

Issue 1: January 2016

This is the first OGWRI Newsletter! Moving forward growers and wineries will receive a semi-annual newsletter which will include updates on all research projects.

What's in this Newsletter

- Marketing Vineyard Improvement Program Project Update
- Research Project Update
- Request for Proposals

Message from the Chair

The past two years have proven to be quite challenging for the Ontario grape and wine industry. The cold, combined with virus prevalence demonstrates the importance of research and creating a sustainable industry.

With research becoming an integral part of the grape and wine industry we want to keep you informed and up to date. This inaugural newsletter will be released semi-annually in order to facilitate communication.

We look forward to receiving exciting and important research proposals this year in order to ensure prosperous and sustainable growth within the Ontario grape and wine industry.

Matthias Oppenlaender
Chair, OGWRI

MISSION

Enhance the profitability and sustainability of the Ontario grape and wine industry through directed and coordinated financing of research and development activities

VISION

Ensure prosperous and sustainable growth within the Ontario grape and wine industry

MVIP Update

This year OMAFRA chose OGWRI to administer the Research and Innovation Development (R&ID) portion of the Marketing Vineyard Improvement Program (MVIP)

In total OGWRI selected seven projects, which will improve the quality, productivity and adaptability of grape and wine production by promoting innovative tools, technologies, resources, knowledge and information for grape-growing and wine-making.

Here are a few ways that MVIP will benefit growers and wineries:

Geotextiles and winter injury: The use of geotextiles will be assessed to determine if they are an appropriate alternate to burying grapevines for the winter.

Insight A speaker with a viticulture focus will be speaking at Insight on March 1, 2016.

Grower Education: Workshops for growers will be taking place at the 2016 i4C event.

Spring assessment of winter injury: Taking bud samples on an annual basis helps grape growers assess the level of damage of grapevines, and to make changes to their pruning strategies.

VineAlert: Monitoring bud hardiness throughout the dormant period is an invaluable tool to assist the Ontario Grape and Wine Industry in managing winter injury mitigation strategies.

Weather INnovations: Allows growers access to real time weather information to assist in decision making for quality grape production.

Cold Hardiness Modeling: Cold hardiness modeling can allow growers to respond to the effects of changing climates throughout dormancy in order to allow for predictive solutions and real time responses.

Results from the MVIP projects will be published on the OGWRI website in Spring 2016

Current Research Projects

#000900: Effects of cultural practices and other treatments on sour rot development, grape and wine quality.

Cultural practices and chemical treatments will be integrated to manage sour rot. Using field observations and inoculations under controlled environment, a model will be developed to determine when barriers are susceptible to infection. A threshold for degree of vineyard infection relative to volatile acidity will be developed and the impact of different levels of sour rot on wine quality will be evaluated. The effects of crop load and leaf removal timing and severity on sour rot, yield and fruit quality will be determined. For more information please [click here](#).

Completion date: June 2018

Lead Researcher: Wendy McFadden-Smith

#001000: BMPs for control of nuisance flies dispersing through the Ontario grape and wine value added industry chain:

This project focus on identifying reasons why house flies might be dispersing from poultry operations (sources) to the Ontario grape and wine value-added industry chain receptors and how best to mitigate the nuisance problem given that poultry operations and rural residential areas must co-exist in Ontario. This will include developing efficient outdoor sampling methods to correlate the abundance of flies at the source to receptors; identifying potential breeding and resting sites for house flies at receptors; establishing best management practices to minimize the nuisance of house flies; and estimating the potential risks of disease transmission to humans from house flies.

Completed: To read the final report, please [click here](#).

Lead Researcher: Simon LaChance

#001200: Adapt viticulture in Ontario to climate change and drought stress

This project will develop viticulture best practices, to support the grape and wine industry in the Ontario South Coast region as it addresses performance of vines in sandy soils in relation to drought stress, and climate change. Rootstocks adapt grafted vines to site conditions. The project objectives will be addressed in two ways: 1. Riparia vines growing in the area (adapted to the area) will be evaluated as rootstocks. 2. The best available rootstocks will be evaluated through trials in the proposed DVA. For more information please [click here](#).

Completion date: October 31, 2017

Lead Researcher: Adam Dale

If you would like additional information on any of the current research projects please contact:

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Current Research Projects

#001300: Development and validation of reliable, effective and affordable diagnostic technologies

In this project, there are four main objectives: **(1)** To establish and validate nucleic acid-based methodologies [reverse transcription (RT)-PCR and quantitative RT-PCR (RT-qPCR)] for the detection of important grapevine viruses individually and in a multiplex format; **(2)** Production of highly specific antibodies for use in serological detection of four major grape viruses; **(3)** To develop and validate serology-based methodologies (dot-ELISA) for the detection of these viruses individually and in a multiplex format; and; **(4)** To compare and evaluate the efficacy and cost-effectiveness of both of these methods for the detection of the target viruses and to transfer the technologies for adoption for large-scale applications. For more information please [click here](#).

Completion date: July, 2017

Lead Researcher: Baozhong Meng

#001400: The incidence of putative leafhopper vectors of Grapevine red blotch disease in Ontario

Grapevine red blotch associated virus (GRBaV) has been designated as a serious virus disease of grapevine due its impact on fruit quality and grapevine health. Very little is known about its epidemiology, except that the virus is graft-transmissible and can be transmitted from grapevine to grapevine by the Virginia creeper leafhopper under laboratory conditions. In this project, it is proposed that researchers will identify the leafhopper species in Niagara, Prince Edward County, and south-western Ontario vineyards during the summer and fall of 2014 and to investigate the GRBaV vectoring ability of up to 5 leafhopper species. Leafhoppers will be collected in commercial vineyards in the Niagara region, using sweeping nets and sticky traps. Collected leafhoppers will be identified and counted, providing information on the prevalence and geographical distribution of leafhopper species in vineyards. All collected leafhoppers will also be tested for the presence of GRBaV using molecular (PCR) tests to identify potential leafhopper vectors. Laboratory transmission assays will be run on the most prevalent GRB-positive leafhopper species, to determine if those species can transmit GRB from grapevine to grapevine. For more information please [click here](#).

Completion date: June, 2016

Lead Researcher: Lorne Stobbs and Ian Scott

#001500: Integrative research program to improve vine health, fruit/wine quality and sustainability of the Ontario grape and wine industry

Goal of this project is to develop solutions to immediate industry challenges and identify new growth opportunities across the industry's entire value chain by: 1) providing tools and adaptive strategies for grape growers to overcome the challenges of our changing climate through the identification of clone/rootstock varieties best suited to our region; 2) commercializing precise decision-making tools and real-time monitoring technologies with automation to improve productivity and address current industry challenges; 3) developing a database of polyphenolics (tannins) for use in terroir-based winemaking to target the consumer style preference and increase domestic and international competitiveness of Canada's red wines; 4) building Canada's visibility and reputation as a global leader in cool climate oenology and viticulture; and 5) recruiting, training, and retaining world-class highly qualified personnel (HQP). For more information please [click here](#).

Completion date: June, 2016

Lead Researcher: Debbie Ingils and Jim Willwerth

OGWRI in 2016

Research Priorities

Top Three Priorities in 2016

1. Identification and mitigation for Leaf Roll
2. Identification and mitigation for Red Blotch
3. MALB (Replacements for Synthetic Pyrethroids)

Viticulture:

- Quality Improvement (Canopy Management, Powdery Mildew etc.)
- Sour Rot
- Spotted Winged Drosophila (Fruit Fly)
- Vitis Certification (Local Vine Proliferation/Supply)
- Winter Injury
- Black Rot
- Brown Marmorated Stink Bug
- Spray Programs Strategies (Rotation, Feedback Mechanism)
- Short and Long Term Effects of Viruses on Plant Performance
- Clonal and Sub-Clonal Stability (Assessing Trueness to Type)

Oenology:

- Clonal Sensory Evaluation
- Post-frost picking strategy and must handling in the winery
- Crop Level vs. Quality (i.e. Color, Tannin Development)
- Sparkling Wine
- Icewine, Late Harvest
- Operations of Winery (i.e. Filtration, Yeast, Nutrients)
- Site Selection (Terroir)
- Clonal and Sub-Clonal Stability (Assessing Trueness to Type)

Market Research

- Export/Market Development
- Forecast of “Winning” Varieties and Style of Wine
- Sparkling Wine Profiles
- Sensory and Consumer Science
- Late Harvest

Request for Proposals

Ontario Grape and Wine Research Incorporated invite submissions of research proposals commencing in 2016. Projects must benefit the grape and wine industry in Ontario and may be single or multi-year in length. All projects must focus on at least one of the 2016 Research Priorities.

Applicants are to fill out a pre-proposal application and submit them no later than 4:30pm on March 1, 2016. Requests will be reviewed by the Board of Directors and Technical Committee. Those projects that align with OGWRI mission and vision will be contacted and asked to submit a full proposal.

The pre-proposal application form can be found [here](#).

Please submit the completed form by email to ehawthorn@grapegrowersofontario.com
- Late submissions will not be accepted -

If you have any questions about current research projects, MVIP or the Request for Proposals please contact:

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