

HYBRID GRAPE CULTIVARS



Marquette



La Crescent



Frontenac Gris



Frontenac

Photos courtesy of University of Minnesota

Article TANNIN AND HYBRID VARIETIES

In the Midwest and Northeast, cold-hardy hybrid varieties are the dominant winegrape cultivars grown. The combination of climatic conditions and the inherent properties of many of the red cultivars result in wines that are very low in tannin, often lacking mid-palate intensity and having a short finish. Tannins, besides giving the familiar puckery, astringent character, also contribute to body, mouthfeel and complexity. They are powerful anti-oxidants and play a major role in stabilizing color.

For several years, Murli Dharmadhikari and Sebastian Donner of Iowa State University have been experimenting with the use of enological tannins on red hybrid varieties (primarily St. Croix and Frontenac).

At Iowa State, untreated St. Croix wines were tested and found to have tannin levels between 150 and 200 ppm. The same wine had anthocyanin levels between 2100 and 2400 ppm. This is in sharp contrast to typical *Vitis vinifera* numbers from Califor-

nia, where the anthocyanins may be around 200 ppm and the tannins are well over 1000 ppm. At the University of Illinois, Bradley Beam has been doing similar testing with Frontenac and Chambourcin, while Dr. Joseph Fiola of the University of Maryland has been doing trials on Chambourcin. Using the Adams-Harbertson Assay for tannin, Beam found the tannin levels for Frontenac to be from 50 to 200 ppm. One generally needs at least four times the tannins to anthocyanins to fully stabilize wine color.

In 2008, an Illinois winery did a trial with Frontenac, comparing different levels of enological tannin additions at the fermenter. One-third had no addition, one-third was treated with 8 lb/1000 gal, and one third was treated with 16 lb/1000 gal. In subsequent tastings over the following year, two-thirds of the surveyed winemakers preferred the heaviest treatment. Virtually no one preferred the control.

The same year, Dharmadhikari and Donner held a tannin workshop in

Iowa. For tannins added at the fermenter, they compared the St. Croix control against additions of 400, 800 and 1200 ppm (10 lb/1000 gal). At the workshop in December 2008, the 1200 ppm addition was preferred by the majority of attending winemakers. They also took the same St. Croix (untreated) and did additions of finishing tannins at levels ranging from 100-600 ppm. Four different tannins were trialed. There was a 100% grape tannin, an untoasted oak tannin, a toasted oak tannin and a blend of oak and grape tannins. Only the untoasted oak tannin seemed to have no sensory impact at the levels added. All of the others were preferred by the attending winemakers in the 400-600 ppm range.

Further testing of the wines will be necessary to determine the longevity of the flavor and body impacts, and to see if the tannin addition helped the overall aging potential of the wines.

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