# Wine grape preharvest monitoring tells the story

Brock's Cool Climate Oenology and Viticulture Institute (CCOVI) together with the Grape Growers of Ontario have been tracking the progress of this year's wine grape ripening since August 24<sup>th</sup>.

CCOVI viticulturist Jim Willwerth began conducting ongoing grape sampling and analysis at several locations in Niagara, tracking key factors that help determine the quality of grapes coming off the vine this year.

CCOVI recognizes the need of grape growers and winemakers to have up-to-date information on grape development across different sectors of the Niagara region prior to and during the harvest season.

Grapes mature uniquely depending on the year, variety and terroir. As a result, preharvest monitoring is crucial for the industry when making harvesting decisions that dictate grape and wine quality.

Jim Willwerth started sampling four of the most common vinifera wine grape varieties in Niagara — Chardonnay, Riesling, Cabernet Franc and Cabernet Sauvignon — located in four different vineyards, two on each side of the Welland Canal.

Linda Tremblay, technologist in charge of the new analytical laboratory at CCOVI, has been testing the grape samples in terms of sugar, pH, titrable acidity and acetic acid.

This information has been incorporated in weekly reports posted on the CCOVI website at brocku.ca/ccovi and also available through the OMAFRA web-



Cabernet Franc grapes in véraison

site at apps.omafra.gov.on.ca/scripts/english/crops/agriphone/index.asp#Tender.

This data will help growers and processors determine when the time is best for different grape varieties to be harvested.

"This program has been long overdue. I'm glad that CCOVI offers the industry annual historical records of grape maturation. This information is an invaluable tool for growers and allows us to anticipate and determine our best course of action during harvest. I'm also looking forward to seeing which new program Jim will implement next," says Niagara grape grower Ed Hughes.

"Brock's initiative to offer preharvest analyses for the wine industry is a very welcome step. It allows wineries to make decisions and access expertise that was previously only available to large wineries with bigger

technical and lab personnel. Our area's winemakers are able to make great wines but all can be helped by this kind of service," says Ron Giesbrecht, Winemaker at Henry of Pelham.

Willwerth was hired this summer to help CCOVI support grape growers and winemakers with applied research and outreach focused on priorities identified by the industry.

The CCOVI Analytical Services lab opened its doors in March of this year.

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 industryled research and innovation and is part of CCOVI's heightened emphasis on outreach to the grape and wine industry.

# Students for hire

Students in the Oenology and Viticulture (OEVI) program at Brock University are seeking jobs for 2010. Recruit our graduates and students who are skilled in winemaking, viticulture and wine business. Please call: 905-688-5550 x4949 or jennifer.roberts@brocku.ca

# 2010 Grape King

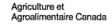
Congratulations to Dr. Debbie Inglis, Director of CCOVI for being selected as the 2010 Grape King

Each year, grape growers in Ontario nominate peers who demonstrate excellence in vineyard management. The winner is then appointed as the

Inglis grew up in the Niagara Region in a family of grape growers and continues today the tradition of winegrowing. She and her husband Robown a 20-acre vineyard.

She is also an
Associate Professor and
teaches courses in the
OEVI program. As one
of the core researchers
at CCOVI, her studies
focus on Icewine fermentation, sour rot and
multicoloured Asian lady











Wine seminar featuring Tom Green and 'FRESH' VQA wines.

# CCOVI seminars let you taste and learn at the Niagara Wine Festival

CCOVI teamed up with VINES Magazine and the Dairy Farmers of Canada for wine and cheese seminars during the Niagara Wine Festival in September.

Each seminar featured tastings of two Niagara VQA wines. Dairy Farmers of Canada supplied cheese plates paired with wines and cheese expert Deborah Levy provided tasting notes.

The interactive 50-minute seminars were hosted by Christopher Waters, Editor of VINES Magazine and Continuing Education Instructor at CCOVI as well as by Barb Tatarnic, Coordinator, Continuing Education and Wine Educational Events.

During the sessions, winemakers

shared the story behind their wines and their approach to winemaking.

Many of the seminars featured OEVI graduates: Marc Pistor (Inniskillin Wines); Lydia Tomek (Hernder Estate Wines); Sue-Ann Staff (Sue-Ann Staff Estate Winery); Rob Power (Creekside Estate Winery); Tom Green (Diamond Estates Wines & Spirits); Steve Trussler (Coyote's Run Estate Winery); Richie Roberts (Fielding Estate Winery); Colin Ferguson (Cattail Creek Estate Winery); Ed Madronich (Flat Rock Cellars); and Jeff Hundertmark (Marynissen Estates).

Thank you to everyone who gave their time to make the event a success.

# 10 years of OEVI graduating excellence

Graduates, guests and friends of Brock's Oenology and Viticulture (OEVI) program had a special homecoming on August 20<sup>th</sup> to mark the 10<sup>th</sup> anniversary of the first graduating class.

Grads from as far away as California returned to the university to reminisce about their experiences, both pre- and post-graduation and to enjoy wines made by alumni from the program.

Created in 1997, Brock's OEVI was the only grape and wine degree program of its kind in Canada.

The program was established to meet the growing needs of the grape and wine industry in Canada.

OEVI students and researchers benefit from the Cool Climate Oenology and Viticulture Institute (CCOVI) at Brock, one of a handful of cool climate research centres in the world.

Students in the program receive a comprehensive scientific education, combined with practical skills in grape growing and winemaking, and exposure to business, tourism and wine appreciation.

CCOVI has trained over 40 PhD, master's students and post-doctoral fellows, and Brock overall has produced close to 100 graduates through the OEVI program.

Here is what grads say about the

"A CCOVI degree opens a lot of doors for people. This career is better than I ever hoped - I really do have a dream job." - Elizabeth Grant-Douglas, Class of 2000, Head Winemaker at La Crema Winery, Sonoma County, California, U.S.

"CCOVI certainly provides one of the best and most solid foundations from which you can build a very successful career." - Megan Schofield, Class of 2000, Assistant Winemaker at Simi Winery, Sonoma Valley, California, U.S.

"CCOVI was a great first step and will always be the start of my career. It formed the basis for my desire

to see more of the wine world." Conor van der Reest, Class of 2001,
Head Winemaker at Moorilla, Tasmania,
Australia

"I wouldn't be where I am today, or have advanced as quickly as I did, without the education I received at Brock. The depth of scientific knowledge and practical techniques has been a huge asset and allowed me to succeed. I now have a solid foundation on which I will forever build." - Adam

Elizabeth Grant-Douglas and Shiraz Mottiar from the first graduating class shared with the audience their experiences in the OEVI program.

McTaggart, Class of 2005, Winemaker/ Vineyard Manager at Boxwood Winery, Virginia, U.S.

"CCOVI prepared me for my career in the grape and wine industry by giving me a strong understanding of wine fermentation and analysis. This allows me to create, each year, the highest quality wines possible." – Andrew Shelswell, Class of 2007, Assistant Winemaker/Head Distiller at Jost Vineyards, Nova Scotia, Canada.

## Research Q&A

#### Improving wine quality and wine production.





CCOVI Researchers Drs. Debbie Inglis and Gary Pickering are investigating how 3-alkyl-2-methoxypyrazines (MPs) can affect wine quality. Ontario Grape & Wine Research Inc. and the Natural Sciences & Engineering Research Council (NSERC) have supported financially this research.

#### Describe what are MPs?

MPs are odour-active products associated with wine quality which produce vegetative aroma and flavour in wine. Three classes have been identified. Although MPs can positively influence wine quality in varieties like Sauvignon Blanc, at high concentrations they can become unpleasant and mask sought-after fruity/ floral aromas.

Some MPs are found in the Multicoloured Asian Ladybeetle (MALB) and the seven-spotted ladybeetle, and if these ladybeetles are inadvertently incorporated with grapes at harvest, elevated MP concentrations in the wine can create an off-flavour called "ladybug taint" (LBT).

However, the industry currently has a zero tolerance policy for ladybeetles in grapes intended for juice

Regardless of source, MPs are very resistant to removal by traditional grape and wine processing measures.

How can MPs be removed from tainted wines?

We have studied two techniques that can reduce MP levels in juice or wine.

The first uses proteins that are able to bind to and remove MPs from grape juice. The protein-MP complex was removed either through a membrane filtration system or through bentonite fining. The membrane filtration system was able to remove up to 98% of MPs while one of our proteins tested with bentonite removed up to 95% of MPs.

The second method takes advantage of the adsorptive properties of synthetic polymer materials. Our testing has shown that synthetic cork can reduce between 70% and 89% of MP concentrations in wine. These corks are primarily made of various types of plastics, which could be the components that result in the adsorption of MPs.

Further research will examine the capacity of various plastics and immobilized MP-binding protein(s) in removing MPs to levels acceptable by wine consumers.

#### How does this research help move the industry forward?

This research will help improve the quality of Canadian wines and the profitability of the industry.

Determining how to remove MPs from juice and wine will improve wine affected by LBT, wine from appellations in Canada with less than suitable climate and wine produced in poor growing conditions - such as wet/ reduced growing days or when fruit breakdown occurs before reaching adequate ripeness.

# Continuing education at CCOVI

#### OEVI 0N02 - Introduction to the Wines of Ontario

This course focuses on the wines of Ontario: how they are grown and made. Become familiar with VQA wines and the viticultural areas in which they are grown. Upon successful completion students will receive the Wine

Mondays at 7 p.m. starting Jan. 17, 2011 (9 wks).

#### OEVI 0N03 - Wine Appreciation II: Explore the wine regions of the world

Designed to deepen and refine your wine tasting skills as you explore the major wine regions of the world. Discover wines from Old World regions and from the New World.

Wednesdays at 7 p.m. starting Jan. 12, 2011 (12 wks).



OEVI 0N07 - WSET Level 2: Intermediate Certificate in Wines & Spirits

Geared to those employed in the beverage industry or anyone wishing to broaden their knowledge of wine and spirits in a structured way.

Wednesdays at 6 p.m. starting April 6, 2011 (9 wks).



OEVI 0N07 - WSET Level 3: Advanced Certificate in Wines & Spirits

This course will provide in-depth knowledge and analysis of a wide range of wines and spirits. This qualification is also suitable for the wine enthusiast wishing to build on knowledge gained at Level 2.

Tuesdays at 6 p.m. starting Jan. 18, 2011 (14 wks).

For more information on these courses, contact: Barb Tatarnic at 905-688-5550 x4652 or ccovi@brocku.ca. For a complete list of courses or to register online go to brocku.ca/ccovi then click on Continuing Education.

#### **CCOVI Briefs**

#### VITICULTURE

- Hakimi, J. & A.G. Reynolds. Spatial variability of soil composition, soil texture, and soil and vine water status in Cabernet franc vineyards. 7<sup>th</sup> International Cool Climate Symposium for Viticulture and Oenology, Seattle, WA, June 20-22/10.
- Reynolds, A.G. Back to the future for grapevine canopies. Keynote Lecture, 7<sup>th</sup> International Cool Climate Symposium for Viticulture and Oenology, Seattle, WA, June 20-22/10.
- Bowen, P.A., C. Bogdanoff, K. Usher, G. Neilsen, M. Cliff & T. Lowery. New findings on vine fruit and wine responses to irrigation regimes. British Columbia Wine Grape Council 11<sup>th</sup> Annual Enology and Viticulture Conference, Penticton, BC, July 7-9/10.
- Willwerth, J., A.G. Reynolds & I. Lesschaeve. Vine water status and its influence on the sensory characteristics of Riesling wines. Amer. Soc. Enol. Vitic./Eastern Section 34<sup>th</sup> Annual Meeting, Geneva, NY, July 11-15/10.
- Ledderhof, D., R. Brown & A.G. Reynolds. Geomatic applications to the study of Pinot noir terroir. Remote sensing applications. Amer. Soc. Enol. Vitic./Eastern Section 34<sup>th</sup> Annual Meeting, Geneva, NY, July 11-15/10.
- Marciniak, M., A.G. Reynolds & R. Brown. The Use of GPS, GIS and remote sensing to understand the terroir of the Niagara Peninsula. I. Geomatic applications in a Riesling vineyard. Amer. Soc. Enol. Vitic./Eastern Section 34<sup>th</sup> Annual Meeting, Geneva, NY, July 11-15/10.
- Fadock, M., A.G. Reynolds & R. Brown. Rapid non-destructive prediction of berry composition using UV/VIS diffuse reflectance spectroscopy. Amer. Soc. Enol. Vitic./ Eastern Section 34<sup>th</sup> Annual Meeting, Geneva, NY, July 11-15/10.
- Amy Bowen, A., A.G. Reynolds & I. Lesschaeve. The effect of harvest date on Vidal and Riesling icewine chemical composition, aroma compounds and sensory profiles. Amer. Soc. Enol. Vitic./Eastern Section 34<sup>th</sup> Annual Meeting, Geneva, NY, July 11-15/10.
- Balint, G. & A.G. Reynolds. Water stress signature compounds (abscisic acid and its catabolites) accurately indicate the water stress in vine. Amer. Soc. Enol. Vitic./ Eastern Section 34<sup>th</sup> Annual Meeting, Geneva, NY, July 11-15/10.

#### **OENOLOGY**

- Inglis, D., A.L. Beh, E. Humes, G. Pickering & I. Brindle. Methoxypyrazine (MP) removal from grape juice using MP-binding proteins. Amer. Soc. Enol. Vitic./Eastern Section 34th Annual Meeting, Geneva, NY, July 11-15/10.
- Pickering, G.J. 2010. Managing green flavors and mouthfeel post harvest. Proceedings of the 16th Romeo Bragato Conference, Marlborough, New Zealand, August 24-28/10.
- Pickering, G.J. 2010. Introduction to mouthfeel: measurement, manipulation and marketing. Plenary lecture. Proceedings of the 16th Romeo Bragato Conference, Marlborough, New Zealand, August, 24-28/10.
- Pickering, G.J., D. Inglis & N. Carter. 2010. Elicitation of ladybug taint in wine is not limited to Harmonia axyridis. Proceedings of the 7th International Symposium on Cool Climate Viticulture and Enology, Seattle, WA, June 20-22/10 (oral presentation).
- Pickering, G.J., A. Blake, G. Soleas & D. Inglis. 2010. Managing Green Flavors after Harvest: Response of 2-alkyl-3-methoxypyrazines to Various Wine Treatments. Proceedings of the 7th International Symposium on Cool Climate Viticulture and Enology, Seattle, WA, June 20-22/10 (oral presentation).

#### **BUSINESS**

- Voronov, M., D. De Clercq & C.R. Hinings. Creating a Local Wine Industry: The Roles
  of Translation and Theorization. Paper presented at the Annual Conference of the
  Academy of Management, Montreal, QC, August/10.
- Voronov, M., D. De Clercq & C.R. Hinings. Grobalizing, Glocalizing and Organizing: The Case of the Ontario Wine Industry. Paper presented at the 26th EGOS Colloquium, Lisbon, Portugal, July/10.
- Voronov, M. & R. Vince. Emotions and Institutions: Insights from Bourdieu and Psychoanalysis. Proceedings of The Academy of Management, 2010.

### **CCOVI Publications**

#### **VITICULTURE**

- Hakimi, J. & A.G. Reynolds. 2010. Evaluation of Cabernet Franc Wines in the Niagara Peninsula. *Progres Agricole et Viticole* 127(4):87-92.
- Willwerth, J.J., A.G. Reynolds & I. Lesschaeve. 2010. Terroir factors: Their impact in the vineyard and on the sensory profiles of Riesling wines. *Progres Agricole et Viticole* 127(8):159-168.

### **CCOVI Publications Cont'd**

- Reynolds, A.G., C. de Savigny & J. Willwerth. 2010.
   Riesling terroir in Ontario vineyards. The roles of soil texture, vine size and vine water status. *Progres Agricole et Viticole* 127(10):212-222.
- Balint G. & A.G. Reynolds. 2010. Effect of different irrigation strategies on vine physiology and grape quality of Cabernet Sauvignon and Sauvignon blanc in a cool-climate area. *Progres Agricole et Viticole* 127 (11):232-241.
- Reynolds, A.G., M. Marciniak, R. Brown, L. Tremblay & L. Baissas. 2010. Using GPS, GIS and airborne imaging to understand Niagara terroir. *Progres Agricole et Viticole* 127(12):259-274.



What: Seventh annual Wine Tasting Challenge

When: Monday, Nov. 29, 2010 Where: Toronto Four Seasons Hotel

Cost: Participation in the challenge is FREE

Website: winetastingchallenge.com Registration opens October 1



What: The Riesling Experience

When: June 9-10, 2011

Where: Brock University, Academic South,

Walker Complex, South Academic

Room 203

Website: rieslingexperience.com

World-renowned French producer, Pierre Trimbach will open the event with a tutored tasting of his top Rieslings while discussing his experiences with Riesling in Alsace.

## Promoting the Promoter 2011

It's the time of year again to promote your favourite promoter. Nomination forms are available online at brocku.ca/ccovi. Click on "Outreach Services" and then "Experts' Tasting/Promoters' Awards". The awards are presented to individuals who make significant contribution to the awareness and promotion of VQA wines in Ontario.