



The Grapevine

Viticulture Technical Advisor

Okanagan & BC
Interior Edition
July 2011

Quality and Nutritional Challenges

Foliar Applications for Wine Grapes

The extended late, cool, wet spring weather will create significant challenges for Okanagan wine grape growers trying to achieve the great color and brix they are accustomed to growing in central B.C. When faced with a very compressed growing season, and more weather-related disease pressure like powdery mildew and botrytis, foliar nutrition becomes an extremely important tool.

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. For organic wine grape growers we suggest EarthLink 7% calcium for the same purpose.

With the late spring and cool summer weather to this point, it will be very 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 will differentiate your grapes from other growers who don't deal with the compressed season Mother Nature has sent our way in 2011.



Grape Nutrition

Tissue Nutrient Standards

One of the challenges with tissue testing is often the lack of nutrient standards that have been derived by scientific work. Currently in the Okanagan Valley growers collect samples at bloom but do not have published standards based on science done in this area. In April 2010 an article was written for Good Fruit Grower outlining work done by WSU soil scientist Dr. Joan Davenport. She has been conducting research for many years looking to determine nutrient concentrations in wine and juice grape leaf tissues that were suited to growers in arid areas of the Pacific Northwest. Although her work has been done in eastern Washington, eastern Oregon and Idaho, it is reasonably close to us.

Dr. Davenport sampled the petiole, leaf and whole blade, collecting the samples at both bloom and veraison and testing for both major and micronutrients. The sample during bloom was collected from the leaf opposite the first cluster, and at veraison the collected sample was the fifth fully expanded leaf position. A minimum of 50 samples were collected in a random pattern.

The research found that leaf tissue nutrients were more stable at veraison than at bloom. Nutritional levels would therefore be more consistent and dependable based on samples collected at veraison. Also, rather than petiole samples, Dr. Davenport found that nutrient levels in leaf blades or whole leaves were more reliable. This table lists grape leaf nutrient concentrations from the 2010 article.

Grape Leaf Nutrient Concentrations

For Inland Pacific Northwest Vineyards – Blade or Whole Leaf Samples at Veraison

Nutrient	Juice Grapes	Wine Grapes
Total N (%)	2.10 – 3.00	2.25 – 3.25
P (%)	0.15 – 0.45	0.12 – 0.30
K (%)	0.50 – 1.00	
Ca (%)	1.00 – 3.00	
Mg (%)	0.25 – 0.50	
B (ppm)	30 – 100	
Zn (ppm)	15 – 50	
Fe (ppm)*	>75	
Cu (ppm)	6 – 20	
Mn (ppm)	30 – 100	

*Iron concentrations can exceed this value without being problematic for plants. No upper limit has been found in iron tissue nutrient concentration in grape in the Inland Pacific Northwest.

Reference:

Hansen, M. *Nutrition Guidelines for Grapes*. Good Fruit Grower, April 2010.

Alleyway Management

Seed Blends for Cover Crops

We are often asked what should be planted in the alleyways. There are many options and the choice depends on what benefits of cover crops are important in your vineyard.

Perennial Grasses

Terralink has two Richardson Seed Brand perennial grass mixes that have proven popular for use in vineyards. These are comprised of turf-type grasses that are bred to be low-growing and produce less than forage-types, so as not to be too competitive with the vines. The Alleyway mix has been formulated to be seeded in between the rows of fruit crops and is better suited to irrigated situations. The Low Maintenance mix is drought and shade tolerant and thrives in tough conditions. These mixes add a tidy appearance to vineyards and help stabilize soils in high traffic areas or areas in danger of erosion. Seed at 150-200 lbs per full acre.

White Mustard

Also part of the Richardson Seed lineup is Braco white mustard, which is an annual crop that hosts beneficial insects, while suppressing nematodes. Producing large amounts of high protein green material, Braco increases the soil nitrogen content upon decomposition. If pest control or soil improvement is your objective, the crop is best cut down and incorporated at flowering

which is about 75 days after seeding. If improving the esthetics of your vineyard is your priority, you won't be disappointed. Although named white mustard, this plant produces bright yellow blooms that will impress visitors. Seed Braco white mustard at 10-15 lbs per full acre.

Pest Control

New Registrations in Grapes

Pristine WG

As promised, Pristine has more registrations again in grapes. Now, anthracnose has been added to the label. Although not for table grapes, a maximum of 6 applications per season can be made, starting prior to disease development and repeating every 10-14 days. Pristine has a pre-harvest interval (PHI) of 14 days and an re-entry interval (REI) of 21 days for hand harvesting, thinning, tying, leaf pulling and hand pruning.

Ripcord 400 EC

Now getting on in years, this Group 3 cypermethrin synthetic pyrethroid insecticide has a full registration for multicoloured Asian lady beetle in wine grapes (not all varieties have been tested). A maximum of 3 applications may be made per season. Don't forget, it is toxic to bees and other beneficials. The PHI is 2 days for mechanical harvesting and 7 days for hand harvesting. The REI is 2 days.

Vivando SC

As predicted in January, Vivando SC now has a full registration for powdery mildew. In Group U8, the active ingredient metrafenone is locally systemic. It prevents infection by inhibiting spore penetration and germination. It can be applied up to 6 times per season, beginning at bud break and before the onset of disease. Alternate with fungicides from a different group. The PHI is 14 days and the REI is 12 hours.

Spray Oil 13 E

This summer oil has a full registration in grapes for suppression of European red mites and powdery mildew. The pre-harvest interval is 2 weeks and the re-entry interval is 12 hours.



Crop Inputs for Viticulture can be found at these locations:

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2605 Acland Road, Kelowna BC, V1X 7J4
Tel: 250-765-4500 Fax: 250-765-4545
info@growers-supply-co.com

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