

it is not likely that red wine cultivar acreage will increase in the established areas of the U.S. In Canada, however, where the competition from California with its excellent red wine quality is not so intense, a continued expansion in planting of red French American cultivars is likely (Table 5). Cultivars like De Chaunac and Marechal Foch are currently being planted, but other French American cultivars may yet supplant them as more experience is gained. In the regions with higher summer mean maximum temperatures such as the Hudson Valley in New York, Southeastern Pennsylvania, New Jersey and Delaware, the red

wine quality potential is higher and some expansion of red French American cultivars would seem to be reasonable.

All of the above named cultivars need improvement. For example, none of the high quality white cultivars now available have sufficient cold hardiness nor disease resistance. Active wine grape breeding programs are in effect in Vineland, Ontario and Geneva, N.Y., and these stations which are selecting cultivars under local conditions may be the source of the future cold hardy, disease resistant cultivars from which quality table wines will be produced in the future.

Grape Production in Four North Central States and Kentucky

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The purpose of this report is to provide an update on grape production in Michigan, Ohio, Indiana, Kentucky and Illinois. It represents an authoritative but not official estimate of the grape acreage, cultivars and location within the 5 state areas.

Areas and Acreage

Grape production areas in these 5 Central states are widely scattered (Fig. 1). However, it should be noted that the most predominant grape growing areas are near large bodies of water; to the east or southeast of Lake Michigan and Lake Erie. The size of the designated areas, outlined in black on Fig. 1, is by no means an indication of the acreage involved. For, as an example, Table 1, Michigan has nearly four times the acreage (15,700) as its nearest rival, Ohio (4000). Other states are reduced significantly from that in Ohio. Indiana,

Kentucky, and Illinois have 450, 120 and 100 acres, respectively. The total acreage in the region approaches 21,000 acres.

Cultivars

Concord (*Vitus labrusca* L.) is still the predominant cultivar (Table 1), but this percentage varies widely from state to state. Although the French-American hybrids are the predominant type in two states (Indiana and Kentucky), when broken down to individual cultivars they would probably not exceed Concord (Table 4). A brief discussion will now be presented on the conditions within each state to show the previous, present and future outlook.

State Conditions and Projections Michigan

Information Source: Dr. G. S. Howell, Professor and Extension Horticult-

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Table 1. Approximate grape acreage in 5 states and their distribution by cultivar.

Cultivar	Michigan	Ohio	Indiana	Kentucky	Illinois
Total/A	15,700	4,000	450	120	100
	Percent Distribution				
<i>V. labrusca</i>					
Concord	90	65	35	10	80
Catawba		15	1	10	Tr
Niagara	4	4	Tr	Tr	5
Delaware	1	Tr	Tr	Tr	5
French Hybrids	5	15	64	80	10
<i>V. vinifera</i>	Tr	1	Tr	—	—

turist, Department of Horticulture, Michigan State University, reporting.

Total acreage, 15,700; located (from high to low) in Berrien, Van Buren, Cass, Allegan, and Leelanau counties. A small acreage is also located in Oceana county and in eastern Michigan. Concord (Table 1) presently accounts for 90% of the production. Niagara is a distant second with 4%. Collectively, all the French-American hybrids account for approximately 5% of the acreage and Delaware with 1%. Acreage of Catawba is noticeably absent. Non-Concord type table grapes are just being planted and will probably increase in the future.

Concord acreage has declined by nearly 1,500 acres during the past 10 years. New cultivars for wine and Niagara expansion for juice have added that much back. Grapes are now being cultivated in what was formerly considered "non-grape" areas because of the shorter growing season of the wine cultivars. There is some experimentation with *Vitis vinifera*.

The projected cultivars for future plantings will probably be white hybrids for wine; largely Vidal and Seyval Blanc and Vignoles. Acreage around Traverse City and south along the Lake Michigan shore line are expected to increase. The primary use of these grapes will be for wine, but

some small plantings will probably be made of table grapes.

The number of producers is expected to decline as acreages are consolidated. The number of new, young, aggressive growers is increasing .

Ohio

Information Source: Garth A. Cahoon, Professor and Extension Horticulturist, Department of Horticulture, Ohio Agricultural Research and Development Center.

Present acreage is stable at approximately 4,000. Predominant counties involved from highest to lowest include Ashtabula, Lake, Ottawa, Erie, Lorain, Geauga, Warren, Miami and several others. As shown by Table 2, this is a decline of 500 acres from twenty years ago (2). Over this period there has been a decline in Concord acreage of approximately 21% (86% to 65%). Today, approximately 30% of the Concord production goes for wine. Catawba and French-American hybrid production, nearly all of which goes for wine, has increased from 9% to 15% and 2% to 15%, respectively, over this same 20-year period. Niagara acreage has remained rather constant. Vinifera acreage occupies more than 1% of the total and may be approaching 2%. Approximately 50 acres of these plantings are located

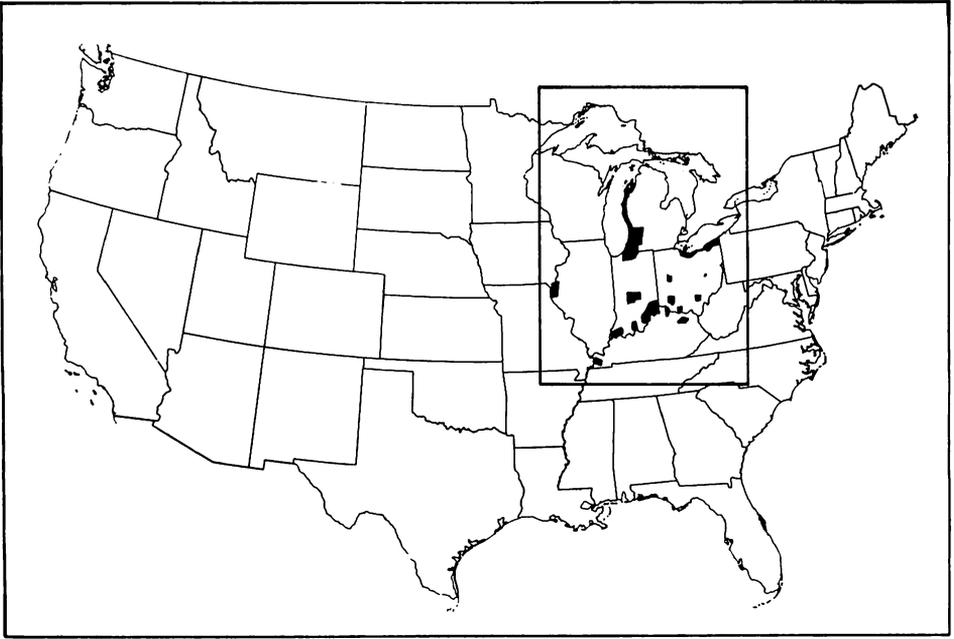


Fig. 1.

on the Isle of St. George (North Bass Island) with the remainder near the south shore of Lake Erie in northeast Ohio.

A survey conducted in 1975 (Table 3) showed that the northeast Ohio section is strongly dominated by Concord (91%). A majority of this production is used for processing into unfermented juice and jelly products. The north central section is nearly equally divided between Concord (46%) and Catawba (45%). The other grape growing areas of the state are strongly dominated by the French-American hybrids (71%+). Primary use is for wine. Like Michigan, there are small plantings for pick-your-own and table use. These will continue to expand. The west central section now has approximately 100 acres of grapes that has been developed over the past 5 years. Sprinkler irrigation is being

used by growers to protect against spring frosts.

Since Ohio's wine industry is continuing to expand, (41 bonded wineries as of 1979) most of the new plantings will be white French-American hybrids and *V. vinifera* cultivars. Acreage of Seyval and Vidal Blanc continues to expand. Villard Blanc has shown extensive winter damage during the past 3 years and no significant acreage is being planted. Vigor is frequently a problem on several of the hybrids.

New plantings continue to be scattered all around the state.

Indiana

Information Source: Richard A. Hayden, Professor and Extension Horticulturist, Department of Horticulture, Purdue University reporting.

Grape acreage in Indiana is estimated at 450. Predominant counties

Table 2. Changes in Ohio grape production acreage and cultivar. 1959-1979.

	1959	1965	1968	1975	1979
Total Acreage	4,500	4,000	3,700	3,800	4,000
	Percent Distribution				
<i>V. labrusca</i>					
Concord	86	83	77	68	65
Catawba	8	10	13	13	15
Niagara	4	4	3	4	4
French Hybrids	2	2	7	13	15
<i>V. vinifera</i>			Tr	0.5	1

not necessarily in order of importance are: LaPorte, St. Joseph, Monroe, Jefferson, Switzerland, Vandeburgh and Posey. The plantings (Fig. 1), are scattered in several areas of the state, but mostly in the south and near Lake Michigan.

Indiana's grape industry has developed rapidly since the passage of a small winery act of 1971. All the French-American hybrids, which account for 64% of the acreage, have been planted since that time (Table 1). The Concord acreage which represents 35% of the total has changed little during the past 10 years. If anything, it has decreased. The major surge in French-American hybrid plantings was in 1975, and have plateaued since.

The cultivars presently being planted will continue to increase. They are: Concord (30%), Seyval Blanc (13%), Baco Noir (10%), DeChaunac (9%), Aurore (6.5%), Vidal Blanc (6%), Foch (5%), and Chelois (3%). These figures are estimates but represent the best information available. Like other states, many more cultivars, primarily the French-American hybrids, have been planted in small quantities but are not listed. In the future many of these will cease to exist as suitability and adaptability for Indiana climates and winery needs are determined. There is also some interest in table

grapes, but no significant acreage as yet exists.

In the wine industry, the extreme southern areas will probably increase slightly while others will remain stable or decrease. A large grape industry is not in future predictions. The pick-your-own and direct-to-consumer markets may help stabilize uncertain market conditions.

Juice and wine will remain the major uses for grapes. Dessert quality grapes are not yet in large enough supply to have an impact on the market, but should increase.

Winter injury remains as the major limitation to production in growing French-American hybrids. Most of the cultivars selected and showing success are based upon this factor.

Kentucky

Information Source: C. E. Chaplin, Professor of Horticulture, University of Kentucky reporting.

Present acreage stands at approximately 120. Nearly all of this has been planted in the past 5 years. Since the recent passage of a small winery bill in 1977, considerable interest has developed in the French-American hybrids. Counties involved are primarily Bourbon, Hickman and Campbell. Two new wineries are located in Paris and Fulton, Kentucky.

Table 3. Predominant cultivars in various sections of Ohio, 1975.

Section — Cultivar	% of Total
North East — Concord	91
North Central — Concord	46
North Central — Catawba	45
West Central — French hybrids	74
South West — French hybrids	74
South East — French hybrids	71

Future projections indicate that the major acreage increase will come from a demand for French-American cultivars for wine. Predominant cultivars being planted include *Aurore*, *Seyval*, and *Vidal Blanc* for white and *Foch*, *DeChaunac* and *Chancellor* for red wine.

Concord and such seedless cultivars as *Himrod*, *Lakemont*, *Suffolk Red* and *Venus* are being explored for fresh market utilization.

Although grapes have not been important historically in Kentucky, there is considerable interest developing in recent months. As tobacco becomes a less desirable crop to grow and small wineries develop, interest may be further stimulated.

Illinois

Information Source: Daniel B. Meador, Professor and Extension Horticulturist, Department of Horticulture, University of Illinois reporting.

Total acreage for the state stands at approximately 100. Fifty acres are located in and around Nauvoo with another 50 acres scattered around the state in ½ to 1 acre plantings. The primary county is Hancock. Concord is the primary cultivar (80%) followed by *Niagara* and *Delaware* (5% each). All others account for approximately another 10%. All cultivars are used fresh, for juice, and for wine.

Table 4. Predominant French-American hybrid and *V. vinifera* cultivars grown in the 4 North Central states and Kentucky.

Black	White
<i>French-American Hybrids</i>	
Boca noir (Baco #1)	Vidal (V.256)
M. Foch (Kuhlman 188-2)	Aurore (S.5279)
	Seyval (S.V.5276)
DeChaunac (S.9549)	Vignoles (R.51)
Chancellor (S.7053)	Villard (S.V.12-
Chelois (S. 10878)	375)
<i>Vitis vinifera</i>	
Cabernet Sauvignon	Pinot Chardonnay
	White Riesling

There have been few changes in the past 10 years. Some French-American hybrids have been planted (included in the 10%).

For the future only slight increases are projected. These vineyards will be a U-pick or for roadside markets only.

Illinois remains a corn and phenoxy herbicide state which does not have a small winery law. Grape production will therefore, remain small.

SUMMARY

All the states discussed have several things in common. The major change in direction is that acreage of French-American hybrids is increasing in all areas. This has come about through a demand for quality wine grapes that are more neutral in flavor. Concord, Catawba, and *Niagara* are still strongly represented. Michigan and Ohio remain predominantly Concord producing states, but are consistently losing ground to the hybrids.

Small winery acts in Indiana and Kentucky have contributed to the development of a flourishing industry in these two states, although they are

yet in their infancy, their grape industries should continue to grow.

As shown by Table 4, the French-American hybrids being grown do not differ widely in any of the 5 states. As stated by one report, "Many cultivars are being tried but we will probably settle back to a few that have sufficient cold hardiness to withstand our winters."

Vinifera is expanding in Ohio. Predominant varieties are Cabernet Sauvignon, White Riesling and Pinot

Chardonnay. Just what the future will bring with these cultivars is still in doubt and will depend on the severity of our winters the next few years.

References

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2. Tucker, Dan. C., Eldon E. Houghton, Robert L. Griffith and Charles T. Evans. 1968. Ohio Fruit Tree and Vineyard Survey. Ohio Crop Reporting Service.

Grape Cultivar Situation in Arkansas, Missouri, Oklahoma and Texas

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There is a long history of interest and activity in grape growing in the four state area of Arkansas, Missouri, Oklahoma, and Texas. Prior to prohibition, the production was mostly utilized as wine. In more recent years, a major unfermented juice industry has developed in Arkansas and Missouri, and the wine industry has made rapid growth in all four states. Over 5,000 acres of grapes are presently grown in this four state region, with the majority found in Arkansas and Missouri (Table 1). With the exception of Oklahoma, all states expect an increased acreage in the near future.

Arkansas

The cultivar most planted in Arkansas is Concord, occupying 1,652 acres, and used almost entirely for the unfermented juice industry. The wine industry uses a large number of cultivars including Niagara, Catawba, Delaware, Baco Noir, Cynthiana, Vil-

lard Noir, Seyval, Aurore, and Verdellet. Recently, some pure *Vitis vinifera* cultivars have been planted for high quality wine production in central Arkansas.

About 100 acres each of Campbell's Early and Fredonia are grown for local and roadside markets. The recent introduction of a blue seedless cultivar, Venus, by the Arkansas Agricultural Experiment Station has increased interest in table grape production. Muscadine grapes are adapted in large areas of central, south, and eastern Arkansas, but there are less than 50 acres in cultivation.

Arkansas has an extensive grape breeding and testing program in progress with emphasis on the development of table grapes. A recent cooperative agreement with the enology laboratory at Mississippi State University will result in greater future effort in wine grape breeding.

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