

Blueberry Industry on P.E.I

Introduction to Blueberries

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Introduction

- The wild (lowbush) blueberry is a small fruit which is for the most part confined to northeastern North America.
- The wild blueberry producing areas are, Nova Scotia, New Brunswick, Newfoundland, Prince Edward Island, Quebec and Maine.
- Maine is the largest producer of blueberries representing 55% of production. Newfoundland is the smallest producer representing between 1- 2% of North American production.
- The Island is an attractive blueberry producing area due to the fact that fields are relatively level and rock free, which makes crop management much easier. The Island's blueberry yields compare very favorably to yields in other producing areas.
- The majority of the Island crop (99 percent) is shipped to processors, while approximately 1% of the crop is sold locally as fresh product.

Production

- Production of wild blueberries (*Vaccinium augustifolium*) differs in many significant ways from production of other fruit crops.
- Unlike other crops, wild blueberries are not planted but instead are developed from native existing stands.
- Since the harvested crop comes from fields composed of managed native plants, lowbush blueberries are now marketed as wild blueberries. This is in contrast to the highbush or cultivated blueberry (*Vaccinium corymbosum*), which is planted and maintained in a manner similar to an orchard. The highbush blueberry is not native to Prince Edward Island.

How Does the Plant Grow

- Blueberries primarily spread by rhizomes or underground runners. These rhizomes give rise to new roots and stems. All shoots arising from the same rhizome system have similar characteristics and are referred to as blueberry clone.
- In unmanaged fields, the rate of spread by rhizomes averages only 5 to 8 centimeters per year. Where competition from weeds has been reduced, rhizomes have been found to grow as much as 38 centimeters in one season.
- As the rhizomes spread, new shoots are formed and emerged in early spring. These shoots are perennial; and unless subjected to pruning, they will continue to grow. During late fall, buds develop on the shoot tips. These buds can be either flower buds or vegetative(leaf) buds.
- On new shoots, the ratio of flower buds to vegetative buds is greater as compared to two or three year old shoots. In addition, flower buds on new shoots are more winter hardy and produce more individual flowers.
- By taking advantage of this aspect of the biology of the plant, growers have been able to dramatically increase yields by pruning the fields on alternate years. This ensures that the fields are comprised of new shoots and thus have a high density of fruit-producing flowers.

Land Requirements

- The prime requirement for blueberry land development is that the native blueberry is already present. Forest or scrub land with 20 percent blueberry coverage have been successfully developed into productive fields. The greater the initial density of blueberries, the shorter time required to bring the field into production.
- Blueberries grow well on sandy, well-drained acid soils. The optimum soil acidity level for wild blueberries is between 4.3 and 5.0. Although this is highly suitable for blueberries, soils with these levels of acidity are generally unsuitable for other types of agriculture.
- Access and level rock-free fields are additional factors which enhance the ability to become productive blueberry fields. Abandoned farm land has the greatest potential for blueberry production because the land has been previously leveled and cleared of large rocks and trees; however, many productive fields have been developed from former woodland.
- Since management of a blueberry field requires that machinery must be able to get on the land in early spring, 'wet' land is generally not suitable.

Field Development and Management

- Blueberry production can be divided into two distinct stages ~ initial development and management of existing fields.
- Initial development may require removal of trees, stumps and rocks; construction of access roads and specialized weed-control methods such as wiping or basal treatment of brush. In some cases, land leveling to accommodate farm machinery may be required.
- This stage may take from two to ten years depending on the level of input, initial density of blueberries, topography of the land and existing trees and weeds.
- During this period, the blueberry grower receives little if any income from the operation.
- The second stage, management of existing fields, is an on-going operation involving weed control, pest control, pruning by mechanical methods or burning, ensuring pollination of the crop and occasionally applying fertilizer. There is no defined life span for a wild blueberry field.
- Once established, a blueberry field could continue to produce indefinitely if properly managed.
- Initial development varies with the type of land and the existing trees and weeds. Blueberry fields can and have been developed from abandoned farmland, woodland and brushland. The cost of development, production methods and length of time required to bring land into production vary considerably depending on the initial land type.
- The most cost efficient and simplest land type to develop is abandoned farm land. The grower may simply be required to prune and apply an overall application of the appropriate herbicide.
- If density of the blueberries is high enough, the field may be harvested the next year. Usually four to six years is required before the grower can expect a reasonable harvest.

- Brushland is the most common land type developed. Often this land was harvested for forestry and has regrown with dense stands of brush and other weeds.
- Development of this type of land is similar to abandoned farm land except the brush has to be cut, piled and burned. This operation can be labour intensive; although many of the mechanical brush cutters could be used to reduce labour costs.
- Although the length of time required to bring a woodland into blueberry production is long, due to the time required for stump removal, the grower can sometimes realize a profit from the sale of harvested trees.
- It is important to note that although initial development cost vary, the length of time required to bring a blueberry field into production is primarily dependent on the initial density of blueberry plants.
- Good management practices can increase the rate of spreading of the clones, reducing the length of time for initial development.
- The first operation in the management cycle is pruning. This procedure is required to increase flower and fruit formation. Pruning can be carried out either by flail mowing or by burning. Although mowing is less expensive than burning, burning plays a useful role in reducing populations of injurious pest.
- In early spring, after the fields have been pruned, a single application of a herbicide is usually required. Weed control is not only important in maximizing yields, but encourages spreading of the blueberry clones and enable the crop to be harvested by machine.
- On Prince Edward Island a Pesticide Certification Certificate is required to use agriculture class pesticides, including herbicide.
- The following year (the “bearing” or “crop” year) the flower buds open and come into bloom. To ensure good fruit set, pollination by insects is required. Most of the pollination is carried out by commercial honeybee colonies.
- Growers often supplement their pollination requirements with leaf cutter bees, bumble bees and native pollinators.

Harvesting

- There are two methods of harvesting wild blueberries ~ hand harvesting using a metal rake or machine harvesting.
- The crop is harvested between August 13 and September 1.
- An average fifty-acre blueberry farm requires fifteen harvesters to hand rake the crop in ten days. Depending on the yield, a person can harvest five hundred pounds in one day.
- The most common harvester used is the Braggs Blueberry Harvester.
- The harvester is mounted on a two or four-wheel drive tractor. It is normally operated with one tractor operator and one other worker who rides on the back of the tractor, inspecting berries and providing fresh boxes for the berries dropping from the conveyer belt.

Blueberry Industry on P.E.I: True or False Quiz

1. The blueberry is mostly confined to Northeastern North America
True or False
2. The Islands flat landscape makes blueberry production harder
True or False
3. High bush and low bush berries are native to P.E.I
True of False
4. The prime requirement for blueberry land development is that the native wild berry is already present
True or False
5. There is no defined life span for a wild blueberry field
True or false
6. The best type of land for blueberry cultivation is woodlands
True or false
7. A reasonable harvest can usually be had every year
True or False
8. On P.E.I, a Pesticide Certification Certificate is required to use agricultural class pesticides
True or False
9. Blueberry harvest month is August
True or False
10. Blueberries must be harvested by hand
True or False

Blueberry Industry on P.E.I Quiz Answers

1. True
2. False
3. False- only the low bush is native to PEI
4. True
5. True
6. False- Abandoned farmlands are the best
7. False- Usually 4 to 6 years
8. True
9. True
10. False- A machine called the Braggs Blueberry Harvester can also harvest them