chromatography (flame ionization detector)-olfactometry (GCO/FID) and/or gas chromatography olfactometry/mass spectrometry (GCO/MS). Wine phenols were analyzed via spectrophotometric measurement, Folin-Ciocalteu, and the modified Adams-Harbertson method. Several GC peaks were found to occur in the chromatograms of all wines examined; many of these also correlated with key aromas recorded by olfactometry. Ethyl octanoate, phenethyl acetate, and ethyl-9-decenoate were among the volatiles found to be potentially important to Frontenac aroma. Phenol analysis suggests that high total phenols and pigmented compounds are characteristic of this hybrid.

## Effect of *Glomerella* on the Physicochemical Composition of Cabernet Sauvignon Wine

**Alberto Miele**,* Luiz A. Rizzon, Olavo R. Sônego, and Lucas da R. Garrido
Embrapa Uva e Vinho, Caixa Postal 130, 95700-000 Bento Gonçalves, Brazil
[email: miele@cnpuv.embrapa.br]

In the last five years *Glomerella cingulata* has been one of the most important diseases of the Serra Gaúcha vineyards, Brazil's most important viticultural region. With humidity and rain, the pathogenic agent spreads rapidly on the surface of berries and can cause grape ripe rot on the entire cluster, which later may shrivel. This disease decreases vineyard yield and affects wine quality. For this reason, an experiment was carried out to determine the effect of different levels of the disease on the physicochemical composition of Cabernet Sauvignon wine. Six treatments—grapes with 0, 2.5, 5.0, 7.5, 10.0, and 20.0% weight basis, infected with *Glomerella*—and three replications were used. The experimental design was a randomized complete block. Wines were made in 20-L glass recipients. Variables related to classical analysis, minerals, and volatile compounds were analyzed. Polynomial regression analysis showed that *Glomerella* significantly increased contents of alcohol, pH, dry extract, ashes, alkalinity of ashes, hue, methanol, 1-propanol, 2-methyl-1-propanol, 2-methyl-1-butanol, and 3-methyl-1-butanol and some minerals (N, P, Ca, Mg, Zn, Rb). However, density, titratable acidity, tannins, A520, A620, color intensity, and anthocyanins decreased. These results show that wine color variables were the most affected by *Glomerella*. There was no significant effect on reducing sugars, alcohol/dry extract ratio, A420, total polyphenols, tartaric and malic acids, ethyl acetate, and acetaldehyde.

## Influence of Maceration Methods on Total Phenolics, Color, and Lees Characteristics during Fermentation of Red Wine from Frozen Muscadine Grapes

**Mitwe Musingo*** and Lihong Wang
Food Science Program and Center for Viticulture and Small Fruits, Florida A&M University, Tallahassee, FL 32307 [email: mitwe.musingo@famu.edu]

The purpose of this research was to study the feasibility of winemaking using frozen Muscadine grapes (*Vitis rotundifolia*). Spectrophotometric determination of total phenolics and color changes were recorded at different time intervals to