

Apple Cultivars Grown in Canada

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Apple growing in Canada can be traced back to the early 17th century to Louis Hébert, who sailed from France to Canada as Champlain's apothecary. Hébert planted vegetables where Quebec City now stands, and on the height above the St. Charles River he planted an orchard of apple trees sent to him from Normandy. It is thought that the Fameuse cultivar originated in this, or subsequently planted, orchards. Today Fameuse accounts for 2 per cent of Quebec's apples.

Apple growing regions and production. The locations of the five principal apple growing regions of Canada are shown on the map (Fig. 1). These five regions fall into two climatic categories—one that has a relatively mild climate (British Columbia and Ontario), and another that has a harsh climate (Quebec, New Brunswick and Nova Scotia). Only the hardier cultivars can be grown in Quebec, New Brunswick and Nova Scotia.

Production in British Columbia, Ontario and Quebec accounts for

about 90 per cent of Canada's total (Fig. 1, Table 1). While most of Canada's apples are grown for the fresh market, a high percentage of Ontario and Nova Scotia's apples are processed (Table 1). Cultivars suitable for processing, such as Northern Spy, Cortland and Gravenstein, are grown in these Provinces (Table 2).

Apple cultivars presently grown. Canada's major apple cultivar is McIntosh (Tables 2 and 3). It is the major cultivar in all Provinces except British Columbia where Delicious predominates. Because of a problem with producing high quality McIntosh, replacements have been sought. Spartan falls into this category, although it is extensively planted only in British Columbia (Table 2). Delicious is Canada's No. 2 apple and with extensive planting in the last decade may in the future replace McIntosh. In the 8 years (1969-76) McIntosh yields were fairly consistent (Table 3). Over the same period Delicious and Spartan production increased, while Winesap, Fameuse, Gravenstein, Lobo,

Table 1. Apples grown and used for the fresh market or processing in Canada in 1975.*

Province	Production		Disposal of crop (%)	
	'000 lbs.	% of Canadian crop	Fresh	Processed
British Columbia		36.0		
Ontario		28.5		
Quebec		23.5		
New Brunswick		1.3		
Nova Scotia		10.7	38.7	61.3
Canada		100.0	59.8	40.2

*Source: Food Systems Branch, Agriculture Canada, Ottawa.

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²The author is indebted to numerous people for their help in preparing this manuscript. In particular the author would like to thank Evans Estabrooks, Dave Crowe, Raymond Granger, Stan Leuty, Ted Swales and John Vandenberg.

Wagener, Russet and Greening production decreased.

Trends in the cultivar picture. It is difficult to examine cultivar trends on a national basis because of somewhat different provincial preferences. Certain trends are very obvious when provincial tree statistics are examined.

British Columbia. During the last 8 years McIntosh, Delicious and Spartan production has increased, Newtown, Rome and Golden Delicious production has decreased (Table 4). According to Swales, (private communication) the use of calcium dips to overcome storage breakdown problems (2) has fostered increased planting of Spartans; therefore production of this cultivar will continue to increase. Swales also indicated that the most recent plantings of McIntosh have been of the spur-types rather than the regular strains. These spur-types originated in British Columbia and were described by Fisher (1). Planting of Golden Delicious is tapering off and, in addition, some growers are removing trees of this cultivar because of poor quality fruit and hence, poor returns. It is expected that Golden Delicious production will reach a peak within the next five years and then remain constant, or even decline. Delicious will continue to

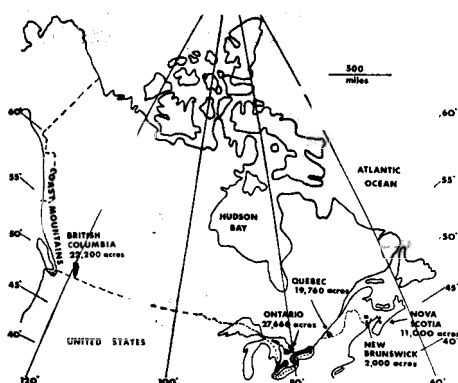


Fig. 1. Apple growing regions of Canada.

be British Columbia's major apple cultivar.

Ontario. McIntosh continues to be the leading apple cultivar in Ontario (Table 2); however, dramatic changes are taking place (Table 5). While McIntosh has accounted for at least 33% of the trees over the last 20 years, Delicious has increased in popularity from 11 to 24%, and Northern Spy declined from 20 to 13%. Approximately 47% of the Delicious trees were under 6 years of age in 1976. The ratio of planting in the 5 years 1971-1976 was Delicious: McIntosh, 3:2. The difficulties that

Table 2. Canadian apple production by Province and by cultivar; 1975 data^a expressed as per cent.

Province	McIntosh	Delicious	Northern Spy	Cortland	Spartan	Golden Delicious	Gravenstein	Winesap	Others
British Columbia	26	42			14	10		4	4
Ontario	44	15	23			—			18
Quebec	80			8					12
New Brunswick	58	—		29					13
Nova Scotia	24	12	13	11			12		28
Canada	42	25	8	3	5				17

^aSource: Food Systems Branch, Agriculture Canada, Ottawa

Table 3. Canadian apple production by cultivar for the years 1969, 1972, 1973, 1974, 1975 and 1976 ('000,000 lbs.).*

Cultivar	Year					
	1969	1972	1973	1974	1975	1976
McIntosh	469	424	354	423	429	357
Delicious	136	151	196	181	253	240
Northern Spy	91	82	56	78	81	81
Winesap	27	13	13	10	13	12
Cortland	32	27	29	26	35	27
Spartan	15	34	46	35	51	51
Fameuse	10	5	4	9	8	5
Gravenstein	15	10	12	12	13	9
Lobo	16	8	12	18	14	11
Newtown	8	4	5	4	5	7
Wagener	10	5	4	3	4	3
Russet	7	2	1	1	1	1
King	9	7	6	6	8	6
Rome	4	3	3	2	3	3
Greening	9	6	4	6	5	4
Others	115	91	75	81	96	85
Total	973	872	820	895	1019	902

*Source: Food Systems Branch, Agriculture Canada, Ottawa.

Table 4. British Columbia apple production by cultivar for the years 1969, 1972, 1973, 1974, 1975 and 1976 ('000,000 lbs.).*

Cultivar	Year					
	1969	1972	1973	1974	1975	1976
McIntosh	67	80	93	57		
Delicious	91	83	126	95		
Spartan	15	34	46	35		
Newtown	7	4	5	4		
Rome	2	2	3	1		
Golden Delicious	20	22	30	29		
Winesap	26	13	13	10		
Others	3	4	4	4		
Total	231	242	320	235		

*Source: Food Systems Branch, Agriculture Canada, Ottawa.

Table 5. Number and change in the relative importance of the main apple cultivars grown in Ontario.

Cultivar	No. of trees (1976)	Per cent of trees of non-bearing age ¹ (1976)	Per cent of total number				
			1976	1971	1966	1961	1956
McIntosh	556,901	20.0	33.4	35.0	37.5	34.3	34.0
Delicious	442,730	29.6	23.8	21.4	16.0	14.6	1
Northern Spy	234,863	7.9	12.6	15.1	18.3	19.1	2
Golden Delicious	82,410	3.2	4.4				
Idared ²	84,182	7.9	4.5				
Spartan ²	72,766	7.3	3.9				
Empire ²	30,887	3.8	1.6				

¹Trees of 1-7 years on seedling stocks and 1-5 years of age on size-controlling stocks.²Trees on size-controlling stocks only.

may be involved in extensive production of Delicious in Ontario have recently been reviewed (3).

"Newer" cultivars that are becoming prominent in Ontario are Idared, Spartan and Empire (Table 5).

Quebec. Quebec's two major cultivars are McIntosh and Cortland (Table 2). The Quebec Provincial Government is sponsoring a subsidy program to encourage growers to shift from McIntosh production to other cultivars. In general terms, subsidies will be paid if growers remove McIntosh and replace with Cortland, Empire, Spartan and Jersey mac. Despite this new program, some growers continue to plant McIntosh using the spur-types Morspur and Macspur rather than the regular strains (Granger, personal communication).

New Brunswick. In New Brunswick total production declined in the last decade. The same cultivars continue to be grown (Table 2).

Nova Scotia. Nova Scotia probably grows more apple cultivars than any other Province. While the major cultivars are McIntosh, Delicious, Northern Spy, Cortland and Gravenstein (Table 2) many others are grown in quantity. These include Wagener, King, Ben Davis, Rome Beauty,

Greening and Spartan. Since the major outlet for Nova Scotia's apples is processing (Table 1), there is a preponderance of cultivars suitable for this purpose. With the larger population centers in Quebec and Ontario already amply supplied with their own dessert apples it is unlikely that Nova Scotians will change their production practices.

Conclusions

While McIntosh continues to be the leading apple cultivar grown in Canada, it could be replaced by Delicious in the next decade. "Newer" cultivars being planted are Spartan, Idared and Empire. In parts of Canada where production for the processing market is important, Northern Spy, Winesap and Gravenstein are grown for this need.

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Apple Varieties and Production Trends in the Midwest

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The 1974 USDA census reveals the 12 midwestern states had a total of 126,824 acres of apples or 25% of the total U.S. apple acreage (Table 1). The census report shows that 21% of the nation's apple trees are planted in the midwestern area. 45% of the trees were listed as dwarfed apple trees. This percentage varied depending upon the midwestern state.

Unusual climatic variations in the midwest during the last five years have resulted in wide variations in annual apple production. However, in 1975, a year of relatively abundant production throughout the country, the 12 midwestern states produced slightly over 17% of the nation's crop (Table 2).

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