Winter Injury Studies 2006
Grape Bud Survival
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Research Team

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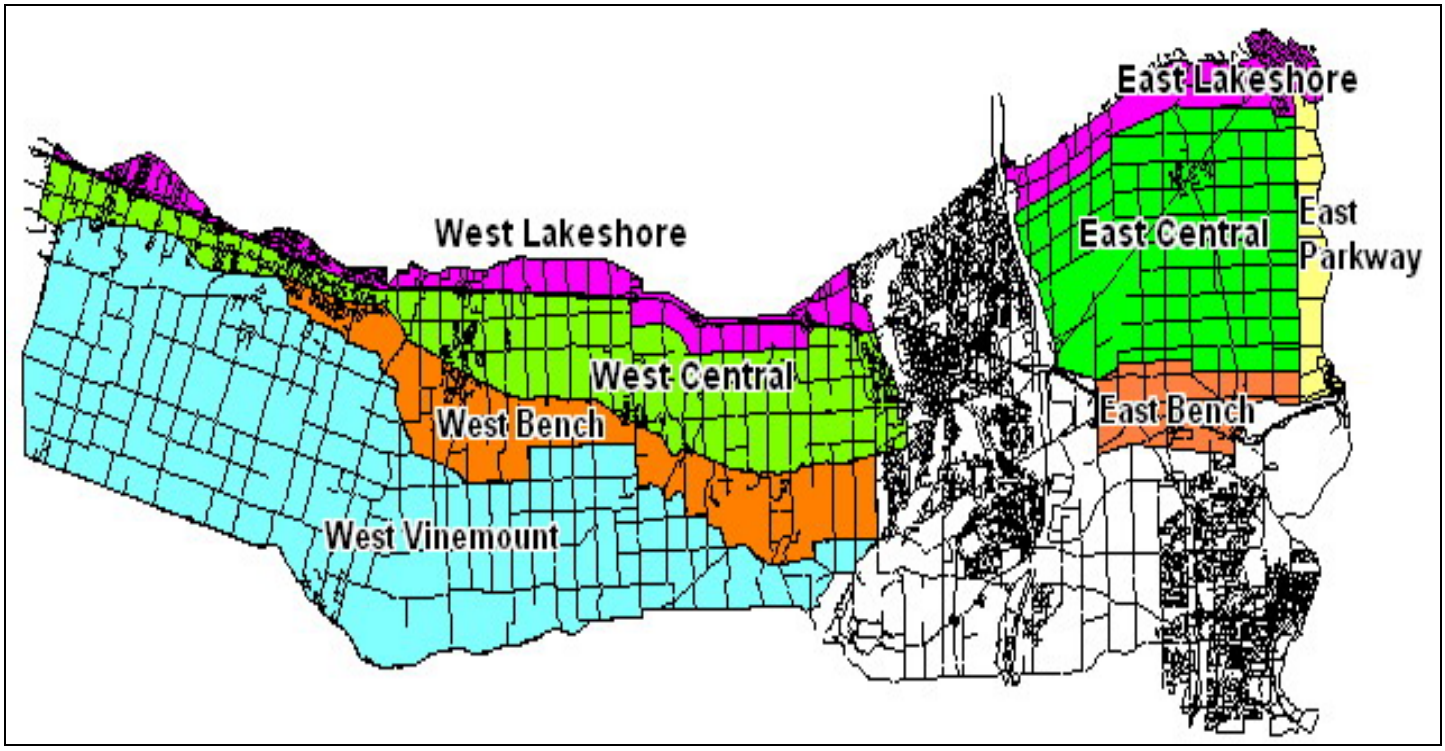
Grape bud sampling to establish winter survival is part of the 3 year - CanAdvance and CRESTech funded Winter Injury and Wind Machine project. The tables in this article report the sampling results based on the bud collection during the week of Feb. 6-10, 2006. There have been relatively few changes from the last sampling of Jan. 23-27, 2006. However, the percent alive may vary up or down from the last sample due to the variation in the samples taken. The tables below are based on multiple samples and multiple sites within in area for each cultivar. Some sites had wind machines running between Dec. 12^{t}-14, and also Feb. 8/9 but all observations for each cultivar and location include both vineyards with wind machines and without.

To date, the coldest temperatures were recorded between Dec. 12 -14, 2005 and ranged between -14.1^{o} C on the Jordan Escarpment to -19.1^{o}C at the Virgil OWN weather site. These temperatures were not considered a "cold event which could cause considerable damage", however, wind machines may have prevented some winter injury at certain sites. There was concern that a cold event so early in the season might have caused some damage as plants may not have been properly acclimated at that date.

The Grape Growers of Ontario (GGO) and the Wine Council of Ontario (WCO) are the major sponsors of the project. Other partners include; Stephane Bosc – Orchard Rite; Roger Vail – Chinook; KCMS Applied Research and Consulting; Agricorp; Ontario Tender Fruit Producers' Marketing Board; the Niagara Peninsula Fruit & Vegetable Growers' Association, OMAFRA; Brock University and the University of Guelph.

For sampling purposes, the grape growing areas of the Niagara Peninsula were placed into different climatic zones which closely resemble the "Niagara Grape Climatic Zones", map originally published in 1976 and revised in 2001 by Fisher and Slingerland.

The Parkway zone runs approximately 1 km along the west side of the Niagara River from Niagara-on-the-Lake to Queenston; the Lakeshore zone is approximately 1 km south of the lake from the Niagara River to Grimsby; the Central zone continues south of the Lakeshore zone to the base of the escarpment; the Bench zone starts at the south side of the Central zone to the brink of the escarpment and the Vinemount zone runs south of the Bench Zone.



8 Sampling Zones Used

% Live Buds - Labrusca – Feb. 6-9, 2006 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Concord	Vinemount	NS	57-97
Niagara	Vinemount	NS	58-98

% Live Buds - Hybrids – Jan. 6-9, 2006 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Baco Noir	Central	99	96
	Parkway	85	NS
Foch	Central	NS	92-96
	Vinemount	NS	88
Vidal	Central	88-91	90-98
	Lakeshore	91	NS
	Parkway	77-86	NS
	Vinemount	NS	41-73

% Live Buds - Vinifera – Feb. 6-9, 2006 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Cabernet Franc	Bench	84-91	86-95
	Central	90-92	41-94
	Lakeshore	65-89	95
	Parkway	89-92	NS
	Vinemount	NS	89-96
Cabernet Sauvignon	Central	NS	69
	Lakeshore	NS	89
	Parkway	75	NS
Chardonnay	Bench	91-96	90-96
	Central	81-92	87-94
	Lakeshore	78-89	NS
	Parkway	87-91	NS
	Vinemount	NS	95
Gamay	Parkway	92	NS
Merlot	Bench	89-98	77-96
	Central	78	70-77
	Lakeshore	96	93-97
	Parkway	79-90	NS
	Vinemount	NS	96
Pinot Noir	Bench	85	84-87
	Central	77	52-93
	Lakeshore	80	89-92
	Parkway	88	NS
	Vinemount	NS	91
Riesling	Bench	84-89	87-97
	Central	89-94	80-97
	Lakeshore	72-90	93
	Parkway	84-86	NS
	Vinemount	NS	73-95
Sauvignon Blanc	Central	90	83
	Lakeshore	69	NS
Syrah	Lakeshore	NS	77
	Parkway	51	NS