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Grape Varieties for Michigan's Vineyards
Michigan State University
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Grape Varieties for Michigan's Vineyards

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Three species of grapes are commercially popular in Michigan. The first group consists of varieties produced through crossing native American species (*Vitis labruscana* Bailey; *V. labrusca* L.; *V. aestivalis* L., etc.). These grape hybrids include those most widely grown in Michigan—Concord, Niagara, Delaware, Fredonia, Catawba, Moore's Early, Campbell Early and others.

Many of these plants produce fruit described as "slip skinned." This refers to the ease whereby the flesh separates from the skin of the berry. The American cultivars are characterized by the strong aroma and "fruity" taste so desirable in fresh jam and jelly products.

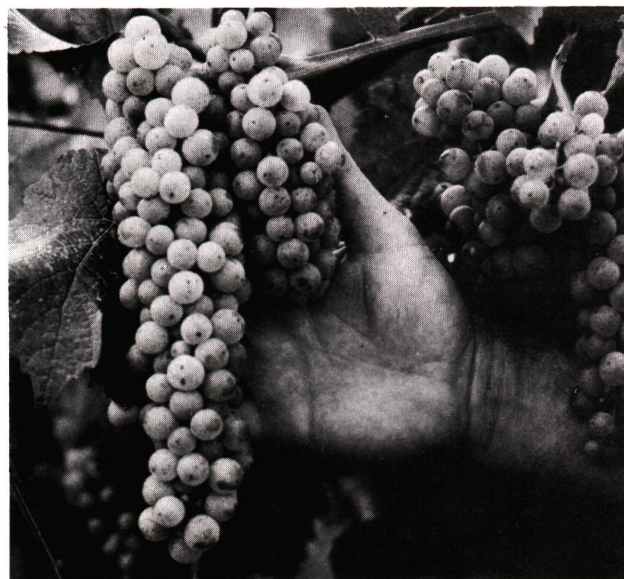
In addition to the American grape varieties, there is increasing interest in a second group, called the French-American hybrids. These are from breeding programs in Europe and the U.S. in which the native European grape, *Vitis vinifera*, was crossed with the native American species *V. riparia*, *V. rupestris*, *V. lincecumii*, *V. aestivalis* and/or others.

These crosses produced varieties with the fine wine quality of *V. vinifera* and the cold hardiness and disease and insect resistance of the American species. The gain in hardiness is especially important for Michigan. And, these hybrids carry the flavors associated with the European grapes. The wine has a more neutral, subtle and refined character than wine produced exclusively from native American species.

Although these varieties are produced primarily for wine, potential is expanding for processing as juice as well as fresh dessert use. Other advantages include large yields and vigorous growth. The growing season can also be extended because these varieties have a wide range of harvest dates. This is especially important in farm market operations.

The third popular species is the European type *Vitis vinifera*, one of the species used to create the French-American hybrids. Currently, this species constitutes the bulk of production in California and other southwestern states. In contrast to the American grapes which are loose-skinned, the European varieties are tight-skinned, meaning the skin clings tightly to the flesh of the fruit.

The consensus is that *V. vinifera* cannot be successfully grown in Michigan. It is being cultivated, with great effort and questionable economic return—even on the best sites close to Lake Michigan. We have only a few years experience in Michigan with commercial production of *V. vinifera*.



Vidal blanc—our most important wine grape.

The author would like to acknowledge Mary Hausbeck and J. Lee Taylor for their help in the organization and review of this Fact Sheet.

Vine Yields

Table Grapes. Given acceptable soil, climate and culture, a single vine should produce 10 to 20 lbs. of fresh fruit each year. Home growers should consider planting one or two vines of several different varieties that ripen from early September until frost.

Juice, Jelly, and Jam Grapes. Concord is the most desirable for this use, and given acceptable soil, climate and culture, vines should yield about 15 lbs. each. This yield would produce about 2 gal. of juice per vine.

Wine Grapes. Yields of wine grapes vary with variety, but plant a minimum of 15 vines to insure consistent production levels for 10 to 15 gal. of wine.

All of the above yields depend upon careful site choice, planting, spacing (8 ft. in the row, row width 6 to 10 ft. depending on cultivation equipment), trellis type, training system and pest control. Spring frost can reduce yield to zero. Poor pruning can weaken vines, reduce yields and increase winter damage. Pruning is required *each* dormant season on grapes as a means of crop control. Insects, diseases, and weeds must also be controlled. Unless you are willing to make a commitment to these tasks each year, it might be best not to plant grapes.

Rootstock Cultivars

All of the *Vitis vinifera* varieties require grafting on a phylloxera-resistant rootstock. The grape phylloxera is an aphid-like insect which causes galls on the leaves of some of the French hybrids, and galls on the roots of all the common varieties. American varieties are somewhat tolerant, but European grapes will be killed. This disorder may be overcome by growing susceptible varieties on a resistant rootstock.

The rootstocks used are primarily of American species or species x species crosses. German researchers have developed a group of rootstocks based on *V. rupestris* x *V. berlandieri*, including 5A, 5BB, 5C and SO-4 as the most important. French workers have also produced

rootstocks with Couderc 3309, 3306, 1616, and 1613 being the most significant. Many other rootstocks, such as Riparia Gliore, Rupestris St. George, AXR No. 1, Dog Ridge, and Salt Creek, are used in California and are appropriate for conditions there.

There is no consensus on which rootstocks are best for use in Eastern viticulture. Trials at Geneva, New York suggest that C.3309 is acceptable, and that Teleki 5-A is superior. German researchers suggest that some rootstock-soil combinations are of better quality than others. The validity of that assertion for Michigan and other Great Lakes areas remains to be determined.

Suggested Varieties and Quantities to Plant for a Home Planting

Use	Variety*	Number of vines
Juice, Jelly Jam	Concord	2-3**
	Moore's Early	2-3**
	Fredonia	3-4**
	Niagara	1-2**
Seedless Table Grapes	Himrod	1-2
	Lakemont	1-2
	Canadice	2-3
	Concord Seedless	3-4
Seeded Table Grapes	Seneca	1-2
	Alden	1-2
	N.Y. Muscat	1-2
	Ontario	1-2
Wine Grapes	Vignoles	15-20
	Vidal blanc +	10-15
	Seyval	15
	Foch	15
	Chancellor	15

*Listed in order of quality

**Number of vines to give 2 to 3 gal. of juice

+ Growing season length must be at least 160 to 165 days long

Descriptions of Grape Varieties for Home and Commercial Vineyards

Vitis labruscana

Variety	Color	Hardiness	Growing Season*	Special Problems	Uses	Remarks
Concord	Blue	V. Hardy	165	Early spring growth can cause spring frost damage in some years.	Excellent for juice, jelly or jam. Best as a sweet wine with a grapey flavor.	Vine vigorous and productive.
Niagara	White	Hardy	155		Table or dessert quality. Strong grapey flavor. Makes nice sweet wine. Used extensively for cream sherry production.	Vine vigorous and productive.
Delaware	Pink-Red	Hardy	160	Avoid heavy soils. Foliage susceptible to mildew.	Excellent quality for desserts and sparkling wines. If pressed without fermenting on skins, gives a pleasant, fruity, dry table wine.	Vine low in vigor. Yield improved by using grafted plants on a four-wire trellis.
Catawba	Red	Hardy	170		Used widely—distinct taste of <i>V. labrusca</i> . Pleasant white wine. Base for some commercial pink juice products.	Bunch-thinning hastens maturity and improves quality without crop reduction.
Campbell Early	Blue	Hardy	145	Cannot be held long after harvest for dessert use.	Good dessert quality when grown under ideal conditions.	Vine moderately vigorous.
Fredonia	Blue	Hardy	150		Good dessert quality.	Not consistently productive.
Moore's Early	Blue	Hardy	145	Berries may crack badly.	Good dessert quality.	Very similar to Concord in fresh quality.

Mixed species Hybrids

Himrod	White	Medium	135	Susceptible to black rot. Cluster shatters when ripe. Brittle stems make harvesting difficult.	Table or dessert quality. Good for home plantings.	Very vigorous vines. Clusters large, rather loose. Berries small-medium, very sweet.
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*(Days required for ripening)

continued

Mixed Species Hybrids, Cont.

Variety	Color	Hardiness	Growing Season*	Special Problems	Uses	Remarks
Romulus	White	Medium	140	Susceptible to mildew.	Table or dessert quality. Good for home plantings.	Good quality where season long enough to ripen well.
Interlaken	White	Medium-Tender	145	Susceptible to mildew.	Table or dessert use.	Clusters medium and loose. Berry size small.
Suffolk Red	Bright Pink	Medium-Tender	145	Excessive vigor.	Excellent quality fruit.	Grows vigorously on sandy loams, but will not set a crop. Recommended for heavier soils.
Concord seedless	Blue	V. Hardy	165	Very low yields.	Dessert quality especially for pies.	Small cluster and berries.
Lakemont	White	Medium	150	Tends to overbear. Crop control essential. Requires control of powdery and downy mildew.	Superior quality fruit.	Large, compact cluster. Berries small. Fruit keeps well in cold storage. Vine vigorous.
Canadice	Red	Hardy	140		Table grape of excellent quality.	Well-filled clusters of medium-size berries. Medium-vigor vine. Fruit tastes like Delaware.

Seeded Table Grapes

Alden	Blue-Black	Medium	150	Must be controlled by short pruning or cluster thinning and berry thinning	Very good dessert quality. Good for home plantings.	Large clusters, large berries. Slight muscat flavor. Non-slip skin type.
New York Muscat	Reddish-Blue	Medium	155		Table or dessert use.	Medium-loose clusters of medium-size berries. Vine moderately vigorous. Soil drainage very important.
Ontario	White	Medium	145	Downy and powdery mildew may cause problems. Berries crack as they ripen.	Table or dessert quality. Good for home plantings.	Vines vigorous and productive. High quality variety. Medium size berry on a medium, compact cluster. Best early American-type white grape.
Seneca	White	Medium	145	Requires control of powdery and downy mildew to ensure full hardiness of wood. May require bird control.	Has table or dessert qualities.	Vine vigorous and productive.

*Days required for ripening

French-American Hybrid Wine Grapes

Variety	Color	Hardiness	Growing Season*	Special Problems	Uses	Remarks
Baco Noir (Baco #1)	Blue	Medium	155	Extremely disease resistant. Tendency to develop crown gall on low sites and/or heavy soils.	Wine quality depends on how the wine handled, but potential very good.	Vigorous, very productive. Produces 4-5 tons even after cold damage. Makes a beautiful trellis or arbor. Prune to long canes. Small berries and clusters. Most widely grown red wine grape.
DeChaunac (Seibel 9549)	Blue	Hardy	155	Over-produces unless cluster thinned.	Wine makes a good Rosé. Heavily pigmented.	Vine vigorous, productive. Requires detailed cluster thinning. Clusters medium-to-large, yet somewhat loose.
Chancellor (Seibel 7053)	Black	Medium	155	Very susceptible to downy mildew. Crown gall can result from winter damage if vine is over-cropped.	Red wine quality excellent, makes strong Bordeaux style.	Medium vigor, large cluster.
Chelois (Seibel 10878)	Black	Medium	160	Winter injury may induce crown gall. Tendency for green berries in the ripe cluster. Cluster thinning important to reduce crown gall. Subject to <i>Eutypa</i> dieback disease.	Good wine for blending.	Vigorous, productive. Large clusters, medium berries.
Foch (Kuhlman 188-2)	Blue	V. Hardy	140	Avoid heavy soils. Susceptible to phylloxera.	Wine acceptable. Outstanding bouquet, but frequently wine is thin. Blends well. Excellent as a Rosé.	Moderately-vigorous, small, tight clusters of small berries
Cascade (Seibel 13053)	Blue	Hardy	145	Bird protection is recommended. Prune to short canes.	Makes fair Rosé or light red wine desirable for blending.	Medium vigor. Cluster long and loose.
Aurore (Seibel 5279)	White	Hardy	140	Berries tend to split on the vine in rainy weather. Susceptible to black rot.	Wine thin and neutral. Aftertaste described as herbaceous. Best when blended. Makes a pleasant juice.	Moderately vigorous. Long clustered. High production. Use low-head training.

Days required for ripening

continued

French-American Hybrid Wine Grapes, Cont.

Variety	Color	Hardiness	Growing Season*	Special Problems	Uses	Remarks
Vignoles (Ravat 51)	White	Hardy	165	Tight, compact clusters may become a rot problem in a wet season.	Wine quality excellent. Produces an outstanding fruity character.	Best quality of the white hybrids in Michigan. Small, tightly compact cluster. Not a heavy producer.
Seyval (Seyve-Villard 5-275)	White	Medium	160	Susceptible to black rot and mildew. <i>Botrytis</i> infections often occur during dry ripening seasons. Somewhat susceptible to the leaf-gall stage of phylloxera. Severe pruning or detailed cluster thinning is necessary.	One of the best wine grapes. Pleasant as dessert grape.	Moderately vigorous. Large, compact clusters must be cluster thinned or will over-produce. Low vigor.
Seibel 10868	Pink-Blush	Medium	165	Prune to spurs or short canes. Plant only on superior sites. Lacks hardiness, which may be alleviated by cluster thinning.	If properly handled, produces a good wine. If fruit is picked too early, the wine will produce grassy, herbaceous smell. Fruity and delicate taste.	Produces large, compact cluster. Low vigor.
Vidal blanc (Vidal 256)	Green/White	Medium	170	Plant on superior sites. Cluster thinning advisable to maintain vine size. Wood matures late in the season and winter injury may be a problem.	Outstanding, versatile wine for dry, semi-sweet flavor or champagne.	Late ripening has restricted it to southwestern Michigan. Most important white wine grape in Michigan. Produces medium-long, compact clusters. Very vigorous.

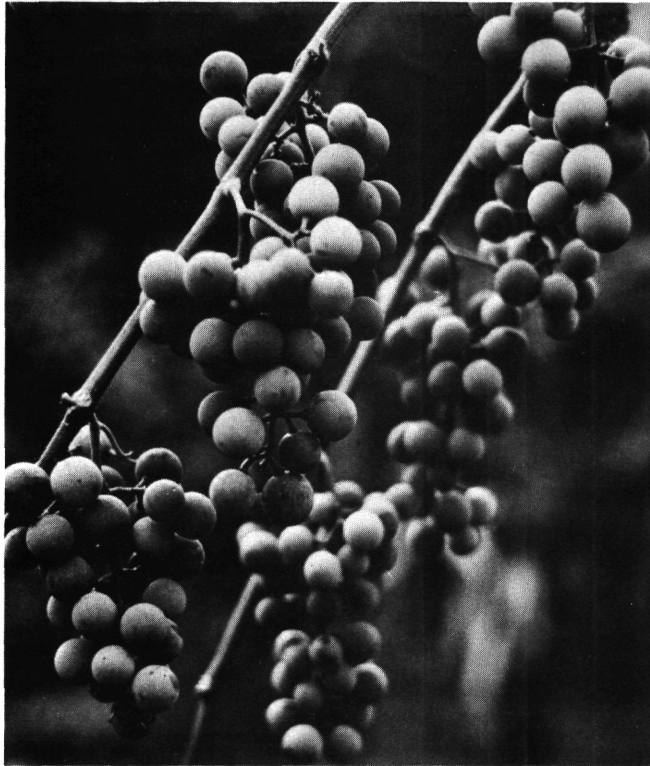
*Days required for ripening

Vinifera Wine Grapes.

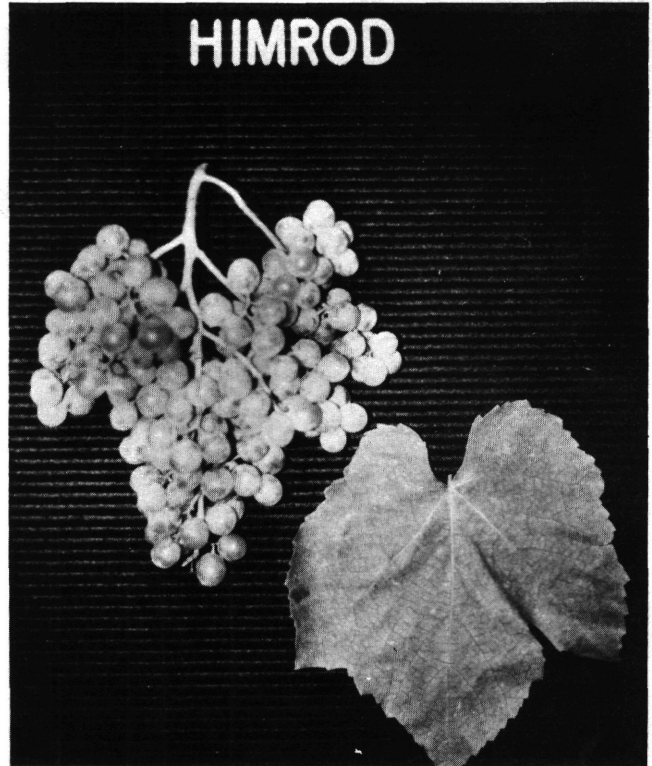
Rated tender, *V. vinifera* require special care and protection if they are to survive. Cover graft union with soil, choose superior site, use superior management techniques.

Variety	Color	Hardiness	Growing Season*	Special Problems	Uses
Chardonnay	White/ Green	Tender	145	Very susceptible to downy and powdery mildew. Must be grafted on phylloxera-resistant rootstocks.	Produces outstanding wines. Variety from which white burgundies and Champagnes of France are produced.
White Riesling	White/ Green	Tender	160	Very susceptible to downy and powdery mildew. Phylloxera-susceptible. Must be grafted.	Produces outstanding wines. Variety from which the best wines in Germany are made. Has good varietal character.
Pinto noir	Blue	Tender	145	Fruit tends to crack in wet weather.	Red wine grape from which burgundies are made.
Cabernet Sauvignon	Blue	Tender	Very Late (not likely to ripen in Michigan).	Fruit tends to crack in wet weather	Produces outstanding wines.
Gewurztraminer	White/ Bronze	Tender	155	Fruit tends to crack in wet weather.	Produces wine with a spicy, aromatic character.

*Days required for ripening



Concord at Veraison (color change).



Himrod—a white, seedless table grape.



S.10868—an experimental wine grape.



White Riesling—European wine grape.

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