IMPORTANT

Grape Hardiness Alert for Forecast Temperatures

The following is a special alert for the grape growers in Ontario regarding grapevine cold hardiness and the forecasted low temperatures in the Niagara Region over the next few days.

With the warm temperatures over the past several days, bud hardiness measured across the Niagara Region has changed as expected. Based on information published by Washington State University on vine physiology, hardiness of the phloem is less than that of the buds.

Many growers have noticed resumption of water flow at pruning cuts which is XYLEM not phloem. XYLEM is still extremely hardy (it is hardier than buds!)

The following data in the table below is based on samples across the Niagara Region. The LTE 10 values are temperatures at which some bud injury may take place (resulting in 10% bud injury). Temperatures for phloem injury are based on estimates from published work done at Washington State University, Prosser, WA. Potential phloem injury refers to the temperature at which some phloem damage can occur. Grapevines can survive more than 50% phloem damage and still be productive. Phloem injury is seldom from a single event but from multiple events.

Cultivar	Potential BUD LTE10 Injury Temp. (°C)	Potential Phloem Injury Temp. (°C)
Chardonnay	-15.0	-10.0
Cabernet Franc	-15.0	-10.0
Merlot	-12.5	-7.5
Pinot Noir	-15.0	-10.0
Cabernet Sauvignon	-15.0	-10.0
Sauvignon Blanc	-14.0	-9.0
Syrah	-13.0	-8.0

Weather forecasts indicate lows of minus 8°C (Thursday night March 25 /Friday morning March 26). Rain is forecasted for later in the weekend which may keep temperatures at or above freezing.

For optimal use of wind machines, it is suggested that the start-up temperatures be set at 2 to 3 degrees warmer than temperatures at which injury might occur. Stressed vines are less able to withstand cold temperatures (weak, over- cropped or under-cropped, water- soaked soils in the fall, etc). The above temperatures are general and may not be reflective of your specific vineyard location. Vine hardiness ratings are site specific and may vary depending on your specific environmental conditions, overall vine health and viticultural practices. KCMS is not responsible for any damage from the use or misuse of this information.

This information is being relayed to you as a result of the partnership program between the Grape Growers of Ontario, Agriculture and Agri-Food Canada and Brock's Cool Climate Oenology and Viticulture Institute.

Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada | Grape Growers of Ontario | Ontario Grape & Wine Research Incorporated | Cool Climate Oenology & Viticulture Institute, Brock University | KCMS