

'Frontenac'



Iowa State University

Synonyms: MN 1047 (4, 7).

Pedigree: 'Landot 4511' x University of Minnesota 89 (4, 7).

Origin: Excelsior, Minnesota by P.R. Hemstad, J.J. Luby and P.R. Pierquet (7).

Cross/Selection/Test: Cross made in 1978; selected in 1983 and tested as MN 1047 (7).

Introduction: 1996 (4, 7).

Type: Interspecific hybrid (includes *V. vinifera*; *V. riparia*) (7).

Color: Blue

Berry: The 'Frontenac' berry is described by the University of Minnesota (5) as small to medium in size and bluish-black. They add that the berries have high skin to pulp ratios and colored pulp (these traits result in intense juice color).

Cluster: Clusters are medium sized; conical in shape and have a small shoulder. The University of Minnesota (4) reported that clusters are loose and berry splitting and bunch rot are rare, even in wet years. They add the typical cluster averages 152 g (.34 lb) in weight and 18 cm (7 in) in length.

Viticultural Characteristics: The 'Frontenac' vine is described as having moderately high vigor; a slightly upright growth habit and arching canes (4). Several training systems have been used by growers including high bilateral cordon, vertical shoot positioning (VSP) and Geneva Double Curtain (GDC). Bud break occurs early midseason and cluster thinning and shoot thinning may be needed in some years (3). It is advised that the grapes be allowed to hang as long as possible to help reduce the rather high acid (5). 100 days from bloom to harvest (1).

Disease/Pests: 'Frontenac' is rated as moderately susceptible to black rot, Botrytis bunch rot and powdery mildew (1, 2, 3, 8); slightly susceptible to downy mildew (1, 2, 3, 8) and Phomopsis cane and leaf spot (1, 2, 3). Bordelon et al (1) and Domoto (3) also rate it as slightly susceptible to anthracnose. It is not sensitive to injuries from sulfur applications (1, 2, 3) and Domoto (3) notes it is not sensitive to injuries from copper applications. It is susceptible to foliar phylloxera.

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Domoto (3) reported that leaves are relatively tolerant of 2,4-D, but berries are susceptible. He also found it is susceptible to injuries from dicamba.

Wine Quality and Characteristics: The University of Minnesota (5), reported that in addition to high color, ‘Frontenac’ carries the *riparia* traits for high sugar and high acid. Soluble solids at harvest normally range from 24-28° Brix, though measurements as high as 30° Brix have been reported in some Minnesota vineyards. In University of Minnesota trials from 2003-2005, pH and titratable acids (TA) averaged 2.9 and 15.4 g/liter respectively. However, in 2006 they were able to harvest at 23.8° Brix, 3.24 pH and TA at 7.4 g/liter (6). Because of its high sugars, they recommended harvesting ‘Frontenac’ based upon TA and not harvesting until the level of acids dropped below 15.0 g/liter for any style of wine (5). In addition, they indicated that ‘Frontenac’ wines will often require malolactic fermentation to produce a well balanced wine in northern climates (4).

As a general rule, aroma and flavor characteristics in ‘Frontenac’ are dominated by a bold cherry note with lesser hints of black current and general red fruit (5). Trained sensory panels have also identified notes of grass, green bean, evergreen and in some cases chocolate (5).

When made in a rosé style, the nose and palate showcase a bright, Bing cherry note that is enhanced by an off-dry finish and moderate acidity (5).

As a red wine, the University of Minnesota (5) described a deep garnet color, sometimes tinted with purple. Cherry notes predominate but are typical of black or sweet cherry rather than the brighter note of the rosé. Earthy and slight herbaceous notes round the palate, supported by a moderate acid backbone (5).

Frontenac has also been used to produce port-style wines of outstanding quality. The University of Minnesota (5) found the higher acid levels balance the increased sugar beautifully, deepening the typical fruit notes into lush shades of cherry, raspberry, black currant, and stewed fruits. Some ‘Frontenac’ ports exhibit pronounced chocolate notes, which seems dependent on vineyard microclimate (5).

Season: Midseason (around September 20th in Excelsior, Minnesota) (5).

Cold Hardiness: Very hardy (below -20° F) (3).

Use: Rosé, red or port style wines (5).

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Notes: The most widely planted red wine grape in Minnesota (5).

Literature Cited

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