

# Characteristics of Cold Hardy Grape Cultivars

Cultivar	Characteristics								Disease Tolerance							Sensitivity		Comment	
	Type	Color	Use	HS	Vig	GH	CT	WH	BR	DM	PM	Bot	Pho	Eu	CG	An	S		Cu
<b>Beta</b>	AH	B	J	E	V	T	N	6	1	1	1	1	?	?	?	?	?	?	Produces small, acidic berries; not suited for wine making.
<b>Bluebell</b>	AH	B	T,J,W	M	V	T	N	6	1	1	1	1	?	?	?	?	?	?	High quality labrusca type. Has better table quality than 'Concord', but produces a lighter juice. Not known for great wine quality. <i>Not in Iowa trials.</i>
<b>Brianna</b>	FAH	W	T,W	M	V	T	N	6	2	1	1	2	?	?	?	?	?	?	An Elmer Swenson cultivar. Medium-small, tight clusters w/ medium-large, thick-skinned berries. Produces a well balanced wine with a pineapple aroma & flavor. Promising as a seeded table cultivar. Somewhat susceptible to 2,4-D; moderately susceptible to dicamba. Endosulfan sensitive.
<b>Catawba</b>	A	R	J,W	L	MV	T	Y	5	3	3	2	1	3	1	1	1	N	2	Produces a high quality labrusca-flavored dessert wine.
<b>Concord</b>	A	B	J,T,W	LM	VV	T	N	5	3	1	2	1	3	3	2	1	N	1	Very 2,4-D sensitive. Characteristic labrusca flavor.
<b>Delaware</b>	A	R	J,T,W	M	LV	T	N	5	2	3	2	1	3	1	1	2	N	1	Very 2,4-D sensitive. Produces a high quality American-type wine.
<b>Edelweiss</b>	AH	W	T,J,W	E	V	T	N	5	?	1	2	2	?	?	1	2	?	?	Large clusters of medium-sized berries. Strong labrusca flavor when fully mature; often harvested early; wine fruity. Very early bud break. Moderately susceptible to 2,4-D. Young shoots very sensitive to "blow-out".
<b>Elvira</b>	AH	W	W	LM	VV	ST	Y	6	1	2	2	3	1	1	2	?	N	2	Berries prone to cracking. Wine is labrusca-flavored & frequently acidic.
<b>Esprit</b>	FAH	W	W	M	V	ST	M	5	?	2	3	2	?	?	?	?	?	?	Large clusters; wine tends to be mild & fruity. Susceptible to 2,4-D.
<b>Fredonia</b>	A	B	T,J,W	E	MV	T	N	5	2	3	2	1	3	?	1	3	N	?	Produces a rose style wine w/ a pronounced labrusca flavor.
<b>Frontenac</b>	FAH	B	W	M	VV	ST	M	6	2	1	2	2	1	?	?	1	N	?	Fruit quality is excellent, but high acidity at harvest is common. Leaves are relatively tolerant of 2,4-D but berries are susceptible; susceptible to dicamba. Leaves are susceptible to grape phylloxera.

**Type:** A= American; AH = American hybrid; FAH = French American hybrid.

**Color:** B= Blue / black; R = Red / rose; W= White.

**Use:** W = Wine; T=Table; ST = Seedless table; J=Juice.

**HS** (harvest season): E = early; M = mid-season; L = late season; LM = late mid-season.

**Vig** (vine vigor): LV = low vigor; MV = moderate/medium vigor; V = vigorous; VV = very vigorous.

**GH** (growth habit): T = trailing; ST = semi-trailing; SU = semi-upright; U = upright.

**CT** (need for cluster thinning): N = not required; M = maybe required; Y = required; \* = at bloom to improve berry size.

**WH** (winter hardiness; injury beginning at): 3 = Cold tender (-5 F); 4 = Moderately hardy (-10 F); 5 = Hardy (-15 F); 6 = Very Hardy (-20 F).

*Adapted from tables developed by the New York St. Coop Ext. Service:*

**Disease Susceptibility:** BR = Black rot; DM = Downy mildew; PM = Powdery mildew; Bot = Botrytis bunch rot; Pho = Phomopsis cane & leaf spot; Eu = Eutypa dieback; CG = Crown Gall; AnS = Anthracnose.

**Sensitivity:** S = Sulfur sensitivity; Cu = Cooper sensitivity.

**Key to Ratings:** 1 = Slightly susceptible or sensitive; 2 = Moderately susceptible or sensitive; 3 = Highly susceptible or sensitive; N = Not sensitive; Y = Sensitive; ? = Relative susceptibility or sensitivity not established.

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**IOWA STATE UNIVERSITY**  
University Extension

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Frontenac Gris	FAH	W	W	M	VV	ST	M	6	2	1	2	2	1	?	?	1	N	?	Color mutation of Frontenac. Appears to mature just ahead of Frontenac in IA w/ slightly lower acids. Produces a clean, crisp white or salmon-tinged white wine w/ an apricot or peach flavor.
GR-7	FAH	B	W	M	VV	ST	N	6	1	2	2	2	1	1	2	1	N	?	Breaks bud very early. Good tolerance to 2,4-D; susceptible to dicamba. Requires basal shoot & lateral shoot thinning. Medium-small, tight clusters. Grapes are relatively low in acids; wines are rated good to very good.
Horizon	FAH	W	W	M	V			5	?	1	3	2	?	?	1	?	N	?	Low acidity & lack character; suitable for blending.
Kay Gray	AH	W	T,W	E	VV	T	N	6	1	1	1	1	?	?	1	?	?	?	Clusters & berries are small. Characterized by low acid levels. Musts are extremely susceptible to oxidation. <i>Not in Iowa trials.</i>
La Crescent	FAH	W	W	E	V	ST	M	6	2	1	2	1	1	1	1	2	?	?	Promising new variety. Breaks bud very early. Somewhat susceptible to 2,4-D; very susceptible to dicamba. Young shoots are sensitive to "blow-out". Very loose clusters, berry set is an issue.
La Crosse	FAH	W	W	E	VV	SU	N	5	3	2	2	3	2	?	?	1	?	?	Requires basal shoot & lateral shoot thinning; shoots tend to lay down in VSP systems. Medium-small, tight clusters w/ thin-skinned berries, subject to leaking. Wine is somewhat fruitier than Seyval. Good tolerance to 2,4-D; susceptible to dicamba.
Louise Swenson	AH	W	T,W	M	MV	ST	N	6	1	1	1	1	?	?	?	2	?	?	Low in sugars; produces an aromatic wine, but requires additional sugar; lacks body. <i>Not in Iowa trials.</i>
Leon Millot	FAH	B	W	E	VV	T	N	5	1	2	3	1	1	1	2	1	Y	?	Similar to Foch, but usually more vigorous & productive. Made into a wide range of wines. Susceptible to 2,4-D and dicamba. Small, tight clusters. Requires lateral shoot thinning.
Maréchal Foch	FAH	B	W	E	LV	ST	N	5	2	1	2	1	1	3	2	2	Y	?	Breaks bud very early. Requires shoot thinning. With early ripening, birds can be a problem. Moderately susceptible to 2,4-D; susceptible to dicamba. Grapes are relatively low in acids; wines are rated good to very good. Small, tight clusters. Can be made into a wide range of wines.

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Marquette	FAH	B	M	E	MV	ST	N	6	1	1	1	1	?	?	?	1	?	?	New cultivar, tested as MN 1211. Breaks bud very early. Moderately susceptible to 2,4-D and dicamba. Observed a variation in vine vigor between test plots in IA. Clusters are small.
Petite Amie	FAH	W	W					6?											A white wine grape with muscat flavors bred by David McGregor. Will begin testing in 2008.
Prairie Star	FAH	W	W	M	V	SU	N	6	2	1	1	1	?	?	?	2	?	?	Medium-small, tight clusters w/ thick-skinned berries. Excellent body & S/A balance. Moderately susceptible to 2,4-D and dicamba. Young shoots have been reported sensitive to "blow-out". Suitable for VSP training.
Sabrevois	FAH	B	W	E	VV	U	?	6	1	1	1	1	?	?	?	?	?	?	If picked early, it can make a high acid, medium bodied complex red wine with good tannins. Appears to do better in cooler climates.
St. Croix	FAH	B	W	E	V	ST	M	6	?	2	2	2	?	?	?	1	?	?	Requires thinning of multiple bud breaks and lateral shoots. Wine tends to be bland & neutral in character, suitable for blending. Berries are very thin skinned & prone to leaking. Slightly susceptible to 2,4-D; moderately susceptible to dicamba. Leaves are susceptible to grape phylloxera.
St. Pepin	FAH	W	W,T,J	E	V	ST	N	5	?	1	3	2	?	?	?	?	?	?	Requires cross pollination. Produces a very fruity wine w/ a slight labrusca flavor. Flowers do not produce pollen and other varieties are required for pollination; fruit set and low yields are an issue. <i>Not in Iowa trials.</i>
Steuben	A	B	J,T,W	M	V	T	Y	5	2	1	1	1	?	?	1	1	N	?	Produces long tapering clusters. Used to produce American rose wines.
Swenson Red	AH	R	T, W	M	V	T	Y	5	1	3	2	2	?	?	?	?	?	?	Primarily a seeded table grape, but suitable for wine. Produces large clusters w/ large berries that have a meaty texture & adherent skin.
Swenson White	FAH	W	T,W	L		ST	M	6	1	2	2	1	?	?	?	2	?	?	Produces a high quality wine w/ a pronounced floral aroma. Very susceptible to 2,4-D, and dicamba.
Valiant	AH	B	T,J	E	V	T	N	6	1	3	1	2	?	?	?	?	?	?	An improvement over Beta. Not suited for wine.
Van Buren	A	B	T,J	E	V	T	N	5	?	3	1	1	?	?	1	?	Y	?	Early ripening Concord-type.

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