COLD HARDY WINE CULTIVARS FOR NEW ENGLAND

Andy Farmer

Northeastern Vine Supply, Inc
Background

Northeastern Vine Supply, Inc. began in 2002 growing and selling cold hardy grapevines.

We are located in southwestern VT, where the Champlain Valley meets the Taconic range.

Our grapevines are sold around the US, in cold climate growing areas across more than half the country.

We grow, process, and ship all of our nursery stock at our farm, which then becomes around 300 new vineyard acres per year.
Cooperative Effort

We work with university and private breeding programs that develop new varieties.

Propagate and market new varieties.

Travel, travel, travel to visit growers, winemakers, university extension, equipment dealers, go to conferences and trade shows.
Cooperative Effort

• All in an effort to improve viticulture and winemaking in cool and cold regions.
• Pre planting consultation is critical to success with new varieties.
• You need a benchmark.
What are the possibilities for New England?

- *Vitis vinifera*: Chardonnay, Cab franc
- *Vitis labrusca aka Natives*: Concord, Catawba
- French hybrids: Interspecific hybrids developed in France in response to the phyloxera outbreak; Marechal Foch, Seyval blanc, Vidal blanc
- Cornell hybrids: Cayuga White, Noiret, Traminette, Aromella
What are the possibilities?

Where can these grow successfully EVERY YEAR?

Are they hardy? Will they ripen? Will they make good wine year in and year out?

Do my customers enjoy the wine and come back for more?

KNOW YOUR SITE!
What are the possibilities?

• Several breeding programs are focused on developing new grape varieties that are cold hardy, ripen in a shorter growing season, exhibit improved disease resistance, AND MAKE GREAT WINE.

• Great wine is now grown in more places than anyone ever thought was possible.
Elmer Swenson
Elmer Swenson

• Began breeding grapes in Osceola, WI on his dairy farm.
• Used primarily V. labrusca and V. riparia, but also included V. vinifera
• Initial goal was table grapes, but several varieties were recognized as very good wine grapes.
Swenson Varieties

- St. Croix
- Sabrevois
- Brianna
- Louise Swenson
- Prairie Star
- Edelweiss
- Swenson White

- St. Pepin
- LaCrosse
- Adalmiina
- Osceola Muscat
- Somerset Seedless
- Trollhaugen
- Many un-named selections.
University of MN

Matt Clark

John and Jenny Thull
• Selections require outstanding cold hardiness.
• Wine quality and commercial production potential are imperative.
• V. riparia is part of very complex crosses bringing together more V. vinifera genetics.
• Bred for the Upper Midwest, but widely adaptable.
U of MN Varieties

- Frontenac
- Frontenac gris
- Frontenac blanc
- La Crescent
- Marquette
- MN 1285 (2017)
- More to come...
Tom Plocher
Plocher Varieties

• Tom brings together the work of Elmer Swenson and some U of MN material with more Vitis species (V. amurensis, V. palmata).
• Originally focused only on fully cold hardy reds with late bud break, low acid, and a bigger tannic profile.
• Now working on whites too. (first crosses are with Vermintino).
Plocher Varieties

- Petite Pearl
- Crimson Pearl (2-1-17)
- Verona (1-1-34)
- 1-1-12
- 2-3-51
- Several more in the pipeline.
Where are all of these varieties grown?
Where are these varieties being grown?

• In the Upper Midwest, almost all cold hardy hybrids. Some older french hybrids.
• MI, PA, CO, among others, have cross over to all major types of grapes.
• New England and NY also see a lot of cross over between vinifera, new and old hybrids, with plenty of Natives.
Thoughts from Ethan

• “In Vermont, our only option is to grow fine wine from hybrid grapes.”

• Treat your all of your grapes like premium grapes and it will show in the wine.
New England

Northeastern U.S.
Why grow cold hardy hybrids in New England?

• Wine quality and productivity. This is the bottom line.
This helps too. . .

• Cold hardiness

• Improved disease resistance

• Early ripening

• WINE QUALITY AND PRODUCTION
Ask around
Planning a new vineyard with cold hardy hybrids

• The same amount of consideration and preparation is required when planting hybrids as is needed with vinifera. This is premium wine!

• These varieties are not bullet proof.

• Lots of diversity within this group of grapes.
The Foundation

• Know the details of your site.
• Climate
• Soil: physical and chemical
• Season length and frost risk
• ORGANIC MATTER + WATER HOLDING CAPACITY = VIGOR
• Get out and get some advice
MARQUETTE

- UMN release 2006
- Most widely planted cold hardy red.
- Pinot Noir is a grandparent.
- Can produce an outstanding dry red, many other styles too.
MARQUETTE

- Very early bud break and quick onset of growth
- Moderate to high vigor
- Produces lots of laterals on vigorous sites
- Early ripening
- Keep it high and dry
- Very productive
- TWC, maybe GDC
MARQUETTE

Spurs and cane

2 Canes
Marquette
Marquette

- Ripens early to mid Sept. in VT
- Sugar can be 19-29 brix
- TA can be 8.5 to 12 grams per liter out of the vineyard.
- Red fruits, brambles, black currant, and spice are predominate aromatics
- Dry reds when good and ripe.
- Marries well with oak, but can be overloaded.
- When not fully ripe, think rose or sparkling.
- Could use a little more tannin and a little less acid when blending.
FRONTENAC

- UMN release from 1996
- Excellent productivity: 5 tons per acre or more
- Adaptable to a wide range of soils
- Mid season bud break
- Immune to Downy
- Arching growth habit but works on TWC, GDC, and VSP
FRONTENAC

• Ripens later with high sugar and high acid
• In warmer areas like IL, and maybe CT, acid can come in around 9g/L. Up to 15g/L from cold sites
• Big aromas of cherry, plum, chocolate
• Take the path of least resistance for balance
FRONTENAC

- Leave some RS to balance the acid
- Think rose or sweet red
- More refined: Port, icewine, or straw wine
- Specialty wines are age worthy.
ST. CROIX

• Swenson selection from late 70’s.
• The first cold hardy hybrid used in New England
• Very productive and early ripening
• TWC or GDC
• Lots of Downy
ST. CROIX

• When harvested early, 16-17 brix, can make very interesting dry red.
• Let it rest in some nice oak.
• Low sugar, low acid, low tannin grape
• Think blending and use your winemaking toolkit.
ST. CROIX

• Specialty wines are all possibilities. Rose and Port especially.
• Does not hold up on vine for icewine or straw wine.
• Can develop some labrusca character when over ripe.
PETITE PEARL

• 2010 release from Tom Plocher
• Moderate vigor with few laterals
• Nice open growth habit, TWC
• Can over produce, thin to 2 clusters per shoot
PETITE PEARL

• Very late bud break, can be planted lower down the hill.
• Adaptable.
• Tight clusters, control botrytis.
• Later ripening, but before Frontenac. Early October in VT.
PETITE PEARL

• Is this vinifera? 24 brix, 7 g/L TA, 3.4 ph
• Higher ratio of tartaric to malic acid
• More pronounced tannins than any other named cold hardy varieties
• Can be an excellent blending agent with other reds to lower the finished acidity of wine and add structure
• Best northern red I have had was a blend of Petite Pearl and Marquette
PETITE PEARL: What is ripe?

• When harvested early, can have fruitier aromatics, higher acid, and less tannin
• Harvested later, the fruit evolves into earthy and savory aromas, the acid continues to drop, and tannins develop more fully
• 2 harvests? One early for fruit, one late for structure and complexity, then blend together
• Serious dry rose
PLOCHER VARIETIES IN THE PIPELINE
CRIMSON PEARL AND VERONA

• The 2 newest named releases from Tom Plocher.

• Using Petite Pearl as a benchmark, Crimson Pearl ripens 10 days earlier, Verona 10 days later.

• Crimson Pearl is more cold hardy and Verona is less cold tolerant, but still hardy for most of New England.
PLOCHER VARIETIES IN THE PIPELINE

• Check out www.petitepearlplus.com for more information about these varieties and future releases.
FRONTENAC GRIS

• Mutation of Frontenac found at UMN and released in 2003
• Led to Frontenac blanc mutation
• Grows identical to other Frontenac family
FRONTENAC GRIS

Some pigment is in the skin

Produces an amber to salmon colored juice when hard pressed.

Can produce amazing rose when given some skin contact
FRONTENAC GRIS

• White wines can exhibit grapefruit and tropical fruit notes. There can also be a “candied” aroma

• Versatile: White wine, light red wine, rose, dessert wine, ice wine, straw wine, sparkling
FRONTENAC BLANC

• Mutation of F. gris found in mid 2000’s
• Grows identical to Frontenac and F. gris
• Extremely productive, easily 5 tons per acre in southern New England
• Immune to Downy
FRONTENAC BLANC

• Mid season bud break
• Later ripening, but earlier than Frontenac
• Adaptable to a wide range of soils and training styles
• Keep good sun exposure on clusters
FRONTENAC BLANC

• High sugar, moderate to high acidity
• Well suited to off dry white with big aromatics of grapefruit, stone fruit, and melon
• Does not have any “candied” aromatics
• Small additions to dry white blends can add bright aromatics and body
• Holds up well for icewine and straw wine
• Perfect for Sparkling wine
LA CRESCENT
LA CRESCENT

• UMN release in 2002
• John Thull says: “This is a Goldilocks vine.”
• Not too dry, not too wet
• Not too vigorous, not too shy
• Can’t be picked early, can’t be picked late

• Early bud break
• On higher vigor sites, TWC
• On lower vigor sites, VSP
• Must be sprayed for BR and DM, and everything else
• Shatters when over ripe
LA CRESCENT
LA CRESCENT

• DON’T PLANT IT HERE!
LA CRESCENT

• Ripens early with high sugar and high acid
• When well exposed, develops huge apricot and lime aromas
• Delicious as a semi sweet or dessert wine
• Outstanding as a sparkler
• Malo-lactic to reduce acidity?
BRIANNA

• Swenson selection named in late 90’s
• Has become the signature grape of IA and NE
• Big following of growers and winemakers across the Midwest, northern NY, and now NH
BRIANNA

• Vigorous and widely adaptable
• High yielding work horse variety
• Best on TWC or GDC
• Early ripening, starting in August on warm sites.

• Many winemakers suggest harvesting by ph: 3.2-3.4
• Produces a strongly scented of Pineapple with a nice acid backbone.
• Usually finished off dry to sweet
BRIANNA

• Seems universally well received
• Simple, fruity, entry level wine
• Can develop increasingly stronger labrusca flavors as it ripens
LOUISE SWENSON

- Swenson release from early 80’s
- My favorite in the vineyard!
- Low vigor, minimal labor inputs
- Slow growing, but high yielding: 5 tons/acre in VT
LOUISE SWENSON

• A vine in balance
• Fills its space and then stops growing
• NEEDS IRRIGATION
• Will not recover easily from drought
• Performs well on heavier soils where other varieties may not
LOUISE SWENSON

• Ripens early, and should be picked around 17 brix.
• Consider some skin contact for better aromatic extraction and some body.
• Aromatics are reminiscent of NZ Sauv blanc.
• Thin in the middle, could use some blending to create a more complete package.
• Fanciful name for commercial wine?
ST. PEPIN

- Swenson selection released in late 70’s
- Pistallate, not self fruitful and needs to be planted near a pollinator.
- Brianna, Louise Swenson, LaCrosse, Frontenac family, St. Croix as pollen source
ST. PEPIN

- Fully productive when planted within a pollen source
- Great cultural habit, not too vigorous
- Makes outstanding dry white wine that can be similar to Sauv blanc.
- Tough skins allow it to hang on the vine for late harvest and icewine
- Grapefruit, lemon, honeysuckle and grass aromatics with just ~9g/L acid
MN 1285

• To be named and released in 2017.
• What we know so far:
• Among the hardiest grapes known.
• Early ripening.
• Lower acid and more neutral profile. Good body. Very fine wine possibilities.
Will these varieties work for you

• Lots of possibilities for these varieties in all parts of New England.
• Could be the workhorse variety in an otherwise vinifera vineyard.
• Could be the dependable section when marginal varieties are planted.
• COULD BE THE BACKBONE OF A FINE WINEGROWING PROGRAM IN ANY VINEYARD.
• Could create unique and recognizable wines that New England could hang its hat on.
• Could be a perfect match for local produce, meat and seafood
CLOSING THOUGHT

• Use me as a resource.
• Consider the possibilities of these varieties in your vineyard.
• Remember, it takes a lot of beer to make wine!
Thank you!

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