

Quote: There has been an increase in only two rootstocks since 1990, M.9 and M.26.

The Ontario Apple Industry

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The apple industry in Ontario has a long and colorful history. Like all areas of Canada, apples were introduced by the early pioneers. Apple trees first started to appear around the avenues of easy access, such as lakes and rivers, in the early 1800s. Apples later appeared inland as settlement increased, and there was a time when virtually every homestead had its own orchard. Fruit from these orchards helped the settlers get through the winter and apple cider also had the magic of producing alcohol for the amusement of all.

The first apple varieties were brought by settlers from Europe. Some of these varieties can still be found in Ontario, but for the most part they were later replaced by chance seedlings that had improved fruit quality for Ontario conditions. Many of the locations where apples were initially planted proved too harsh for the trees. Some of the early settled area turned out to be ideal for apple orchards. The acreage of apples in these areas increased as sales and later export to England in the early 1900s became a possibility.

The regions in Ontario capable of sustained apple production are those areas whose environment is moderated by the presence of large bodies of water. These areas are basically a narrow band of land on the north shore of Lake Ontario from Brockville on the extreme east, west to Toronto, and west further across southwestern Ontario to the shore of Lake Huron. Apples are grown south of this line, with a few exceptions. An exception is the Southern Georgian Bay area with about 7,000 acres (2,800 ha) along the south shore of Nottawasaga Bay between the towns of Meaford and Collingwood.

Apples today have the greatest farm gate value of all the fruits grown in Ontario. Their value annually is about CAN \$80 million, compared to grapes at CAN \$40 million, peaches at CAN \$25 million and strawberries at CAN \$18 million. With related activities such as packing, processing and marketing, apple production is indeed a significant agricultural activity in Ontario.

In recent years the number of commercial growers defined by the Ontario Apple Marketing Commission (OAMC, a grower organization founded in 1968 dedicated to the promotion and consumption of apples grown in Ontario) has dropped from a high of 1049 in 1988 to a present level of 835. The number of commercial acres has dropped continually over the years from a 1989 high of 29,325 acres (11,730 ha) to the present 25,000 acres (10,000 ha). The drop in grower numbers and acres reflects the downward pressures on profits.

The competition in the marketplace and the resulting lower returns to the producer have forced growers to become more efficient and increase production from fewer acres. This trend to greater efficiency is seen easily when similar or greater production is produced on fewer acres (Table 1).

Table 1. Ontario apple production.

Year	Million bushels ^z
1998	11.5 (estimate)
1997	12.9
1996	11.9
1995	14.6
1994	12.1
1993	10.0
1992	10.9

^z1 bushel = 42 lbs (19 kg) of fruit.

The Ontario apple crop is primarily produced for the fresh market. The crop traditionally averages about 59% for the fresh market, with about 34% for juice and about 7% for processing.

The majority of the fresh apples sold in this province, perhaps 80%, move from the packer to the wholesale/retail chain store system. The dollar value through this outlet approaches CAN \$60 million and far exceeds the dollar value of fruit sold directly to processors and juice plants. The volume of fruit sold directly from farm to retailer or through farm markets, pick-your-own and roadside stands is small compared to the fruit sold through the packers to the chain store system.

The cultivar picture at present is very simple. Although many different cultivars are grown, some are produced only in small quantities. The major cultivars based on the percent of total crop in 1996 were McIntosh, Northern Spy and Delicious (Table 2).

Table 2. Major apple cultivars in Ontario, 1996.

Cultivars	Percent of total crop
McIntosh	32.7
Northern Spy	15.1
Delicious	13.6
Empire	9.0
Idared	8.7
Early varieties	4.9
Golden Delicious	4.2
Other late varieties	4.1
Crispin	3.2
Spartan	2.8
Cortland	1.7

At present, consumers are requesting apples that, in some cases, cannot be grown consistently in Ontario. Granny Smith, for example, is the number one apple by sales volume in the province. Granny Smith will not grow successfully in Ontario due to insufficient frost-free days to mature a quality apple. The number two apple on the fresh market is Delicious, of which there is a

tremendous volume available from out-of-province sources. The number three apple on the fresh market is McIntosh. With few exceptions, McIntosh apples sold in Ontario are grown in the province. McIntosh remains the number one apple by volume produced by Ontario growers. This apple has been a workhorse for the industry in past years and is still important. However, it is having trouble impressing the consumer as it is a soft apple that does not stand up to the rigors of modern chain store handling systems. Competition in the marketplace and demand for cultivars that cannot be successfully grown here make Ontario a net importer of apples.

Every 5 years a tree survey is conducted to measure industry activity. The number of apple trees in the province is increasing and this increase translates into more trees per acre, as growers switch to more efficient systems. As standard rootstocks are phased out along with the larger of the clonal rootstocks, there has been an increase in only two rootstocks since 1990, M.9 and M.26 (Figure 1). Many of these new plantings are high density supported systems such as slender spindle and vertical axis. Growers are becoming more comfortable with these systems as they look for ways to improve profitability.

In the last 2 years there has been an emphasis on producing larger apples which are sold as individual fruit or count size apples. These apples are commanding a higher market price and growers are striving to take advantage of this. Growers are now trying to produce larger sizes with the addition of astute management and supplementary water. Irrigation is not as widely used in Ontario as it should or will be in the future. Ontario rainfall levels are often either not adequate or untimely, and therefore fruit quality is reduced.

Most commercial apple growers prune twice a year. Dormant pruning is used to shape the tree and to eliminate fruit problems found at harvest. Summer pruning is widely practiced to improve fruit color. Magnesium and boron are often deficient in Ontario orchards. Foliar calcium sprays are required to control bitter pit, especially with Northern Spy.

Apples are not stored on the farm but at larger central warehouses. Controlled atmosphere storage is common, with low oxygen atmospheres being used by some commercial operators.

Ontario has a shortage of labor to harvest the crop at the peak of maturity. All available local and domestic Canadian labor is used. Only when there is no longer Canadian labor can the Ontario apple grower turn to off-shore labor sources.

IPM is practiced by most growers to reduce pesticide use and to favor beneficial insects. The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) maintains an Agriphone system to supply basic insect and disease control information on a timely basis. Growers in some areas have organized grower funded IPM services to supply on-farm detailed reports on insect and disease activity.

In 1991 the Ontario Apple Marketing Commission initiated a brand to identify Ontario-grown apples. Apples bearing the Orchard Crisp brand must be grown by a registered grower in Ontario and at time of shipping must meet several quality standards, including minimal pesticide residue and minimal firmness levels. This brand is being adopted by marketers and has given quality Ontario-grown fruit a higher profile.

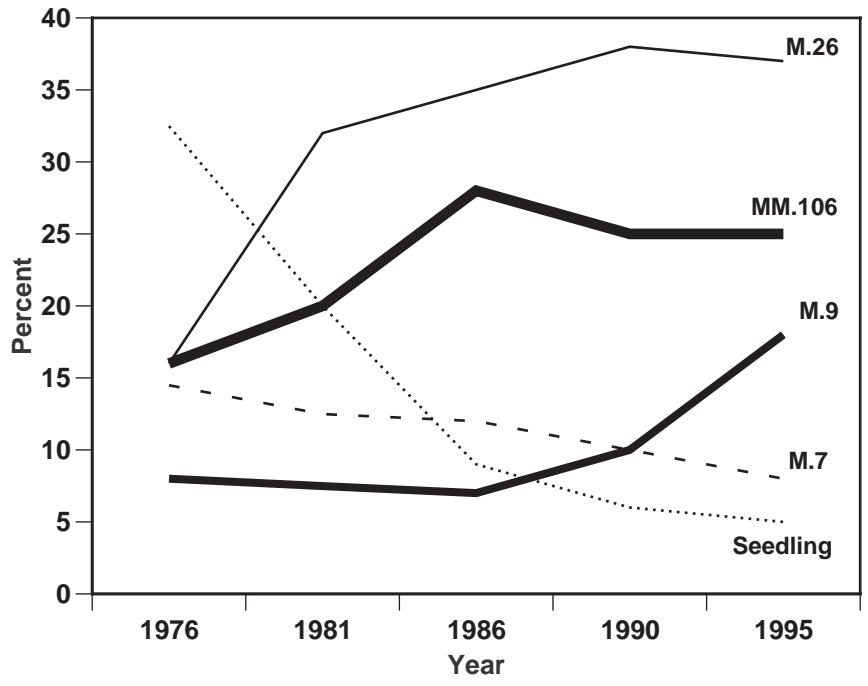


Figure 1. Changes in the use of apple rootstocks in Ontario, Canada.