



THE TENDER FRUIT GRAPE VINE

A Newsletter for Commercial Fruit Growers

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Coming Events

April – May 2006 – **Scouting Training for Integrated Pest Management.** For more information and specific dates, locations and times see the OMAFRA website at: <http://www.omafra.gov.on.ca/english/crops/conferences/20060426.htm>

May 3, 4 – **Spring Pruning Demonstrations**, southwestern Ontario. See page 3 for times and locations. Pre-registration not necessary – sessions will be run rain or shine.

Weather Information*

Location	Maximum °C		Minimum °C	
	Jan	Feb	Jan	Feb
Vineland	13.9 13 th	13.9 16 th	-9.0 16 th	-13.2 19 th
Harrow	10.5 20 th	12.2 16 th	-7.0 15 th	-15.3 18 th
Simcoe	na	na	na	na

Location	Precipitation (mm)	
	Jan	Feb
Vineland (85 yr ave)	60.4 62.1	49.7 57.7
Harrow	82.3	61.9
Simcoe	na	na

**We would like to thank the University of Guelph at Simcoe, the Ontario Weather Network (OWN,) and AAFC Harrow for the weather data*

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**ALL QUERIES, COMMENTS,
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CAN BE DIRECTED TO THE
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*For a complete list of Crop
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<http://www.omafra.gov.on.ca/english/crops/resource/stafcrop.htm>

*The Tender Fruit Grape Vine is compiled
at the OMAFRA Vineland Resource
Centre. Mailing list revision and additions
should be sent to O.M.A.F.R.A., Box 8000,
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Seeking the Grape and Wine Industry Opinion

Brock University and CCOVI are supporting a multi-year research initiative to determine the needs of the Ontario grape and wine industry for professional development and applied training programs and to create and tailor course offerings toward these needs.

The first step is a research focus group session in which representatives of each aspect of the industry are being asked to participate— vineyard workers, vineyard managers, vineyard owners, winery/cellar workers, winemakers, wine retail staff and retail managers. This would be a single session of 2 hours to be held one evening in early April at CCOVI, Brock University. If you fit into one of the above segments or know of someone that could help out, please contact us as soon as possible. For more information please call.

Contact Kevin Ker at 905 688-5550 ext 4717 or by email at kker@brocku.ca. This study has been reviewed and received ethics clearance through the Brock University Research Ethics Board. (File # 05-084)

Crop Alert Reports

The Marketing Boards have again secured funding to support the Crop Alert Reports (also known as “Code-a-phone” or “Agriphone”) in 2006. These reports, prepared by Kevin Ker of KCMS Inc. and Dr. Wendy McFadden-Smith of McSmith Agricultural Research Services are updated weekly starting around mid-April. The Crop Alert Reports include regional pest and disease updates as well as important and timely industry information. The numbers are unchanged from previous years:

905-562-4345 or 1-800-610-7347

Spring Pruning Demonstration For South-Western Ontario Tender Fruit Growers

Sponsored by OMAFRA and CanGro Foods Inc.

Our annual orchard pruning demonstration and discussion on peach and pear orchard cultural practices, led by Ken Slingerland OMAFRA Tender Fruit & Grape Specialist, is being offered for the benefit of growers in the following areas:

Simcoe:

Wednesday, May 3, 2006 – 9:00 a.m.

Host: Simcoe Research Station, Hwy 3 & Blueline Rd.

Wednesday May 3, 2006 – 10:00 a.m.

Host: Tony and Debbie Haegens, 122 Charlotteville West Qtr, St. Williams (*Just off the 24*)

Arkona:

Wednesday, May 3, 2006 – 1:30 p.m.

Host: Dave Marsh Orchards, 8653 Townsend Line (*1/2 mile east of Arkona*)

Blenheim:

Wednesday, May 3, 2006 – 6:30 p.m.

Host: John McGuigan's Orchards, Charing Cross Road, Cedar Springs (*1/2 mile south of Cedar springs on the left side of road*)

Leamington:

Thursday, May 4, 2006 – 8:30 a.m.

Host: Nickel's Orchards, 1498 County Road 34, Ruthven

St. Thomas:

Thursday, May 4, 2006 – 1:00 p.m.

Host: Ian Hepburn Orchards, John Wise Line (*1/4 mile east of Hwy 4 on the south side*)

Come on out and participate in the demonstration and network with fellow growers.

For more information, contact Richard Matthie CanGro Foods, St. Davids at 905-262-5011 or Ken Slingerland, OMAFRA at 905-562-1639

Pre-registration is not necessary and the session will be held rain or shine.

Vineland's Tender Fruit Breeding Program

*A Century of Progress Assuring a Secure
Future for Growers*

*Jayasankar Subramanian, Neil Miles and Bill Lay
University of Guelph, Department of Plant
Agriculture, Vineland Station*

From humble beginnings of evaluating fruit varieties through successive breeding programs by various scientists at the Horticultural Experiment Station - Vineland, the University of Guelph's tender fruit breeding program is poised to provide significant advances to secure the future of Ontario's tender fruit industry.

Humble Beginnings

Tender fruit breeding programs began in 1907 with the arduous task of assembling initial collections of varieties. Earliest hybridizations were made for peaches in 1911, European plums in 1913 and sweet cherries in 1915. Breeding objectives favoured industry needs for climatic adaptability (especially winter hardiness), early season crop maturity and suitability for markets. Over the years, breeding objectives changed to suit needs of industry and science. For example, embryo culture technologies were used to provide the industry with early season non-melting clingstone peach varieties suitable for modern processing plants. Twenty three peach, 13 sweet cherry, eight European plum and one Japanese plum varieties have been introduced over the past century.

Peach and Nectarine Breeding

The peach breeding program emphasized fresh market varieties from 1911 through 1958. The early introduction of the "V" peaches - 'Valiant,' 'Vedette,' and 'Veteran' became North American standards for quality. Today 'Vivid' stands as a recognized standard Ontario variety. Processing varieties introduced - 'Veecling,' 'Vulcan,' 'Vinegold' and 'Virgil' - advanced crop maturity as much as four weeks compared to 'Babygold 5.' Now the industry has a full season of varieties suitable for processing. 'VentureTM', an industry standard that replaced 'Babygold 5,' has superior

bacterial spot disease resistance. While there is a push to identify varieties that will extend the processing season, the program has also started to develop fresh market varieties.

Today breeding nectarines is a new and important objective. Although no varieties have been introduced, there are promising selections.

Sweet Cherry Breeding

Initial breeding objectives emphasized crop maturity during the first three weeks of July and large, firm and crack-resistant fruits. Current goals are to extend the cherry season to earlier or later than existing varieties. In the late 1960's, the self fertile 'Stella' changed breeding objectives to provide the industry with self fertile varieties with outstanding commercial qualities. To date close to 50 self fertile selections span the original season and beyond. Among these, V690618 and V690620 were released for commercial cultivation as 'Vandalay' and 'Tehranivee,' respectively. At present, a number of promising early and late season selections that will produce outside of the existing crop window are being tested.

European and Japanese Plum Breeding

Initial focus on developing European plum varieties was to provide varieties that matured in August with flavour, fruit firmness and size. Current objectives also include freestone and post harvest shelf life. 'Valor,' 'Verity' and 'Vision' introduced in 1967 have been followed by 'Veeblue,' 'Voyageur,' 'Victory,' 'Valerie' and 'Vanette.' Today the Horticultural Experiment Station - Vineland has perhaps one of the richest blue plum germplasm collections in the world. Selections and introductions are sought as breeding lines and are being grown commercially in Europe and Australia.

Early breeding work with Japanese plums was disbanded because it was thought that Ontario's winter climate was too cold. The program was renewed in the 1970's and 'Vanier', which was originally bred by AAFC, Ottawa, was introduced in 1983 with their approval. Several outstanding selections and seedlings provide encouragement for future releases.

Five New Varieties to be Released in 2006

In the centennial year, we are planning to release five new varieties – 2 peach, 2 European plum and 1 Japanese plum as follows:

V55061, - A late season fresh market peach variety ripening just after Harrow Beauty provides exceptional firmness, size and fruit skin color.

V851610 – A late season processing peach variety that ripens after Venture™ that has performed well in south western Ontario also.

V70034 – A large fruited European plum that ripens during the first week of August.

V72511 – A fungal disease resistant European plum that ripens around September 10.

V82053 – A large fruited, red fleshed Japanese plum that ripens during the last week of August.

New Scientific Approaches Assure Success for the Future

Since the University of Guelph took over the Experimental Station, there is a push to do basic research that will also lead to new innovations in tender fruits. The genetic wealth generated by the various breeders in the past century has provided plants with unique properties. It is well known that eating fruits is good for health; however, a conscious attempt to identify and breed varieties with improved health promoting compounds such as anti-oxidants has not been made. Conventional breeding, which takes in excess of 15 years to develop a variety in these fruits, can be accelerated by using contemporary approaches such as the use of molecular markers for disease resistance and quality parameters. The present breeding program will be complemented with a 'state of the art' laboratory research at the Vineland Station that will help us to realize the above goals. Collaborations with scientists in main campus as well as other leading institutes are also in place and the doors are open for more such good team work that will secure the future of this historic facility. Our ultimate goal is to make Vineland Station '**A Center of Excellence for Tender fruits**'. With the continuing support from our growers, we firmly believe that we will achieve that goal.

The Perfect Winter

Ken Slingerland, Tender Fruit and Grape Specialist, OMAFRA

If someone asked me my definition of a perfect winter, I would describe it by saying - the winter of 2006. I would also say it would not get much colder than -10.0°C , but not much warmer than 10.0°C .

During the winter season December 21, 2005 to March 21, 2007 at Vineland Station, there were only 5 days during this period when the temperatures fell below -10.0°C . During this period, there were only 9 days when it went higher than 10.0°C . It should be noted that there were other tender fruit and grape production areas that had more extremes than Vineland Station. However we almost had damaging temperatures in late fall around mid December, but there was no evidence of peach or grape bud injury.

If you compare the 2006 temperatures to the 85 year average temperatures in tables 1 and 2, it was a much warmer winter and certainly much milder than the previous 3 winters. We saw very few extreme temperatures and very few changes from one day to the next. For most days, the temperatures ranged from -5.0 to 5.0°C .

Table 1. January Temperatures in $^{\circ}\text{C}$ - Vineland

	85 yr Ave.	2006
Average Daily Temp.	-3.7	1.5
Mean Daily Maximum	-0.3	5.2
Mean Daily Minimum	-7.1	-2.1
Lowest Temperature	-24.3 (1994)	-9.0
Highest Temperature	19.7 (1950)	13.9

Table 2. February Temperatures in $^{\circ}\text{C}$ - Vineland

	85 yr Ave.	2006
Average Daily Temp.	-3.4	-1.5
Mean Daily Maximum	0.1	2.0
Mean Daily Minimum	-7.0	-5.1
Lowest Temperature	-26.7 (1918)	-13.2
Highest Temperature	18.9 (1997)	13.9

The trend continued into the month of March maintaining an average daily temperature of 1.0°C warmer than the 85 yr average.

In some years, an “Arctic Front” swoops in from the north typically in mid to late January to wreck havoc in the tender fruit and grape industry in Ontario. But in the 2005-06 winter we were finally lucky. A far change from the past 3 winters.

So yes, I would consider the winter of 2005-06 a warm winter, perhaps even the “perfect winter”.

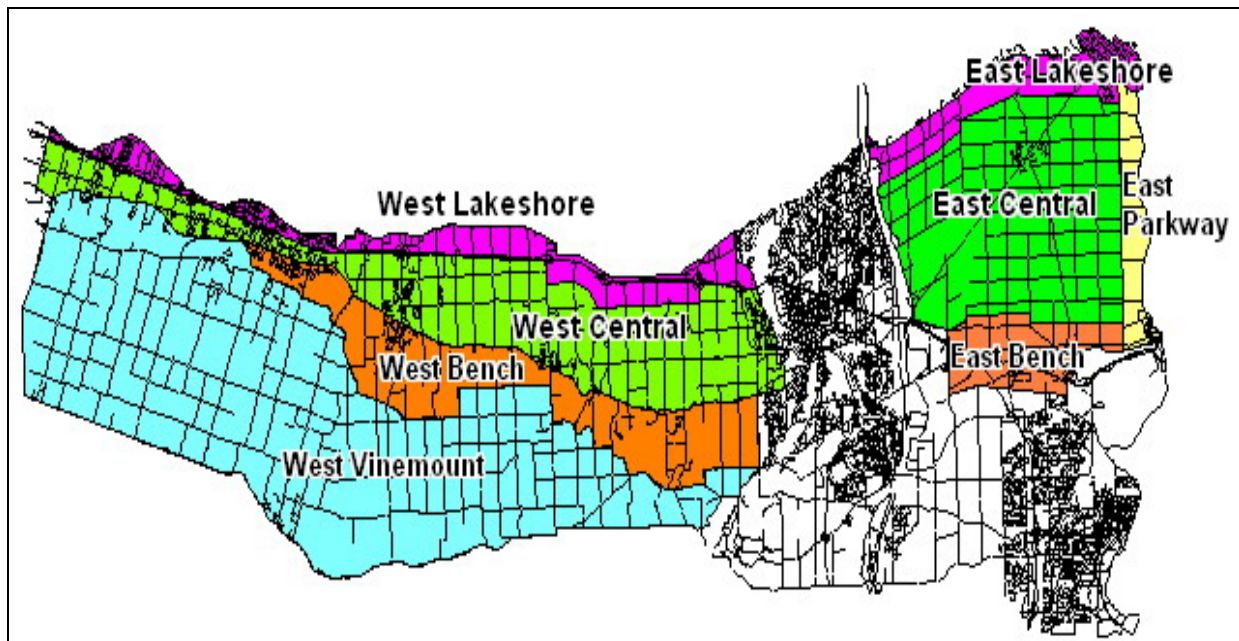
Winter Injury Studies 2006- Grape Bud Survival - March 6-10, 2006

*Ken Slingerland and Hugh Fraser, OMAFRA
Kevin Ker, CCOVI Brock University & KCMS
Dr. Helen Fisher, University of Guelph
Ryan Brewster, KCMS Applied Research and Consulting Inc.*

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 March 6-10, 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 an area for each cultivar.

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, Agricorp, Ontario Tender Fruit Producers' Marketing Board, the NPF & VGA, OMAFRA, Brock University (CCOVI) and the University of Guelph.

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 – March 6-10, 2006 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Concord	Vinemount	NS	91-93
Niagara	Vinemount	NS	92-94

% Live Buds - Hybrids – March 6-10, 2006 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Baco Noir	Central	94	82
	Parkway	86	NS
Foch	Central	NS	84-89
	Vinemount	NS	88
Vidal	Central	84-89	65-85
	Lakeshore	74	NS
	Parkway	71-77	NS
	Vinemount	NS	55-70

% Live Buds - Vinifera – March 6-10, 2006 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Cabernet Franc	Bench	65-85	82-95
	Central	86-90	80-84
	Lakeshore	81-82	82
	Parkway	77-86	NS
	Vinemount	NS	84-85
Cabernet Sauvignon	Central	NS	77
	Lakeshore	NS	77
	Parkway	72	NS

Cultivar	Location	East of Canal	West of Canal
Chardonnay	Bench	75-90	82-92
	Central	85-92	94
	Lakeshore	84-86	NS
	Parkway	86-88	NS
	Vinemount	NS	83
Gamay	Parkway	97	NS
Merlot	Bench	83-95	86-99
	Central	71	66-94
	Lakeshore	88	87-93
	Parkway	88-91	NS
	Vinemount	NS	87
Pinot Noir	Bench	98	78-80
	Central	89	80-90
	Lakeshore	79	77-81
	Parkway	88	NS
	Vinemount	NS	80-87
Riesling	Bench	73-94	85-87
	Central	77-89	69-97
	Lakeshore	83	86
	Parkway	72-77	NS
	Vinemount	NS	66-87
Sauvignon Blanc	Central	85	88
	Lakeshore	59	NS
Syrah	Lakeshore	NS	64
	Parkway	43	NS

Check out the Brock website for further information on this wind machine project
<http://www.brocku.ca/ccovi/pages/news/section.php?id=6>

Permit to Take Water Program (PTTW)

According to the Water Taking and Transfer Regulation (O.Reg. 387/04) a permit is required under section 34 of the Water Resources Act for water takings greater than 50,000 litres per day from a lake, stream or groundwater source, for example irrigation or food processing.

The following Ministry of the Environment documents are available at OMAFRA Resource Centres:

- PTTW Applicant's Guide (includes PTTW application)
- PTTW Manual describing the technical review of PTTW applications
- Green Fact Sheets:
 - Permit to take Water
 - New Classification system for PTTW applications
 - New water conservation requirements for PTTW

Understanding Your Responsibilities Concerning *Flavesence dorée* and *Bois noir*

*Neil Carter, Tender Fruit and Grape IPM
Specialist, OMAFRA*

Earlier this month the Grape Growers of Ontario (GGO) forwarded more information from the Canadian Food Inspection Agency (CFIA) on phytoplasma diseases in grapes to all grape growers in Ontario. The GGO also reprinted the “Permit to Import – Conditions for Grapevines from France and Germany” in their February newsletter. It is extremely important that all growers planning to plant imported vines this year read and understand the information on *Flavesence dorée* (FD) and *Bois noir* (BN) contained in those documents.

There are responsibilities for all growers planting imported vines to follow over the next three years to help reduce any risk of these diseases becoming established in Ontario. In the absence of all the information needed to make an accurate risk assessment, everyone must follow all the procedures outlined to keep the risk to the absolute minimum. Do not take these plant diseases lightly! You need look no further than your neighbours in the peach industry to see how much disruption and suffering can occur from the introduction of a plant disease of quarantine significance.

As you can see in the CFIA letter of March 14th, one of the things that CFIA has agreed to is a collective industry monitoring program for the vectors of these diseases. The program is currently under development through the efforts of several groups, and more information on it will be transmitted to growers when the plan is finalized. To communicate information about vector control measures needed, the most likely venue will be through the Crop Alert Report (often referred to as the “code-a-phone” or “agriphone”) message (see box notice in this newsletter). It is very important that you listen to the message every week for updates on this issue.

One thing that may be confusing is the mention of “leafhoppers” as potential vectors of grapevine

phytoplasmas. Please note that the potential vectors of concern for these diseases are NOT the common leafhopper pests that you are used to seeing on your grapevines (such as potato leafhopper, grape leafhopper and three-banded leafhopper).

Much work is now going on behind the scenes to coordinate the industry and government response to the risk of these diseases. Information on the biology of the vectors of concern (where known) is being compiled, along with keys for identification of vectors and disease symptoms. Monitoring and sampling plans are being developed along with recommendations for complying with the mandatory vector control program. Please help in these efforts by carefully reading the documents mailed by the GGO and cooperating with all involved agencies to mitigate the risk of grapevine phytoplasmas.

Getting Ready for Regulated Ethanol in Gasoline

On October 7th, 2005, the Government of Ontario filed Regulation 535/05, which requires that gasoline sold in Ontario contain an average of five per cent ethanol, on an annual basis, beginning January 2007. The regulation will provide air quality benefits, for example reduced emissions of carbon monoxide and benzene, a known human carcinogen. It will also reduce greenhouse gas (GHG) emissions by approximately 800,000 tonnes on an annual basis, which is equivalent to taking 200,000 cars off the road.

Farmers who do not already store ethanol-blended gasoline and plan on doing so should follow a few simple steps prior to their first delivery, to ensure fuel quality and safety.

For more information about the regulation, best practices for storing/handling ethanol-blended gasoline, and other issues relevant to the regulation of ethanol in gasoline, go to:

www.ene.gov.on.ca/envision/ethanol/index.htm

For more information about the compatibility of ethanol with fibre-reinforced plastic tanks and existing owner/operator obligations under the *Liquid Fuels Handling Code*, refer to the information provided by the Technical Standards and Safety Authority at :

<http://www.tssa.org/regulated/fuels/default.asp>