Selected Minnesota White Grape Varieties for the Northeast

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This article covers white cool climate grape varieties that can be grown throughout most of the Northeast that were developed by Elmer Swenson (1913-2004) and the University of Minnesota grape breeding program. It outlines the viticultural aspects and the kinds of wine that these grapes produce. Wine-making capability is an important consideration as growers need to grow varieties that are not only consistently productive, and economically & ecologically sound to grow; but which produce high quality wine. The winter hardiness of these varieties is not generally covered here because all of them are either cold hardy or very cold hardy and will generally survive in most parts of the Northeast.

In the Northeast, many growers also operate a winery, and are therefore interested in growing grapes in a profitable manner that can produce quality wine. These varieties can produce more than one style of wine; this versatility in the cellar is an added bonus for the wine producer.

La Crescent (*aestivalis, labrusca, riparia, rupestris, vinifera)* is a hybrid of St. Pepin x E.S. 6-8-25 (Riparia 89 x Muscat Hamburg) that was released by the University of Minnesota in 2002. It has moderately loose to compact long conical clusters with one wing, and a vigorous, sprawling growth habit. The vine is moderate to vigorous in growth, depending on the fertility of its soils. La Crescent is easy to grow and somewhat resistant to all fungus diseases. Its bud break is relatively early and has a small to medium secondary crop if hit by a late spring frost. The grape ripens by late early to mid-season and has sugars of around 24 Brix. The yields are moderate on lighter soils and heavier on richer soils.

The wine is quite floral and fruit driven by aromatics and flavors of apricots, with undertones that range from apples to white peaches, tropical fruits, pineapples, mangoes, and honey. Some New England winemakers are making lovely "Orange wines" with skin contact fermentation methods. La Crescent can lend interest and character when blended with more neutral bulk wines. The wines have good body and balance with elegant fruit flavors that are not aggressive. Its flavor profile is similar to Vignoles or Riesling. It can make dry to semi-sweet wines. La Crescent acids can be firm to high, so balanced residual sugar levels or vinification techniques may be needed to offset its acidity.

La Crosse *(labrusca, lincecumii, riparia, rupestris, vinifera)* is a sibling of St. Pepin. It has Seyval Blanc and Rosette (S.1000) in its genetic heritage (E.S. 114 (MN 78 x Rosette) x Seyval Blanc). The medium-sized cluster is slightly loose to well filled with medium-sized yellow-green to light golden berries. It looks similar to its pollen parent Seyval Blanc with a more open and semi-upright growth habit. La Crosse is moderately vigorous to vigorous and productive. It has solid fungus disease resistance, but is susceptible to black rot and bunch rot. It has a mid-season bud break, that produces a secondary crop if hit by a late spring frost. The variety ripens by mid-season, a bit before Seyval Blanc and about two weeks after St. Pepin with sugars at 19 Brix. For the colder parts of New England and Upstate New York, there are not sufficient heating degree days to consistently ripen La Crosse, but it can do well in the southern coastal areas of New England, the Mid-Hudson Valley, and south to New Jersey. It has a higher acid profile and less aromatics that St. Pepin.

It is balanced for wine both in sugar and acid, and similar in flavor profile to its parent Seyval Blanc. These wines have been successfully barrel-fermented with a malolactic fermentation to reduce its acid profile. Nose and flavor descriptors include rich fruits of pears, apricots, melons, grapefruit, and citrus, with some floral, Muscat, and spice elements. The wines can stand on their own or used in blending to add body to thinner wines. This Minnesota hybrid has a wide range of styles that it can produce from off-dry barrel-aged whites to semi-sweet wines.

Frontenac Blanc / Frontenac Gris *(aestivalis, berlandieri, cinerea, labrusca, lincecummi, riparia,*

Frontenac Blanc.

rupestris, vinifera) are both mutant forms of Frontenac Noir. Viticulturally, all three are similar, coming from a cross of MN 89 Riparia x Landot 4511. Its ancestors include the highly productive French-American hybrids Villard Blanc and Plantet. Frontenac Noir was introduced by the University of Minnesota in 1996. It is vigorous to very vigorous in growth habit, consistently very productive, and does well in most soils. With its high vigor, vine management techniques such as shoot positioning, leaf pulling, and hedging should not be neglected. Its conical clusters are loose to moderately loose, long, and medium to large in size. It has a slightly upward growth habit and then droops. It buds out by mid-season. All three clones have good fungus disease resistance, with only moderate resistance to black rot. Its moderately loose clusters negate bunch rot and berry-splitting problems. Due to high productivity, cluster thinning may be needed to maintain crop quality. The Frontenacs ripen late mid-season to late, about one week after Baco Noir with sugars of 24 to 27 Brix or more. With its *riparia* heritage, the wines can be very high in total acidity. To curtail these high acid levels, it is best to harvest fruit only after reaching 24 Brix or more.

Frontenac Gris, named by the University of Minnesota in 2003, is an amber colored mutant of Frontenac Noir. While it has similar viticultural characteristics to Frontenac Noir, it seems to have slightly better fungus disease resistance. It makes very fruity semi-dry white to copper-colored wines with aromas and flavors of peaches and apricots, with hints of pineapple, honey, grapefruit, and some tropical fruits such as passion fruit. With a good balance between its fruit and acidity, Frontenac Gris produces a clean wine with little or no herbaceous or *labrusca* aromas. It should to be finished semi-dry to offset its high acidity.

Frontenac Blanc is a mutant of Frontenac Gris. Viticulturally, it is similar to Frontenac Noir and Gris, except that it ripens slightly earlier. This mutation was found by Quebec nursery-owner Alain Breault in 2005. The wines have flavors of apricots, peaches, and pomme fruits, expressing more pure stone fruit and melon in the nose. Due to their high acids, they tend to be made semi-dry, but can be made dry if malolactic fermentation is used or if blended with other less acidic whites.

Itasca *(aestivalis, berlandieri, cinerea, labrusca, lincecummi, riparia, rupestris, vinifera)* was recently introduced by the University of Minnesota in 2017. It is a hybrid of Frontenac Gris x MN 1234 (MN 1095 x Seyval Blanc). Itasca is very cold hardy and possesses good fungus disease resistance. It is productive and has a vigorous, but manageable, upright growth habit. It ripens by mid- to late-mid-season and can attain sugars of between 24 to 27 Brix. Unlike some Minnesota whites, it has lower, more manageable, acid levels, allowing for the production of multiple styles of high-quality dry wines that do not need residual sugar to offset their high acids. The wines are clean, carry a long finish, with soft fruits that include pear, melons, green melons, gooseberries, apples, and subtle honey and violet flavors, with some mineral and floral notes.

St. Pepin *(labrusca, lincecumii, riparia, rupestris, vinifera)* is one of Swenson's first hybrids that he bred

during the 1950's, but introduced much later in 1983. It is a sister seedling to La Crosse described above, having Seyval Blanc and Rosette in its genetic heritage. St. Pepin is the seed parent for La Crescent. The variety's moderately large conical clusters are moderately compact to loose and made up of medium-sized slip-skin berries that look similar in color to its pollen parent Seyval Blanc. The juice that it yields is a very light pink.

The vine grows well and is moderately to very vigorous and moderately productive to productive, depending on the fertility of its soil. St. Pepin has an upward growth habit with a somewhat open canopy which is somewhat resistant to most fungus diseases, except for powdery mildew, to which it is susceptible. It grows easily with little maintenance and prefers to be pruned to the top wire. The vine has only female flowers, so it needs to be planted near other grape varieties, such as La Crosse, so that it can cross pollinate for fruit production

It ripens by early mid-season, anywhere from ten days to two weeks before its sibling La Crosse, and is fruiter in flavor, similar to Riesling. It attains sugars of between 20 to 24 Brix, with acids that are relatively low that are balanced for wine production. It can be used either alone or in a blend.

Brianna *(aestivalis, berlandieri, cinerea, labrusca, lincecummi, riparia, rupestris, vinifera)* was bred during the latter part of Swenson's breeding program in 1983. It was selected in 1989 as a table grape that had winemaking applications. Genetically, it has MN 78, Golden Muscat, Villard Blanc, and Swenson Red in its heritage. It has medium to high vigor depending on the fertility of its soil. It is moderately resistant to most fungus diseases, but less so to black rot and botrytis. It can be susceptible to crown gall. To combat these diseases, Brianna is not sensitive to sulfur applications.

Brianna is tolerant to most soil types and is relatively easy to control in the field, except for very fertile soils where it is very vigorous and needs appropriate management techniques to control its vigor. Further, it is tolerant of both hot and cold temperature extremes. It has a secondary crop if hit by a late spring frost. It has a medium-sized, semi-compact cluster, with medium to large berries that are thick-skinned and greenish-gold to gold when fully ripe. It ripens by early mid-season.

When picked fully ripe, it is generally made into a semi-sweet wine, with pleasing pineapple aroma and tropical flavor. When vinified as dryer wines, it can have additional flavors of grapefruit, bananas, and mangoes. Brianna is a good blending component that does not overpower the other wines that it is blended with. With its refreshing acid levels and flavor profile, it can be used to make lovely dessert wines. This variety can benefit from cool fermentation temperatures to help retain its fruit flavors.

Louise Swenson *(labrusca, lincecumii, riparia, rupestris, vinifera)*, named for Elmer's wife, was developed around 1980, and introduced in 2001 by Elmer Swenson, with the assistance of Tom Plocher and Bob Parke. It has Seyval Blanc, Seneca, Golden Muscat, and Rosette in its genetic heritage. It is moderately loose to well-filled, small-to-medium sized conical clusters with small-to medium sized light-green and translucent berries. It has good fungus disease resistance on a vine of medium vigor, but may be susceptible to anthracnose. It is sensitive to sulfur applications. Its production is moderate, but it does not like droughty conditions or light sandy soils. It has few problems in the field, but its sugars tend to remain at or below 20 Brix with only moderate acidity. It buds out late, so it is not affected

Louise Swenson.

by late spring frosts. Further, it has an orderly trailing to semi-upright growth habit, so it is easy to maintain in the field. It ripens early mid-season.

The variety is one of the better Swenson whites in the cellar with soft, fruity aromas and flavors of pears, and honey, which have no hybrid characteristics. The wines are consistently good and balanced, but because of its light body and presence, it benefits from enhancements by other wines to augment it. It blends well with Prairie Star because while Louise Swenson has delicate aromas and lighter body, Prairie Start has the requisite body and finish to compliment it.

Prairie Star *(aestivalis, berlandieri, cinerea, labrusca, lincecumii, riparia, rupestris, vinifera)* has Villard Blanc and Swenson Red in its genetic background; the seedling was selected in 1984, and introduced in 2001 by Swenson, with the assistance of Tom Plocher and Bob Parke. The cluster is long, thin, and moderately loose to well filled, with small-medium-sized berries that are yellow-gold. The cluster looks like Vidal Blanc. This variety is generally resistant to fungus diseases, with only moderate resistance to black rot and anthracnose. The vine is vigorous with a semi-upright growth habit. The bud break is by mid-season and it produces a modest secondary crop after a late spring frost, but it can be susceptible to poor fruit set. In the spring, its young shoots have a tendency to break off in high winds, so low cordon pruning may be needed with catch wires to protect its shoots from such high winds. Prairie Star ripens by mid-season, around the same time as Baco Noir or a bit earlier. It is noticeably more productive on heavier soils or if grafted.

Fruit sugars measure between 20 to 22 Brix with acid that is proportionate for winemaking. Its wines are well balanced and somewhat floral, but generally are neutral with no *labrusca* flavors. It offers good body, mouth feel, and a finish that can be used in blending to support thinner white wines. Prairie Star pairs well with Louise Swenson's delicate aromatics providing complimentary body and finish.

Swenson White *(aestivalis, berlandieri, cinerea, labrusca, lincecummi, riparia, rupestris, vinifera) (Edelweiss (MN 78 x Ontario) x E. S. 442 (MN 78 x S.11803)* has a medium to large loose to well-filled conical cluster of large berries of a light green color with some yellows. It was bred by Swenson around 1981 to 1983 and introduced in 1994. One of its grandparents is the Geneva developed white hybrid Ontario (Winchell x Diamond), whose seed parent is the Vermont bred heirloom variety Winchell. Ontario is also a grandparent to Cayuga White.

The skins are thick, which allows the variety to hang on the vine so that it can be made into late-harvest or ice wines. Further, its thick skins seem to help minimize bird and insect damage. It has good fungus disease resistance, except for downy and powdery mildew, to which it is somewhat susceptible. It is, however, a healthy grower. The bud break is by mid-season, but it has a small secondary crop if hit by a late spring frost. Due to its large cluster size, sometimes cluster thinning is needed. It is good in the field and in the cellar, ripening by late mid-season to late and achieves sugars of no more than 22 Brix.

The must is well balanced in sugar with moderate acidity so that it can make quality dry wine. The wines have a nice pronounced floral nose that is similar to St. Pepin, with substantial fruit in the body and finish, as well as pleasant *labrusca* elements.

This article is based on the three authors' average collective experience of over 30 years in growing cool climate grapes, including the Minnesota hybrids, and making wine from them. It is also based on J. Stephen Casscles, *Grapes of the Hudson Valley and Other Cool Climate Regions of the United States and Canada* (Coxsackie, NY: Flintmine Press, 2015); Tom Plocher and Bob Parke, *Northern Winework: Growing Grapes and Making Wine in Cold Climates,* (Hugo, MN: Northern Winework, Inc., 2001); and Todd Trzaskos, *Wines of Vermont: A History of Pioneer Fermentation* (Charleston, SC: American Palate, 2015).

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