



Agriculture  
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# What you should know about fruit production

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*Qu'en savez-vous la production fruitière.*

## WHAT YOU SHOULD KNOW ABOUT FRUIT PRODUCTION IN CANADA

Canada has always produced fruit. The Indians harvested a number of wild fruits such as currants, chokeberries, strawberries, raspberries, gooseberries, saskatoons, wild plums, blueberries and sandcherries. In 1604 the early French settlers introduced seeds and seedlings of cultivated fruits including apples, pears and plums. These importations were followed, in later years, by improved varieties from England and other countries. Canada now produces more than 400 million kg of apples and pears, over 72 million kg of stone fruits, such as peaches, apricots, cherries and plums, some 58 million kg of grapes, and about 41 million kg of small fruits like strawberries, raspberries, blueberries, loganberries, elderberries, blackberries, gooseberries and cranberries. In 1973, Canada exported fruits to the value of \$34 million.

Because of the cold climate, fruit production in Canada is limited to certain well-defined areas. Commercial fruit growing is carried out in the Niagara Peninsula, the Georgian Bay area and the southwestern tip of Ontario; southwestern Quebec; the Annapolis Valley of Nova Scotia; the St. John River Valley of New Brunswick; and the Okanagan and Fraser Valleys of British Columbia. Also of importance are Vancouver Island in B.C., and the St. Lawrence River Valley in eastern Ontario and Quebec. Some fruits can also be grown in the Morden area of Manitoba. Strawberries can be grown in most provinces where these and other small fruits like raspberries, blueberries and grapes are important commercial farming enterprises. Canning and processing facilities have been established in areas where these fruit crops are concentrated, lending permanence to the industry.

The Canada Department of Agriculture has contributed greatly to the fruit industry of Canada during the past 85 years. It has established many Research Stations (formerly Experimental Farms) where fruit varieties have been tested and selected for adaptability to local conditions and recommendations for all aspects of fruit culture developed. Some of these stations, particularly those at Kentville, N.S., St. Jean, Que., Smithfield and Harrow, Ont., Summerland and Agassiz, B.C., are major fruit-breeding centers. Here, scientists breed and test fruit varieties, and study pollination, rootstocks, pest control, fruit storage and processing. Recent advances in fruit breeding have resulted in hardier and earlier-maturing varieties and varieties selected for special market needs. As a result, the boundaries of fruit-growing regions and the range of crops have been extended appreciably.

### CLASSIFICATION OF FRUITS

Although there are more than 160 different kinds of fruit in the world, fewer than 20 can be grown successfully in Canadian gardens and orchards.

Fruits are usually classified into four botanical groups:

- Pomes (core fruits) - apples, pears, saskatoons
- Drupes (stone fruits) - peaches, plums, chokecherries

## RED DELICIOUS



NUMEROUS APPLE VARIETIES ARE GROWN IN CANADA. SHOWN HERE IS RED DELICIOUS, AN OLD FAVORITE.

- Berries - grapes, currants, blueberries
- Aggregates - strawberries, raspberries.

Plants are also classed into families, genera, species and varieties. The plant breeder may make crosses between varieties and species, but rarely is this possible between different genera.

### SETTING UP AN ORCHARD

Commercial fruit growing is a long-term proposition. It is full of pitfalls, particularly for the amateur. No one should attempt to establish a commercial orchard until he has acquired considerable experience in this highly specialized industry.

On the other hand, farmers and city gardeners may derive considerable satisfaction from having a small orchard, or fruit garden, whose products can be used for home consumption. Surplus fruit can often be sold at the local market or store.

Regardless of size, there are a number of important factors to be considered in fruit farming.



**CHERRIES, GOOSEBERRIES AND RED CURRANTS CAN EASILY BE GROWN BY THE HOME GARDENER.**

### *Site*

The selection of a suitable site for fruit production is most important. Conditions that are particularly suitable are sheltered surroundings, gently sloping land above a valley, and the presence of a large body of water which moderates temperature extremes.

### *Soil*

Most soils are satisfactory for fruit trees and small fruits, but soils that are fertile and of good depth will be most productive. Acid soils are required for blueberries and cranberries.

### *Drainage*

The lay-of-the-land should be fairly level and gently sloping to permit good drainage. Fruit trees will not tolerate "wet feet".

### *Shelter*

In cold areas, good windbreak, consisting of trees and shrubs, will protect an orchard from prevailing winds and extend the frost-free season by several days. The



**A YOUNG APPLE TREE. SCREENING AROUND BASE PROTECTS THE TREE AGAINST INJURY BY MICE AND RABBITS.**

orchard should also be on a slope that allows for good air drainage so that cool air can flow down and away from the orchard. A late spring or early autumn frost can be quite destructive in a valley and yet miss orchards on the slopes above.

#### *Layout*

The planting plan, or layout, of an orchard should be carefully prepared. It is advisable to sketch on a paper a tentative planting plan and then discuss it with your provincial horticulturist or local university. Tree fruits may be planted on a square system or in rows to facilitate cultivation. Bush fruits are usually set in rows

for easier cultivation and harvesting. All rows of trees or bush fruits should be permanently labeled and each name or number should be recorded in a ledger and also on the planting plan.

### *Varieties*

Commercial fruit growers are limited in the varieties they can cultivate profitably because of the demands of the consuming public. The home gardener, however, is not so limited; he may grow an early- midseason- or late-maturing variety having various shapes, sizes or colors. Before purchasing a new variety, it is always advisable to check into its hardiness and resistance to disease under local conditions.

### *Marketing*

Proximity to a market, fruit processor or canner may be an important factor in establishing orchard size or hectareage. An elaborate marketing system has been developed in some parts of Canada for the distribution of fresh fruit to all parts of the country and for export.

### *Pest Control*

An essential feature of fruit production in Canada, as elsewhere, is that tree fruits and bush fruits must be protected against rodents, insects and plant diseases. Consult your provincial horticulturist and entomologist for latest pest control information.

### *Pollination*

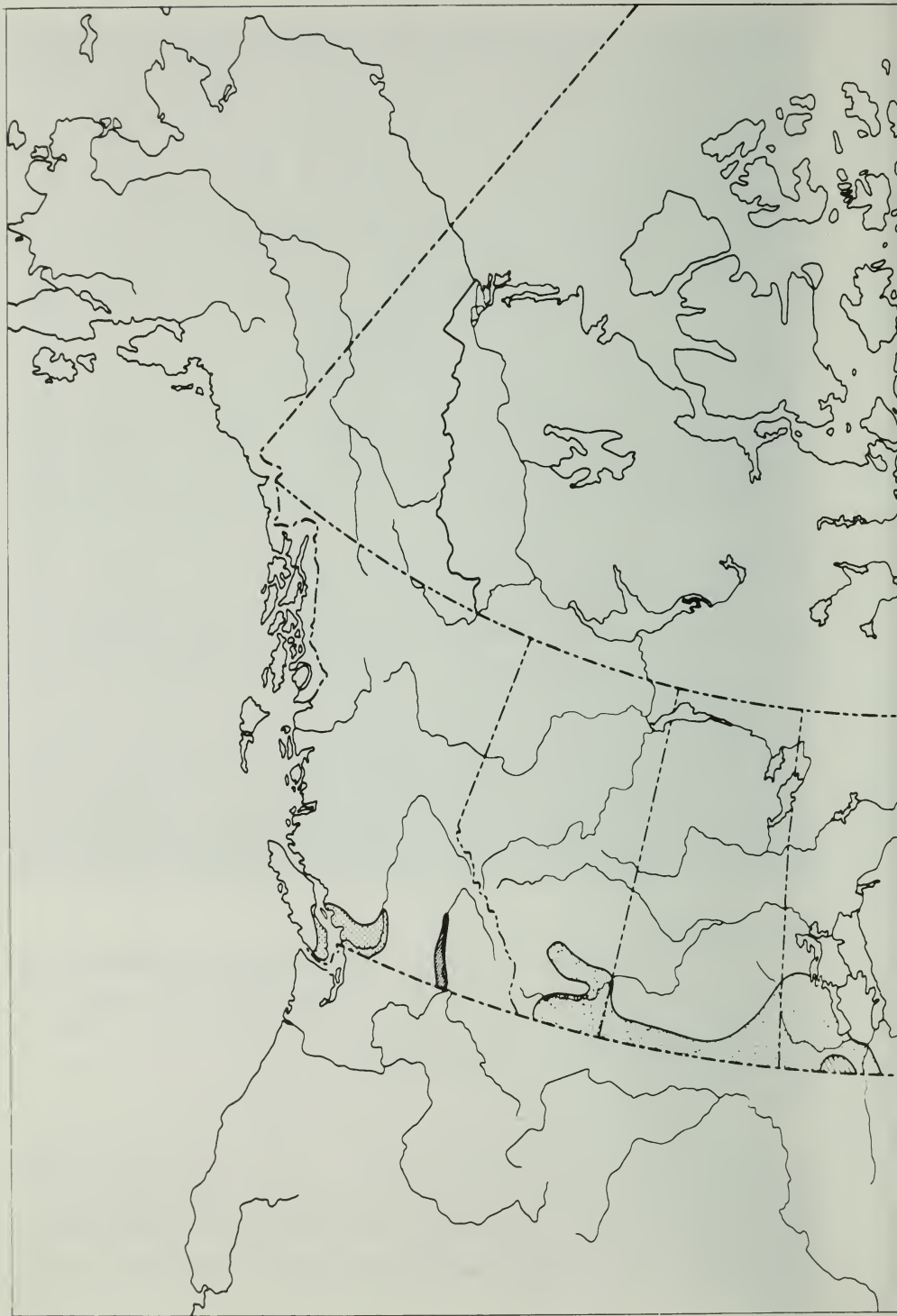
Interplanting of different varieties for cross-pollination is necessary to ensure a good fruit set. Since fruit crops are insect pollinated, in large plantings the fruit grower should arrange with a beekeeper to rent a sufficient number of honey-bee colonies.

### *Costs and Returns*

Costs vary considerably, depending on size of orchard, land values, labor requirements and proximity to local markets and processors. Costs range from a few dollars per hectare for home orchards or gardens to \$13 000 per hectare for land in some commercial fruit-farming districts.

### *Yield*

Strawberries and raspberries produce within 2 years after planting, whereas returns from tree fruit cannot be expected before 3 to 5 years after planting. Some growers plant strawberries or other small fruits between fruit trees to obtain a certain amount of revenue while waiting for the trees to bear fruit. The producing life of an apple orchard should be 30 to 50 years, and of a peach orchard, half as long.

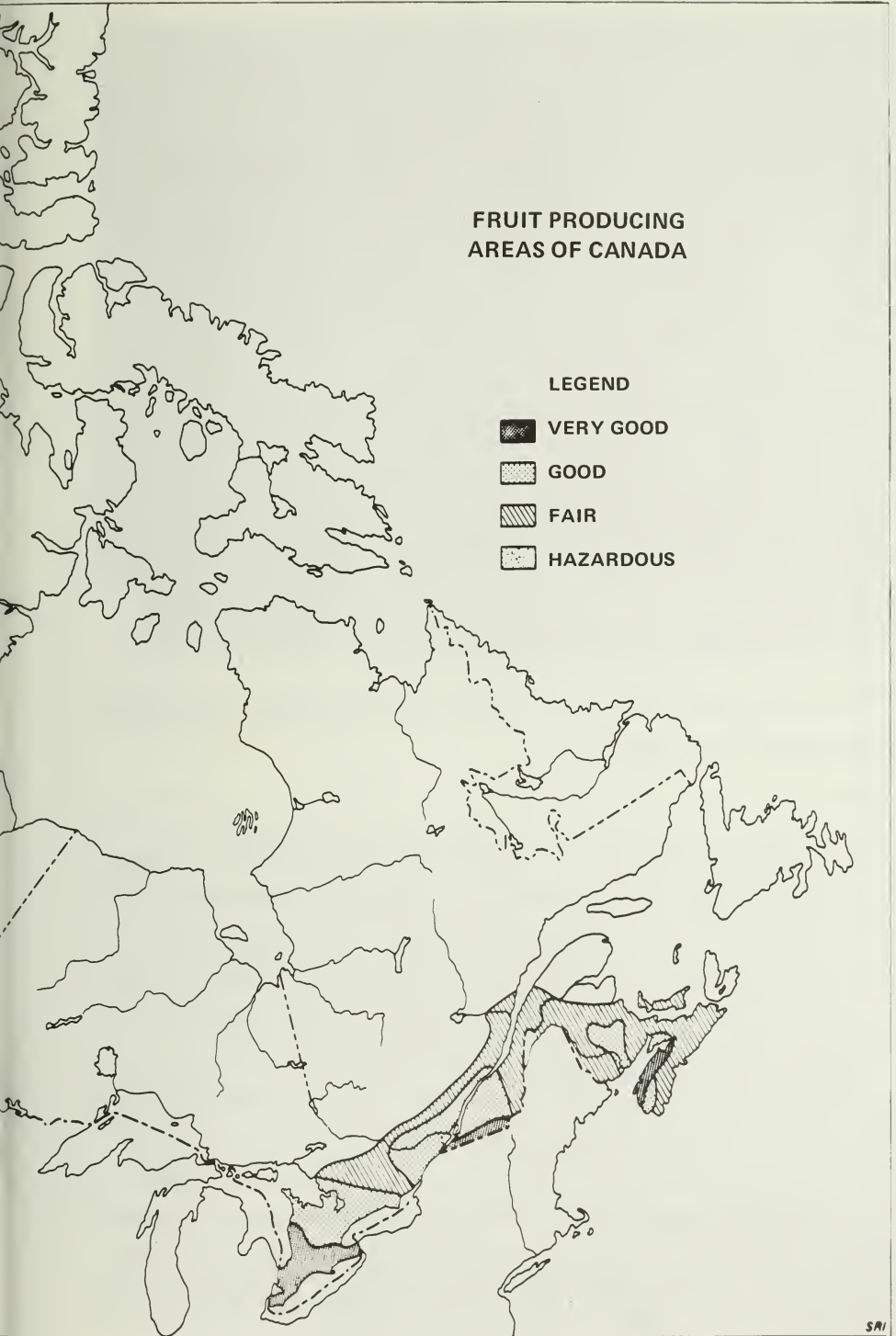




# FRUIT PRODUCING AREAS OF CANADA

## LEGEND

-  VERY GOOD
-  GOOD
-  FAIR
-  HAZARDOUS





A YOUNG PEACH ORCHARD IN THE NIAGARA DISTRICT.

## MANAGEMENT AND CULTURE

### *Fruit Trees*

Young trees are generally sold by nurseries when 2 or 3 years old. Most fruit trees are composites, in that they have tops that have been grafted on a different root system. The purpose of grafting is to provide the desired variety with a hardy root system or in some cases, dwarfing. The home gardener may select a semi-dwarf or dwarf fruit tree, whereas the commercial orchardist may prefer a half-size or semi-standard tree. With grafted fruit trees, it is important that no shoots or suckers spring up from below the union or graft. Robusta rootstocks for apple trees are much harder in most parts of Canada than East Malling rootstocks.

Young fruit trees should be planted as soon as possible after their arrival from the nursery. They should be set in freshly dug holes and at about the same depth or slightly deeper than they were in the nursery. It is most important to pack the soil firmly about the roots, filling the holes with good topsoil and watering thoroughly. Finally, the young trees should be cut back to a height of about 75 cm from the ground. Pruning in subsequent years would be primarily for guiding the branch development of the trees.

Older trees may be available but they should be avoided. Usually they are more expensive and reestablish themselves less readily during the first year after being transplanted.



**HARVESTING McINTOSH APPLES USING BUSHEL PICKING BAGS AND 9 hL BINS CARRIED ON A TRACTOR.**

### *Bush Fruits*

These should also be ordered from a reputable nursery and certified to be virus-free. On arrival, they will be little more than a mass of roots with maybe one or two short stems. Bush fruits require less space than fruit trees. Brambles such as raspberries and blackberries are often planted in rows that are about 2 to 2.5 cm apart. To help control spread of these plants, the ground between the rows should be kept cultivated and any new sucker growth between the rows removed. No fruit can be expected on brambles during the first year. Fruiting occurs only on second-year wood. It is advisable to remove all 2-year-old canes as soon as possible after harvest. However, pruning of second-year growth can be delayed until early the following spring.

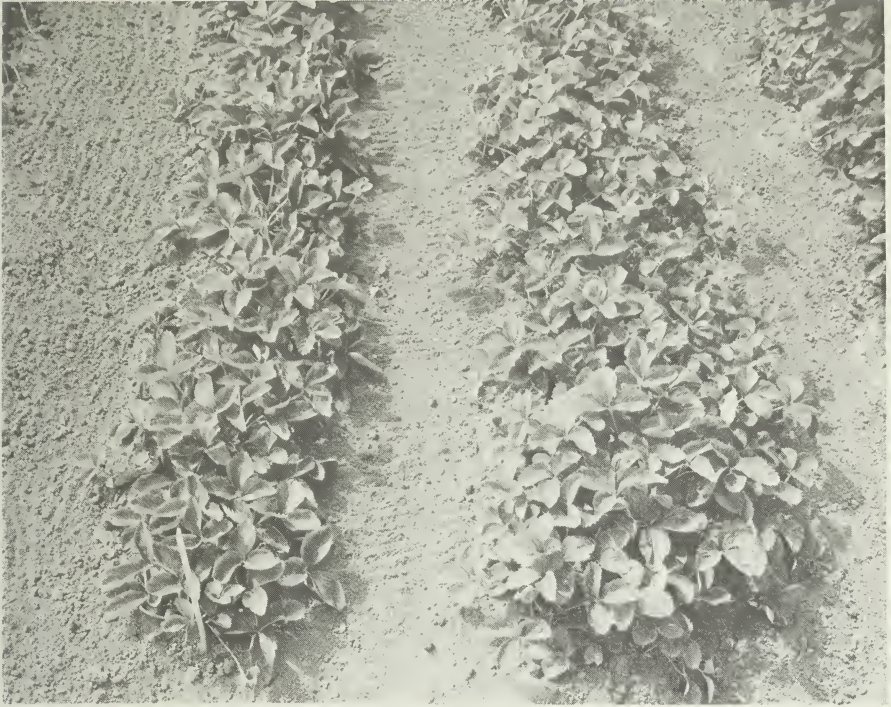
### *Strawberry Plants*

These should be purchased only from nurseries advertising virus-free stock. There are numerous large-size commercial strawberry plantations in Canada, particularly in the Fraser Valley of British Columbia, southern Ontario, Quebec and the Atlantic Provinces. It is important that strawberries be planted, at crown depth,

in weed-free garden soil. Most growers prefer the matted-row system to the hill system of planting. A strawberry-growing enterprise can be mechanized except for the harvesting operation. During the winter, strawberry plants should be protected by a straw mulch. This should be applied in late fall after there have been a few days of freezing temperatures. The removal of the mulch should be delayed until late spring when the danger of frost is over.

The long cold winters of Canada need not deter the farmer or city gardener from producing various kinds of fruit provided normal temperatures are favorable. The well-informed commercial fruit farmer may make a good living; the home gardener may not find fruit growing profitable but he will find it a very satisfying and challenging hobby.

**A POPULAR METHOD OF GROWING STRAWBERRIES IS IN MATTED ROWS.**



**A NEW AND EFFICIENT METHOD OF HARVESTING STRAWBERRIES.**

