



BC Wine Grape Council

2017 Research & Development Priorities

Smoke Taint Assessment – methods for analyzing and determining smoke taint impacts in the vineyard and in the winery. Inputs to support insurance planning and mitigation strategies.

- ✓ Development of markers to support GIS mapping of base levels in non-smoke taint years
- ✓ Understanding smoke-taint variables – time, temperature, location, grape maturity, proximity, weather patterns, etc.
- ✓ Grape varietal susceptibility
- ✓ Monitoring timing of when it becomes apparent, possible warning signs and mitigation strategies
- ✓ Impacts and benefits of ash removal through fruit washing
- ✓ In the winery, understanding how compounds change over time – from early production to bottle maturity

Virus management – viruses have been identified as a major threat to South Okanagan vineyards. Industry needs to begin to understand the scope and potential impact of rapidly spreading viruses including Leaf Roll Virus. Project priorities should be focussed on:

- ✓ Surveying and data collection on the incidence of leaf roll virus
- ✓ Virus impacts to wine and vineyard production
- ✓ Vector management strategies; understanding the impacts of chemical controls
- ✓ Varietal sensitivities
- ✓ Developing a coordinated action plan; including economics and implementation strategies

Tannin Management – Building on work done by Belinda Kemp, measure tannins through the growing season to estimate what the tannin levels might be within specific geographic areas.

Nutrient Management – Review and updates to current nitrogen recommendations with the following considerations:

- ✓ Using nutrients to manage stuck fermentations; optimizing the use of nutrients in wine production; efficient use of nutrients in the winery
- ✓ Acid content's influence on quality
- ✓ Understanding amino acids
- ✓ Linking nitrogen use in the vineyard with impacts on wine: i.e. Does nitrogen contribute to vegetative aromas in wine? Does canopy management play a role in nutrient management in the winery? How can we balance nutrient use in the vineyard to reduce the need to add nutrients during fermentation? Is nutrient deficiency specific to certain vineyards?

Wine Stability and Crystal Formation – How is calcium contributing to crystal formation in wine? Are there tactics that can be implemented in the vineyard to mitigate calcium tartrates in wine?

The pH shift - how does removing water stress support pH challenges in the winery; vineyard strategies for pH management.

Spontaneous Fermentations and Co-Inoculations – Identifying and isolating indigenous yeast populations and their characteristics. Possibilities of co-inoculations to achieve primary alcohol formation and malolactic fermentation simultaneously. How to manage diacetyl production during co-inoculation. Potential of co-inoculating commercial yeast with commercial bacteria; or indigenous yeast with commercial bacteria.

Waste Management Education – in terms of improving sustainability:

- ✓ Biomass recovery, means of dealing with winery waste
- ✓ Recyclable materials and the challenges of dealing with them; how to convert them to a recyclable state
- ✓ Proper handling of waste and waste materials
- ✓ Waste water management

Biological Controls for Pest Management Education – Exploring biological alternatives for herbicides to manage: field bine, morning glory, puncture vine; and, pesticides to manage: leaf-hopper, cutworms, grapevine rust mite and wasps.

Integrated Water and Canopy Management Education – How to manage water on vines with different rootstocks and choosing rootstocks for water and bud hardiness.

Ice Nucleating Bacteria Education – Ice negative pseudomonas that could be used to reduce frost impacts on grapes have been widely used in California; how could it apply to British Columbia and what role does cover crop play?

Botrytis Resistance Education – What is our capacity to improve botrytis resistance?