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Grape Cultivars — Northeast Region

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The states and provinces in this report include those which have a long established grape industry and those which do not. Emphasis will be placed on grape production where there is an established industry. Cultivars grown in the other areas are similar, however, because the vines are subject to similar environmental, pathogen and marketing pressures as are found in the primary producing areas. These pressures include a relatively short growing season and winter cold for the New England states, and summer environments which are favorable for disease development in the more southern Atlantic region (New Jersey, Southeastern Pennsylvania and Maryland).

The primary difference between newer regions and the more established areas is in their market options. It is unlikely that a large industry based on the sale of grapes to be processed into juice, jam and jelly will become established in these districts, and growth will have to be in fresh table grape and wine sales.

The 1978 production of the ten leading cultivars for New York, Pennsylvania and Ontario is given in Tables 1 - 3. It is apparent that a single cultivar, Concord, dominates in all three regions. Further, native American (*Vitis labrusca* derived) cultivars are dominant. This is true because, as a class, the American cultivars are well adapted; containing considerable resistance to winter cold, fungus diseases and phylloxera. Not as apparent

has been the revolution in cultivars grown in the area during recent years. The introduction of French American cultivars has enhanced grower options and acreage of these cultivars has increased to the point where they are well represented on the lists of leading cultivars. Compared to the American cultivars, there is relatively little grower experience with these "new" cultivars. The eastern grape industry has been in a "sorting-out" period during which growers and researchers have been learning (1) what changes in cultural practices are needed to grow these cultivars, (2) which cultivars are well adapted to the region and, (3) what is the quality potential of the fruit. More recently there has been an increase in attempts to grow cultivars of *V. vinifera* on other than an experimental or very small commercial basis. A similar sorting out period in which methodologies for growing these cultivars in the Northeast are evaluated and their economic potential established can be anticipated.

Juice Grapes: In an era of expansion, the juice segment of the industry has been a bastion of stability. In 1978, 52.2%, 75.3% and 20.2% of the total grape crops in New York, Pennsylvania and Ontario, respectively were processed for juice or preserves. This industry is dominated by a single cultivar, Concord. Attempts to introduce improved cultivars to make a Concord-like juice have been failures. Another cultivar, Fredonia, is used to

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some extent to make a blue juice, but the only advantage it offers is early ripening. There has been no expansion in the acreage of Fredonia and some reduction in Ontario (Table 4). There has been a modest increase in recent years in the use of Niagara for white juice and Catawba for red juice. Although this market is stable, it is growing. On a national basis in 1979 there was some expansion of acreage contracted by the National Grape Cooperative, largest juice manufacturer in the U.S. It seems likely that increased demand for Concord grapes can be met by increasing the productivity of existing acreage through practices like GDC training or by absorbing some of the excess crop presently being utilized by wineries.

Table grapes: Table grape production is relatively small in the East, but there is interest in expansion. In 1976, the last year records are available, 4,500 tons of New York produced grapes were sold unprocessed. The bulk of grapes entering the fresh market are Concorde, but trial plantings of newer table grape cultivars for pick-your-own and roadside sales are being planted throughout the area. The emphasis in these operations is on Geneva-introduced seedless cultivars, i.e. Himrod, Lakemont, Interlaken, Suffolk Red, and the newly introduced, winter hardy, Canadice. Several seeded cultivars are available which are widely adapted. Most prominent of these are Steuben, Alden and Yates. Steuben is useful for pick-your-own operations because in addition to good eating quality, it makes good juice and jelly and an acceptable American-type rosé wine. Yates is grown primarily for storage and it is utilized by some roadside stand operators in mixed fruit baskets for the Thanksgiving and Christmas trade.

Several new table grape cultivars have been released in recent years. Century I from Virginia and Festevee

from Ontario are high quality cultivars which do not appear to have sufficient winter hardiness to be widely adapted in the region. Venus is a new seedless cultivar from Arkansas with high quality, but there has not yet been enough experience to evaluate its adaptation under Eastern conditions. Three newer cultivars from Virginia appear to be well adapted and to offer certain advantages. Alwood and Price are early maturing seeded, labrusca-type cultivars that ripen before Concord. Monticello is similar in appearance and flavor to Steuben, but matures 7-10 days earlier.

There is a continuing need for winter hardy, disease resistant seedless cultivars and for adapted seeded cultivars which combine high quality with good handling and storage attributes.

Wine grapes: Rapid changes in wine cultivars are in progress. The primary impetus for these changes is the spectacular growth in wine sales in the U.S., especially that of table wines. In the ten year period, 1969-1978, sales of all wines in the U.S. has increased by 83% while sales of table wines has increased by 168%. This change in consumer preference has left the eastern wine market with a cultivar imbalance. The eastern market has traditionally been strong in the production of dessert wines but the sales of this wine type have not kept pace with general wine sales. As a result, the eastern states suffered a 7% loss in their share of the market in 1978.

The growth in production of French American cultivars is in response to market pressures. It is likely that growth in the eastern wine market will be made on the present strong base of American cultivars. Concord based dessert wines have an established reputation for excellence and should be able to maintain their share of the

Table 1. Grape production in New York in 1978. Leading ten cultivars received by processors.¹

Rank	Cultivar	Tons Produced	% of Total 1978 Production	Origin of Cultivar	Primary Use(s)
1.	Concord	125,243	68.8	American	Juice, Wine, Fresh
2.	Catawba	15,137	8.3	American	Wine
3.	Niagara	10,716	5.9	American	Juice, Wine
4.	Aurore	7,407	4.1	French American	Wine
5.	Delaware	4,611	2.5	American	Wine
6.	DeChaunac	4,302	2.4	French American	Wine
7.	Elvira	2,792	1.5	American	Wine
8.	Baco Noir	2,246	1.2	French American	Wine
9.	Ives	1,744	1.0	American	Wine
10.	Rougeon	1,420	0.8	French American	Wine
Total		181,911			

¹Source: Suter, G. W., P. F. Bascom and A. E. Carpenter. 1979. Survey of Wineries and Grape Processing Plants in NY. N.Y. Crop Reporting Service. No. 2-79.

Table 2. Grape production in Pennsylvania in 1978. Cultivars or classes of cultivars received by processors.¹

Rank	Cultivar or Class	Tons Produced	% of Total 1978 Production	Primary Use(s)
1.	Concord	52,112	92.7	Juice, Wine, Fresh
2.	Catawba	1,523	2.7	Wine
3.	Niagara	1,300	2.3	Wine, Juice
4.	French American	770	1.4	Wine
5.	Delaware	239	0.4	Wine
6.	Other American Cultivars	179	0.3	Wine
7.	Fredonia	56	0.1	Wine, Juice
8.	Dutchess	45	0.1	Wine
9.	Other	18	<0.1	
Total		56,242		

¹Source: Cadwallader, C. L. 1979. Pennsylvania Fruit. Pennsylvania Crop Reporting Service.

Table 3. Grape production in Ontario in 1978. Leading ten cultivars received by processors.¹

Rank	Cultivars	Tons Produced	% of Total 1978 Production	Origin of Cultivar	Primary Use(s)
1.	Concord	21,030	33.3	American	Juice, Wine, Fresh
2.	Niagara	7,801	12.4	American	Juice, Wine
3.	Elvira	7,393	11.7	American	Wine
4.	DeChaunac	5,501	8.7	French American	Wine
5.	Agawam	3,722	5.9	American	Wine
6.	Catawba	3,189	5.0	American	Wine
7.	Marechal Foch	2,658	4.2	French American	Wine
8.	Delaware	1,502	2.4	American	Wine
9.	Dutchess	1,305	2.1	American	Wine
10.	President	1,126	1.8	American	Wine
Total		63,153			

¹Source: ————. 1979. Thirty-first Annual Report of the Ontario Grape Growers' Marketing Board.

Table 4. Cultivars in which there was a net reduction of vines in Ontario during 1978.¹

Cultivar	No. Vines Removed	% Change 1978/1977
1. Concord	87,910	-1.9
2. Niagara	74,197	-4.9
3. Chelois	24,262	-6.0
4. Agawam	20,962	-3.1
5. Fredonia	18,131	-3.1
6. Elvira	10,882	-1.2
7. President	5,345	-3.0
8. Veeport	2,292	-1.5

¹Source: ————. 1979. Thirty-first Annual Report of the Ontario Grape Growers' Marketing Board.

market. Well adapted varieties like Delaware which are used in the production of sparkling wines will continue to be in demand. Other white wine cultivars which offer winter hardiness such as Elvira, or high quality such as Dutchess, will continue to have a place in the eastern wine industry. However, *V. labrusca* derived red wine grapes are likely to become of less importance in the future. These trends are well illustrated in tables 4 and 5 which show the changes in planting in Ontario during 1978. Greatest reduction in numbers were with the red American cultivars, Concord, Agawam, Fredonia, President and Veeport and in the intensely *labrusca* flavored white grape, Niagara (Table 4). The reduction in Elvira was matched by an increase in Ventura, an introduction from Vineland, Ontario, which combines the desirable features of Elvira with fruit cracking resistance. The reduction in the red French American cultivar, Chelois, reflects a lack of sufficient winter hardiness.

New plantings reflect the current needs of the marketplace (Table 5). It is of interest that the three leading cultivars planted in 1978 are from three distinct sources of germplasm, and that they each represent the high-

Table 5. Cultivars in which there was a net increase in vines in Ontario during 1978.¹

Cultivar	No. Vines Planted	% Change 1978/1977
1. Seyval	83,520	- ^a
2. White Riesling	53,894	52.6
3. Dutchess	51,090	15.2
4. Marechal Foch	37,965	6.6
5. Chardonnay	33,833	40.8
6. Ventura	22,962	16.1
7. Gamay	21,570	33.6
8. Delaware	14,890	2.5
9. DeChaunac	9,126	0.7
10. le Commandant	6,270	3.9
11. New York Muscat	2,813	2.4
12. Catawba	150	0.1
Total	338,083	2.4

^aNo separate statistics were kept for Seyval in 1977.

¹Source: ————. 1979. Thirty-first Annual Report of the Ontario Grape Growers' Marketing Board.

est quality white table wine potential of their respective class. The leading cultivar in new plantings, Seyval, is a French American cultivar, the second, White Riesling is a cultivar of *V. vinifera* and the third, Dutchess, is a native American cultivar.

In sum, it can be anticipated that there will be increases in the acreage of white wine cultivars which will produce high quality dry or nearly dry table wines. In addition to those listed above, the French American cultivars, Vidal 256 and Vignoles offer promise as do two newer cultivars released from breeding programs in the area, Veeblanc from Vineland and Cayuga White from Geneva. There will be increasing experiences with European cultivars, Chardonnay and White Riesling, leading the way. These two cultivars combine maximum hardiness potential within *V. vinifera* and proven wine quality potential. In New York, expansion of *V. vinifera* production on Long Island, a unique climatic zone for this state, is anticipated.

Until the marketing picture changes

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

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