BROCK UNIVERSITY MEDIA RELEASE

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Advanced cold hardiness database helps growers combat grapevine winter injury

A new initiative lead by Brock's Cool Climate Oenology and Viticulture Institute (CCOVI) together with the Grape Growers of Ontario, with funding from Agriculture and Agri-Food Canada means Ontario grape growers will be able to develop better winter protection strategies for vineyards.

Winter injury is a major threat to the sustainability of the grape and wine industry. Throughout the season, low temperatures cause damage and in some cases even affect the viability of grapevine buds. Therefore, monitoring of grapevine bud hardiness throughout the dormant period is an effective tool to assist grape growers in managing winter injury.

CCOVI researchers have developed a database, called VineAlert, which compares levels of grapevine bud hardiness for different varieties and locations throughout the dormant season. This data can help growers determine when protective actions such as the use of wind machines or other methods are warranted to protect grapevines.

This information will also allow growers and researchers to understand when bud injury occurred and to determine when maximal grapevine hardiness is achieved to protect their vines.

The degree of grapevine bud cold hardiness varies, depending on the plant's genetic makeup and its environmental conditions. As a result, VineAlert sampling will take place during the entire dormant season including the acclimation (fall), maximum hardiness (winter) and deacclimation (spring) periods.

Differences in geographical areas such as climate, soil and viticultural practices can also impact cold hardiness of grapevine buds during the various periods of the dormant season. Extensive regional sampling will be done to better understand these factors and depict the variability within designated Ontario viticultural areas.

"The VineAlert project is the most exciting new initiative in recent years," says Matthew Speck, Viticulturist at Henry of Pelham Family Estate. "Understanding the elements of bud hardiness and bud survival rates in a given year, is the foundation of good viticultural management in Ontario. The real time website service being provided and the database being compiled, are at the leading-edge of their kind globally."

Samples of Chardonnay and Cabernet franc, the two most widely planted white and red *vinifera* grape varieties, will be taken within the 10 designated sub-appellations of the Niagara Peninsula. Data specific to each location will be updated from late October until Mid-April depending on the growing season.

Research trials for monitoring hardiness on these two varieties in outlying designated viticultural areas of Prince Edward County and Lake Erie North Shore will also be initiated this year.

"VineAlert is an invaluable tool for growers to manage efficiently their vineyard winter protection strategies," says CCOVI Director Debbie Inglis. "As the project evolves, sampling will also include

additional grape cultivars in the Niagara Peninsula appellation as well as other designated viticultural areas of Lake Erie North Shore and Prince Edward County."

VineAlert will be posted on the CCOVI website at brocku.ca/ccovi. The database can be accessed by clicking "Research" followed by "Research Updates" and "VineAlert". Growers and researchers who sign up on "My Alerts" can obtain data based on location, time and cultivar and receive up-to-date notices on new winter injury data. The interactive website will help growers make informed management decisions based on cold hardiness and injury data specific to their conditions as well as through research findings and other relevant information.

This initiative is part of the \$1.4 million in funding under Agriculture and Agri-Food Canada's (AAFC) Developing Innovative Agri-Products initiative, which supports industry-led research and innovation. This outreach project is a collaboration between AAFC, the Grape Growers of Ontario, Ontario Grape & Wine Research Inc., Weather Innovations Incorporated, KCMS Applied Research and Consulting and Brock's CCOVI and is part of CCOVI's heightened emphasis on outreach to the grape and wine industry.

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