

2006 Projects

Aging of BC Wines. (Dr. Hennie van Vuuren and Dr. Pat Bowen).

We have previously requested wineries to donate wines to the Library that have done well in competitions. We have now changed this approach and wine makers can nominate wines that they feel should age well. Every year, one bottle from each wine will be tasted by the panel and a second bottle will be analyzed by GC/MS and LC/MS to identify and quantify volatile and non-volatile flavour compounds in wine. The ageing of BC wines will also be compared to the ageing of outstanding Mondavi and Gallo (Sonoma) wines donated by these two wineries for this purpose.

Each contributing winery will receive confidential annual reports from the Wine Research Centre. The GC/MS and LC/MS profiles can also be used by wineries as chemical fingerprints of their wines and if anything goes wrong with a particular wine produced in the future, we'll be in position to analyze the faulty wine and determine what compound is responsible for the off flavour.

Estimation of Brett Odor in Wines. (Nigel J. Eggers - UBC Okanagan)

Brett is probably resident in most Okanagan wineries, but is kept in check by current sterile techniques, and the 4-ethylguaiacol and 4-ethylphenol concentrations are very likely well below their thresholds. The concentrations of these two compounds can be used to monitor the effectiveness of Brettanomyces control programs. This analytical method for estimating the extent of Brettanomyces contamination is rapid and will quickly provide information regarding the effectiveness of the sterile techniques.

The study of Brettanomyces infection will take into account many variables and will include the following: age of barrel, cooper, block of grapes, variety of grapes, hygiene (hot versus cold water, sterilizing agent), type of oak used in barrels, sulphur dioxide concentration, cellar temperature, and dissolved oxygen.

Estimation of Smoke Contamination on Wine Grapes. (Nigel J. Eggers - UBC Okanagan)

The goal of this proposal is to develop an analytical technique to measure guaiacol and 4-methylguaiacol in grape, which are the compounds responsible for the smoke taint in wines. We have frozen grapes remaining from a previous study. We will then measure these compounds in grapes from Okanagan vineyards that were contaminated by the fire in 2003 and compare these results with grapes harvested in 2001 and 2002 from the same vineyards. We thus hope to develop the ability to quantitatively determine whether wines will have a "smoky" flavour or aroma.

Establishment and Application of a Small-lot Research Winery to Determine the Winemaking Quality of Grapes from Viticulture Research. (Dr. Pat Bowen - PARC - Summerland).

Proposed is the establishment of a small-lot research wine making facility at PARC Summerland, and use of the facility to make wines from viticulture research projects underway. The facility will enable assessment of the wine making quality of fruit produced in response to viticultural research treatments, and relationships among fruit and wine composition and wine sensory characteristics. The facility could also potentially be used to assess wine sensory characteristics that result from site conditions (terroir effects). Establishment of the small-lot facility at PARC will also create a new training opportunity for students.

Health and Safety Manual

The objectives for this project are:

To outline the required elements of a winery specific Health and Safety program. This outline would be presented to the BC Wine Institute R+D committee.

To develop a template "Health and Safety" manual that can be easily modified by each winery.

To develop a training outline to ensure that Management and staff are appropriately trained to perform their respective duties in accordance with the safety standards established by each specific winery and WCB.

Estimation of Rootstocks for Maintaining Vineyard Productivity in Nematode-infested Soil. (Tom Forge - Pacific Agri-Food Research Centre)

We propose to (1) evaluate the responses of four rootstock options to five combinations of Okanagan nematode species-populations, and (2) characterize the influences of compost soil amendments on the nematode-root interaction for resistant and susceptible rootstocks. The proposed research will be one component of a co-ordinated BC-Pacific Northwest regional collaborative research effort. The overall goal of the collaboration is to better understand the pathogenicity of plant parasitic nematodes found in vineyards in the region, extrinsic factors affecting their pathogenicity, and rootstock resistance.