella Maris treated vines produced noticeably longer bunches. Longer bunches allow for better air flow and spray penetration which lead to improved grape quality. The average bunch length increase was 5.3%. This average covers all application programs and the researchers observed that the early season applications have the most influence on bunch length. For maximum benefits, follow a complete application program.

Many growers have also turned to applications of Stella Maris to improve root growth and plant establishment at planting or throughout the year. It increases bunch length, improves colour and size uniformity and, if desired, helps reduce shatter of wine grapes. Fundamentally, applications will improve plant health and allow the plant to better tolerate stress.



Soil Fertility

Nutrition in the Vineyard

Back in 2012, a very good article appeared in the November/December edition of Fruit & Vegetable magazine. It outlined some nutrition fundamentals

to follow in viticulture. The article was based on information from Dr. Kevin Ker, a consultant and research associate at the Cool Climate Oenology and Viticulture Institute at Brock University in St. Catharines, Ontario. The article was so informative and helpful we wanted to publish it again in The Grapevine for your benefit. Dr. Ker's advice is paraphrased below:

- The most important elements in the vineyard are the three macro-nutrients nitrogen, phosphorus, potash, secondary nutrients calcium and sulphur, and the micro-nutrients boron, copper, zinc and chlorine.
- Grapes are lean feeders. Over-application can be harmful. For example, too much nitrogen (N) can cause excess flowering, and N applied during blossoming could result in poor fruit set. Dr. Ker also advised to not apply N prior to bud break and not within 4 weeks of bloom. Too much potassium (K) can result in unstable sugar levels in the grapes. Finally, an excess of calcium (Ca) or potassium (K) can displace manganese (Mn), which in normal amounts aids fruit quality.
- Phosphorus (P) is related to root production and disease control.
- Potassium (K) helps the transportation of nutrients into the cells of grapevines.
- Calcium (Ca) helps make grape skins become harder; Dr. Ker says it should be applied foliarly to help against the botrytis spore.
- Sulphur helps build proteins, as well as helping in the regulation of growth and plant hormone production.
- Boron is involved in germination, fruit set and shoot development.
- Dr. Ker also commented on soil structure, recommending that vineyard managers try to keep organic matter between 2% and 4%, and also to consider sub-soiling to avoid compaction.
- Finally, Dr. Ker recommended to use tissue tests to monitor the nutrient levels inside the grapevines.

These comments are similar to the recommendations given by TerraLink agronomists, including building and improving healthy soil structure and nutrient levels. TerraLink can assist also through processing and recommendations of both tissue and soil tests. Our on-site Plant Science Lab, at the Abbotsford location, processes tests quickly to get information back to the grower fast in order to make decisions in real time. Call 1-800-661-4559 for more information on lab services and agronomic recommendations.

Reference: Fruit and Vegetable Magazine, November/December 2012