

# Nursery FACTSHEET



Ministry of  
Agriculture

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## Starting a Nursery Business in B.C.

### INTRODUCTION TO STARTING A NURSERY

A nursery business offers the opportunity for a financially and personally rewarding business venture for the dedicated owner who has a sound business plan. The sector is attractive to new growers due to the small land base and minimal capital investment; however, a wide range of knowledge is required and, there are many things to be considered before investing in a nursery operation.

This booklet is intended to assist a new grower in making the decision of whether or not to enter the nursery sector. The publication gives an overview of the sector, discusses points that should be considered before starting a nursery, and offers other valuable sources of information.

### THE B.C. NURSERY SECTOR

B.C. is the second largest producer of nursery stock in Canada and accounts for 30% of the national nursery trade<sup>1</sup>. The major production areas are concentrated on Vancouver Island, and in the Kootenay, Lower Mainland, and Okanagan regions. These areas enjoy some of the lowest production costs in Canada because of minimal over-wintering requirements, maximum growing season length, and the availability of abundant supplies of good-quality water.

B.C. nursery businesses range in size from small, one-person operations to highly mechanized facilities with hundreds of acres of field stock, outdoor container beds, and/or greenhouse facilities. In 2014, there was 3,500 hectares of nursery production area in the province. Seventy per cent of the area was used to produce field-grown plants and

thirty per cent was used to produce containerized plants.

Nursery crops include a diverse range of several thousand genera of ornamental plants. They range from herbaceous garden flowers, vines and grasses, to woody trees and shrubs, both deciduous and coniferous. Growers may propagate their plants from stock plant material or purchase “liners” from other nurseries to grow on and resell. A liner is a young plant that needs to be grown for one or more seasons in the nursery to reach a saleable size.

Annual sales for the sector have been relatively stable since 2010 (Figure 1). Most nurseries sell solely to the wholesale market, while others may specialize in the retail market, or have both retail and wholesale divisions. The major wholesale buyers are mass merchandisers (27%), independent garden centres (23%) and landscape contractors (24%)<sup>2</sup>. Mass merchandisers are an

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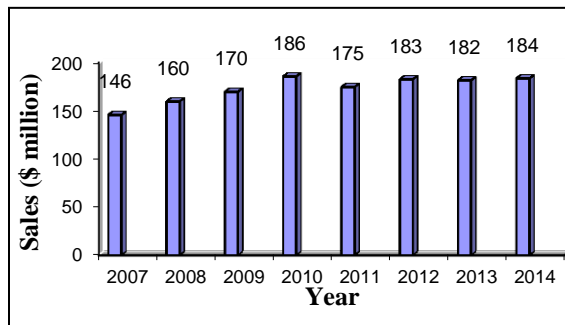
<sup>1</sup> CANSIM tables, Statistics Canada

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<sup>2</sup> CANSIM tables, Statistics Canada

increasingly important market for nursery stock. In the past 10 years, sales to mass merchandisers have more than doubled<sup>3</sup>.

**Figure 1.** Annual gross sales for the B.C. nursery industry<sup>4</sup>.



The B.C. nursery sector sells products across Canada, but Alberta and Ontario are the most important domestic markets outside B.C. The sector also exports product into the U.S. U.S. export sales increased rapidly between 1998 and 2002, showing a 122% growth rate<sup>4</sup>. The U.S. is the world's largest consumer and producer of nursery products, and has the potential to be a lucrative and growing market for Canadian nursery products. Canada's proximity to the U.S. and a favourable currency exchange placed Canadian nursery growers in a strong position to take advantage of this opportunity in the mid 1990's. This advantage eroded in 2003 as the value of the Canadian dollar began to appreciate. However, the recent depreciation of the Canadian dollar is leading to a gradual increase of nursery exports to the U.S. It is no secret that the exchange rate influences the ability of Canadian exporters to access the U.S. market.

## CONSIDERATIONS FOR NEW NURSERY GROWERS

There are many points to consider when looking at starting a nursery, such as:

- personal aptitude,
- crop marketing,
- site selection,
- site design and layout,
- developing a business plan, and
- crop selection.

Each of these points is covered in the following sections.

### PERSONAL APTITUDE

Becoming a successful nursery operator requires more than a love for gardening. To be successful, a nursery operator must possess a high level of commitment and have a broad range of skills. In order to reduce expenses, it is beneficial for the operator to be able to perform all, or most, of the work required in the day-to-day operation of the business. The skills required to operate a nursery include:

- technical trade skills, such as plumbing, electrical, carpentry, welding, and mechanics;
- knowledge in crop production, including plant growth and development, soils, plant nutrition, and pest management;
- business skills, such as record keeping, inventory control, business and personnel management, marketing, and accounting; and
- the ability to cope with adversity is invaluable, since adversity is inevitable. Adversity will arise in the form of weather or pest-related crop problems, equipment breakdowns, staff problems, and poor sales and cash flow.

The more of these skills an operator has, the better their chance of success. However, do not be discouraged if you do not possess all the skills listed, since they can be learned from

<sup>3</sup> CANSIM tables, Statistics Canada

<sup>4</sup> Trade Data, Statistics Canada

courses offered by local educational institutions. There are numerous 1-day nursery seminars offered during the year that may be of particular interest to new growers. Information on these events is available through the B.C. Landscape and Nursery Association (BCLNA).

As the nursery grows in size, there will be the opportunity to hire staff with specialized skills. Until that day, the nursery operator will truly need to be a “Jack-of-all-trades”.

## MARKETING

Marketing is the single most difficult aspect of nursery crop production and should be considered well ahead of growing any plants. Unlike many other agricultural commodities, there is no centralized selling agency, such as a marketing board or a nursery plant auction. A nursery operator is on their own when it comes to product marketing. This is further complicated today because each nursery has to compete in the highly competitive North American marketplace.

There are many factors to consider when it comes to marketing. What marketing channels will work best for your situation, and what type of marketing and promotional tools will you use? What will be your market area? Will it include local, domestic or export markets? Shipping product outside your local community increases market size, but it also brings with it the need to know and adhere to regulations designed to prevent the movement of quarantine pests. Further information about these regulations is presented in Appendix 1, and in Chapter 2 of the *Nursery Production Guide*. In addition, you will most likely have to rely on a commercial trucking firm to transport your product into distant markets. Today, due to high fuel costs and a shortage of trucking companies, it can be difficult for nurseries to secure their trucking needs.

A 2002 survey of B.C. nursery operations determined the main marketing tools used

by wholesale nurseries differ from those used by retailers<sup>5</sup>. Wholesale nurseries spend an average of 2% of their sales on their marketing, advertising and promotion budget. Larger firms spend a smaller percentage of sales on marketing than small firms. The main promotional tools used are trade shows (25% of budget), product catalogues (21%), and buyers guides (16%). Other forms of promotion include: Yellow Pages (3%), trade journals (8%), newspapers (3%), web site (7%) and sponsorship of industry events (4%).

In contrast, the retail nurseries surveyed spent an average of 4.2% of their sales on their marketing, advertising and promotion budget<sup>6</sup>. The main promotional tools used are newspaper advertisements (40% of budget), direct mailers/newsletters (15%), flyers (12%), radio advertisements (10%) and sponsorship of community events (7%). Other marketing methods used are: television (5%) and in-store clinics (1%).

### Marketing Channels - Wholesale versus

**Retail:** There are many markets for nursery crops, including landscape contractors, garden centres, mass merchandisers, other growers, brokers, agricultural producers (e.g. tree fruit, berry growers), and homeowners.

Most nursery crops are sold at the **wholesale** level. The major wholesale markets are mass merchandisers and retail garden centres, which accounted for 27% and 23%, respectively, of gross farm gate sales in 2014. Other markets include other growers (16%) and landscapers (24%)<sup>7</sup>. The landscape sector is a growing market for nurseries as homeowners increasingly prefer to hire a landscaper to build and maintain their garden rather than do it themselves. This is occurring because homeowners have less time and interest to work in the garden today.

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<sup>5</sup> *The Nursery and Landscape Industry in British Columbia*. 2002. BC Landscape & Nursery Association.

<sup>6</sup> *The Nursery and Landscape Industry in British Columbia*. 2002. BC Landscape & Nursery Association.

<sup>7</sup> *CANSIM tables*, Statistics Canada

**Figure 2.** A shipment of nursery stock almost ready for delivery. Pots are carefully stacked to maximize the units of product per load.



**Figure 3.** Some nurseries ship stock on pallets to simplify loading and unloading.



**Brokering** is a small but useful market channel for new growers that have a limited product line, insufficient market contacts, and/or poor marketing skills. Brokers enter into agreements with growers to market and sell their product for an agreed upon price. Nurseries that broker product are identified in the BCLNA's *Buyers Guide*, which is available on their website.

Nurseries routinely buy stock from **other nurseries** to fill orders. This market channel cannot be relied upon to move stock because sales only occur on an 'as required basis'. To be considered as a potential supplier to other nurseries, it is critical that you are known within the sector. To establish a presence in the sector, it is important to belong to the BCLNA and to participate in industry events and committees. The value of active

participation in the Association cannot be overstated.

**Direct selling** of product to the consumer is attractive because it maximizes price per plant. However, the costs associated with selling the crop are higher. Some drawbacks of direct selling are sales occur at the busiest time in the nursery production cycle and retail customers can demand a lot of time. In fact, almost 25% of people have no intention of making a purchase when they visit a garden centre, but instead their intentions are to browse or gather information<sup>8</sup>.

A 1999 consumer survey completed in B.C. found that garden centres are the prime source of gardening information for 81% of respondents<sup>9</sup>. Books (12%), mass merchandisers (6%), and super markets (1%) are used infrequently. Customer service is extremely important when retailing. Anyone planning to venture into retailing should be people-oriented.

**Direct farm marketing** businesses must follow many laws and regulations. For instance, some regions have enacted laws that require direct farm markets to have:

- a building permit to ensure compliance with building codes,
- a business license or registration,
- liability insurance,
- product, fire, and/or theft insurance, and
- signs that meet standards with respect to placement, size, location, and type of sign used.

Regulations can vary between municipalities. Assistance with establishing an on-farm retail business can be obtained from your regional direct farm marketing association. Registration for many required licences, as well as business name, export and GST numbers are available on-line from the Canada Revenue Agency.

<sup>8</sup> Jim Van Dellen, "Advertising Analysis". *American Nurseryman*, November 15, 1998, pages 50-54.

<sup>9</sup> B. McTavish and J. Jarvis. *British Columbia Garden Products and Services Consumer Survey*. February 1999. BC Landscape & Nursery Association.

**Mail-order selling** is another form of retailing. However, it does not require face-to-face business with the client. Keys to success are the quality of your catalogue and your ability to maintain plant health and vigor during shipping. Obviously the latter point will depend upon the type of plant material, the packaging system, and the type of carrier used. An excellent reference on mail-order selling is “*So, You Want to Start A Mail Order Nursery*” by Tony Avent, Plant Delights Nursery.

**Internet websites** can bring the world marketplace to the door of even the smallest nursery business at a reasonable cost. You may register a web domain by conducting an Internet search for web domain registration companies. Professional website design consultants will create a site that effectively showcases your nursery’s products.

If you have mail-order or Internet sales outside of Canada, there are costs to meet export requirements. These include Canadian Food Inspection Agency inspection fees to issue a phytosanitary certificate and broker fees to prepare the necessary documentation for U.S. Customs. It is important to look into these issues before starting a mail-order business or Internet marketing program. Your Internet site will be accessible worldwide and, therefore, you must ensure you have the right to sell each plant to all countries. Internet businesses have been sued for infringing on license agreements.

**Product Quality - The #1 Criteria used to Select a Supplier:** Crop returns are directly related to crop yield. An increase in crop yield (a reduction in shrinkage) will increase crop returns. Of course, the reverse is also true: a reduction in crop yield will decrease crop returns. A grower must realize and take into account that not every plant grown will develop into a marketable plant. Based on a 2002 sector survey, on average 6.8% of a crop is discarded due to poor health (2.2%), poor sales (1.2%), spoilage (2.5%),

and other reasons (0.9%)<sup>10</sup>. The quantity of stock discarded each year due to spoilage was reported to range from 0% to 30%<sup>11</sup>. The level of crop losses can be the difference between a profitable and a non-profitable year.

To maximize crop returns and to meet orders, there is incentive to ship product of lesser quality. Growers may feel they can compensate a client for accepting low quality stock by shipping extra plants or by offering a price discount. The potential drawbacks of shipping low quality plants include:

- **Nursery clients** may struggle to grow the plants to a marketable size in the scheduled production period, which will disrupt their future supply of the crop.
- **Retail clients** will receive lower returns per plant and may find it more difficult to sell low quality plants.
- **Landscape clients** will run into several potential problems associated with the receipt of inferior plants, including client dissatisfaction and increased risk of poor plant establishment and the need to replace material in the landscape.

The end result of shipping inferior plants may be the loss of a client or refund requests to compensate for plant losses.

Sector surveys suggest that price is not one of the major criteria used by retailers and landscapers to select a nursery as a supplier. Instead, plant quality is the most important criterion<sup>12</sup>. Plant quality incorporates plant health and appearance, and the quality of packaging materials. The level of personal service, consistency of supply, and speed of delivery are all more important criteria to garden centres than price<sup>13</sup>.

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<sup>10</sup> *The Nursery and Landscape Industry in British Columbia*. 2002. BC Landscape & Nursery Association.

<sup>11</sup> *The Nursery and Landscape Industry in British Columbia*. 2002. BC Landscape & Nursery Association.

<sup>12</sup> M.P. Garber and K. Bondari, "Retail Garden Outlets: Plant Material Purchases and Trends." *Journal of Environmental Horticulture*, 16(1):20-26. March 1998.

<sup>13</sup> M.P. Garber and K. Bondari, "Retail Garden Outlets: Plant Material Purchases and Trends." *Journal of Environmental Horticulture*, 16(1):20-26. March 1998.



Today, the sector is more aware that high quality packaging materials increase retail sales. For this reason, the traditional black nursery container is being replaced by a multitude of different colored pots, and plant labels are being improved with color pictures and more extensive information about the plant. The use of bigger and more colorful and informative tags is a trend<sup>14</sup>.

Retailers also look for point-of-sale merchandising materials from growers, including end-of-aisle displays, brochures, banners and posters. A number of individual nurseries, regional governments and commodity associations have developed nursery and landscape standards. In B.C., the BCLNA and the B.C. Society of Landscape Architects jointly developed the *B.C. Landscape Standard*<sup>15</sup>, which sets standards for nursery plants and landscape installations.

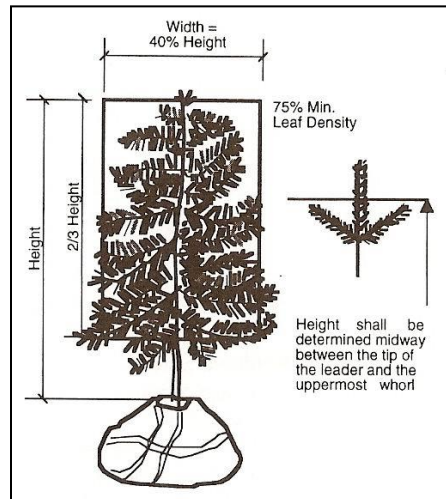
**The B.C. Landscape Standard:** This section provides an overview of some aspects of plant grading presented in the *B.C. Landscape Standard*. Growers are encouraged to review the full Standard for more details on plant grading.

The Standard establishes minimum root and plant size relationships for nursery stock. Root size is equal to the container or root ball size. Above-ground growth is measured by trunk caliper (for standard shade trees over 2.5 m tall), plant height (conifers and standard shade trees up to 2.5 m tall), canopy density and shape (height and spread ratio), or canopy density and plant spread (for spreading evergreens and dwarf conifers). Figure 4 provides an example of the Standard on canopy proportion and density for coniferous evergreens.

The root ball or potting medium should have roots extending throughout it, without being root bound, and should be firm and intact.

Containers should be filled to within 2.5 cm of the top of the container. For balled stock, the root ball should have an adequate fibrous root system that has been developed by proper cultivation practices. The root ball should be secured tightly with burlap and twine.

**Figure 4.** System for Grading Nursery Stock - Example: Tall and Broad Coniferous Evergreens (adapted from the *B.C. Landscape Standard*<sup>16</sup>).



The Standard also addresses ethical issues of wild plant collections, presence of noxious perennial weeds, and plant substitutions.

The Standard is intended to achieve the following goals:

- to standardize the products growers produce,
- to simplify the bidding process for landscape contracts, and
- to ensure proper root growth and pruning to produce a healthy, well-developed plant.

The BCLNA continues to encourage the sector to adopt the Standard. In time, as acceptance of landscape standards increases, the market for lesser quality plants will disappear.

<sup>14</sup> J. Bramwell and B. Grabarek, "Trendy Tags." *American Nurseryman*, August 15, 2005, pages 35-39.

<sup>15</sup> *BC Landscape Standard*, 2001 (6<sup>th</sup> edition). Published by the BC Society of Landscape Architects and the BC Landscape & Nursery Association.

<sup>16</sup> *BC Landscape Standard*, 2001 (6<sup>th</sup> edition). Published by the BC Society of Landscape Architects and the BC Landscape & Nursery Association.

## POINTS TO CONSIDER WHEN SELECTING A SITE

Most new growers have a farm prior to selecting a crop to produce. This may restrict what ventures can be developed at the site. Five points to consider when evaluating the suitability of a site for nursery production are discussed below.

**Parcel Size:** Nurseries come in all shapes and sizes. Retail production nurseries are commonly less than 10 hectares. Wholesale production nurseries vary tremendously in size, and range from less than one hectare to hundreds of hectares. The size of the operation is strongly influenced by the relative amounts of container and field stock produced. For nurseries in B.C., the average area of container production is 5 hectares and of field production is 30 hectares<sup>17</sup>. An allowance for future expansion should be taken into consideration.

**Location:** Proximity to hydro, phone lines, service roads, labour supply, and, if you choose to direct-market from the farm, proximity to a large population base is important. Approximately 83% of a garden centre's customers are drawn from an 8-24 km radius<sup>18</sup>. A recent U.S. survey found consumers to rate store location more than twice as important as plant quality, plant selection, and customer service<sup>19</sup>. Store location was the #1 consideration for repeat customers<sup>20</sup>. However, a similar survey conducted in B.C. found only 1.5% of respondents to rate proximity to a retailer as an important factor in their buying decision<sup>21</sup>.

**History of the Site:** Becoming informed about previous uses of the site may uncover

potential problems before committing to the capital outlay of developing and stocking the site. Valuable information to gather includes previous crops, contamination problems, underground structures, drainage history and location, and condition of subsurface drainage installations.

**Soil Requirements:** The site should have a slight slope, have no frost pockets, and be well drained. Drainage systems, including pumps for very low areas, must be installed before planting. Additional soil requirements that apply for field-grown stock include:

- good soil structure and free of stones,
- a loam top-soil of at least 60 cm depth; clay loam is required for the production of balled stock, whereas sandy loam is best for bareroot production,
- freedom from serious pests or pesticide residues that may be injurious to newly-planted stock, and
- a pH of 5.0-7.2, however, if the pH is outside this range it can be corrected.

Contracting soil surveys and testing can help to determine quality, character and usefulness of the site. There are several [soil test labs](#) in B.C. These labs can analyze soil for crop nutritional requirements, and may also be able to investigate concerns about soil contamination or evaluate soil physical properties such as texture, porosity or particle size distribution. Refer to the Ministry's [Soil Sampling](#) factsheet for more information on when and how to collect a soil sample.

Contact the BCLNA for a listing of consultants that can provide professional advice on the suitability of the soil and the topography.

**Water Source:** The availability of sufficient quantities of reliable, good quality irrigation water is very important. Before purchasing farm land, you should have the flow rate and water quality of the irrigation source tested.

The water supply system should have a minimum capacity of 40 litres per minute. Water quality parameters to test include dissolved solids, pH, alkalinity, and the levels

<sup>17</sup> *The Nursery and Landscape Industry in British Columbia*. 2002. BC Landscape & Nursery Association.

<sup>18</sup> D. Ference and Associates. *Profile of the BC Nursery Industry*. April 1991. BC Nursery Trades Association.

<sup>19</sup> Jim Van Dellen, "Advertising Analysis". *American Nurseryman*. November 15, 1998, pages 50-54.

<sup>20</sup> Jim Van Dellen, "Advertising Analysis". *American Nurseryman*. November 15, 1998, pages 50-54.

<sup>21</sup> B. McTavish and J. Jarvis. *British Columbia Garden Products and Services Consumer Survey*, February 1999. BC Landscape & Nursery Association.

of total salinity and specific salts (e.g. calcium carbonate, sodium, and boron). Refer to the Ministry's factsheet titled *Irrigation Water Quality for B.C. Greenhouses* for information on factors that affect water quality, treatment methods to improve water quality, and on irrigation water quality guidelines. The *B.C. Trickle Irrigation Manual* also contains excellent information on assessing water quality, flow rates and water requirements, and design, selection, installation and maintenance of trickle irrigation systems. It can be purchased from the Irrigation Industry Association of B.C.

## SITE DESIGN AND LAYOUT

The nursery site must have the facilities required to operate the business, which will depend on the crops produced. Will you be a propagator? Will you grow container or field stock, or both? Some of the facilities and production systems that may be required for a container operation include:

- production facilities: greenhouses, gravel or groundcloth-covered container beds, and shade structures
- water supply equipment, irrigation and drainage systems, and a backup electricity generator
- other facilities: shipping and handling areas, cold storage, chemical storage, equipment repair and storage facilities, parking, and facilities for staff

The design and layout will affect the profitability of the nursery. The site should be designed to allow for efficient movement of plants and vehicles between the different zones of production, and to allow for future expansion. It should also be designed to meet local bylaws and to prevent the release of pollutants into the environment. The *Environmental Farm Planning Reference Guide* provides information on various environmental laws and makes suggestions for environmentally sound farm practices. The *Reference Guide* is available from the B.C. Agriculture Council.

## DEVELOPING A BUSINESS PLAN

A business plan will provide information on the crops grown, market size and potential sales, capital costs required to set up the facility, and an estimate of returns. It will integrate written goals with marketing, production and financial targets into a management strategy for the operation. A business plan will outline what is required to make your business successful.

The BCLNA and the B.C. Ministry of Agriculture produced a publication titled *Preparing a Business Plan – Wholesale Nursery Example* that is designed to assist new producers to create a business plan using a step-by-step process. It presents four benefits of preparing a business plan<sup>22</sup>.

1. A business plan can improve performance by identifying both strengths and weaknesses of operation, and potential problem areas.
2. It can provide a solid basis for measuring performance.
3. It establishes a framework for making key decisions in ongoing management and in evaluating new opportunities.
4. The plan and the process can be used to educate and motivate employees.”

A business plan is invaluable for communicating information about your business to others, such as money lending institutions, which often require a business plan for small business loans.

Farm Credit Corporation helps farmers to access capital to start or expand a business. The Corporation supports primary producers through all three lines of their business – farm finance, agribusiness and alliance partnerships. For further information about these programs, contact the Farm Credit Canada.

The Ministry of Agriculture does not provide producers with grants to assist them to start or expand a farm business.

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<sup>22</sup> P. Davidson. *Preparing a Business Plan, A Guide for Agricultural Producers – Wholesale Nursery Example*, 1996. BC Nursery Trades Association and the BC Ministry of Agriculture, Fisheries and Food.



## CROP SELECTION

Nursery crops can be divided into eleven distinct categories, which includes: aquatic plants; broadleaf evergreens; coniferous evergreens; deciduous shrubs; deciduous trees; herbaceous perennials; native plants; roses; tree fruits; upright evergreens; vines and ground covers. But which crop should the new grower produce? That is an impossible question to answer without experience in the sector.

There are several factors to consider when selecting which crops to grow. Site conditions, specific plant factors, supply and demand, market trends and profitability should all be analyzed to provide the necessary information in making wise crop selections. Also, the amount of time and effort a new grower is willing to expend on the crop will determine which crop is suited to the operation.

The suitability of plant species for the soil and climate conditions at the nursery is an important factor<sup>23</sup>; a successful, high quality, healthy crop is more likely with well adapted plants. Growing species that have borderline hardiness for the area presents a greater risk of crop failure and increases production costs due to more diligent winter protection requirements. Drought tolerant species will reduce the need for irrigation, however, they will not tolerate field conditions with heavy, wet soil.

Plant factors, such as the degree of difficulty of propagation and the crop's susceptibility to pests and diseases, will affect the relative ease of growing the crop. A new grower's level of production expertise may determine whether specific plant factors are a constraint in crop selection. A sector survey indicates that while ease of care and growing is an important consideration for growers, production expertise is not<sup>24</sup>.

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<sup>23</sup> D. Ference and Associates. *Profile of the BC Nursery Industry*, April 1991. BC Nursery Trades Association.

<sup>24</sup> D. Ference and Associates. *Profile of the BC Nursery Industry*, April 1991. BC Nursery Trades Association.

Sector surveys indicate that established nurseries select new crops based largely on crop demand and market trends<sup>25, 26</sup>. They use past sales records, input from clients (landscapers, landscape architects, other growers and garden centres), and nursery visits to determine supply and demand trends<sup>27</sup>. The rarity of a species is also a factor for some growers<sup>28</sup>. Growing new or unusual plants can offer good profit margins because they are not widely available. However this situation can change quickly as more nurseries begin to propagate the crop and, correspondingly, increase supply. Profit margins are also influenced by production costs, production period, product quality, and market price.

Growers without previous experience in the nursery sector do not have the benefit of reviewing past sales records and production costs. It is useful for new growers to conduct thorough market research to determine current and future supply and demand, and market trends. Projections of production costs are also an important analytical tool to determine potential profit margins of various crops.

**Market Research:** Market research can be performed by yourself or by a consultant. Contact the BCLNA for a listing of local consultants.

General information can be obtained from trade journals and conversations with people in the sector. Trade journals frequently contain information on new plant introductions and market trends. The December issue of *American Nurseryman* is dedicated to new plants for the coming year. Information on such items as ornamental features, propagation methods, pest problems, and availability are highlighted for each woody ornamental, perennial, and vine and aquatic plant that is showcased.

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<sup>25</sup> D. Ference and Associates. *Profile of the BC Nursery Industry*, April 1991. BC Nursery Trades Association.

<sup>26</sup> *The Nursery and Landscape Industry in British Columbia*, 2002. BC Landscape & Nursery Association.

<sup>27</sup> *The Nursery and Landscape Industry in British Columbia*, 2002. BC Landscape & Nursery Association.

<sup>28</sup> D. Ference and Associates. *Profile of the BC Nursery Industry*, April 1991. BC Nursery Trades Association.

Make an effort to attend seminars, BCLNA meetings and trade shows. These events provide an excellent opportunity to network with and learn from people in the sector. Look for and attend seminars on new plants and on sector trends. These are common topics at sector seminars and conferences. A few of the trade shows and conferences that are regularly attended by local nurseries include: the CanWest Hort Expo in Abbotsford; Farwest in Portland; Landscape Ontario Congress in Toronto; Pacific Agriculture Show & Horticulture Growers' Short Course in Abbotsford; and The Green Industry Show & Conference in Calgary.

Up to date information on trade shows in Canada, the U.S. and overseas is available in the November 1<sup>st</sup> issue of *American Nurseryman*, and on the websites of Landscape Ontario and BCLNA.

Taking regular walks through garden centres can also provide information. You can learn the relative sales per crop based on space allocation, the quality and labeling that are critical components of marketing, and the new crops being promoted in the sector. Garden centres and landscapers purchase nearly 60% of the products grown by wholesale nurseries; they know as well as anyone which plants are in demand and in short supply in the sector.

Keep in mind that the most popular plants may not be the most profitable or the best to grow for your location and soil type. They may be in excess supply and therefore may not offer the desired contribution margin. Hedging cedars are a good example. There is extremely high demand for hedging cedars in the North American market. However, due to annual cycles in the volume of production and demand, prices for the crop vary considerably between years. Beginning in the late 1990s, the production of hedging cedars in B.C. and elsewhere increased significantly. Concerns of overproduction were realized in 2005, as the price dropped for balled hedging cedars due to oversupply.

Also, avoid crops that are fads, especially those that are quick to grow to market size. Base crop selection decisions upon market trends. Fads have short-lived periods of high returns, followed by low prices and oversupply.

Only through experience selling nursery stock can you truly gain an appreciation of the complex issue of crop demand. Once you have developed a good reputation in the sector, the day will come when you are overwhelmed with information from your clients on 'what's hot', which will simply setting your annual crop production schedule.

**New and Improved Plants:** There is always strong consumer demand for new and improved plants. Nurseries and retailers can use new plants effectively as a 'hook' to expand their client base since there are often few suppliers. For the grower of a new plant, this is an opportunity to get a foot in the door with a new client. The success in turning this initial contact into a long-term client will depend upon product quality and service, which are covered elsewhere in this document.

A wide range of new plants are introduced each year from individual breeders and nurseries, botanical gardens, and government institutions. Nursery managers know the value of new plants and want to keep abreast of their development. Therefore, the topic is frequently covered in trade magazines and in conference seminars.

In addition to new plants, consideration should be given to growing award winning plants. Some associations (e.g. American Hosta Society and the Perennial Plant Association) annually present a 'Plant of the Year Award'. The award winning plants often are not new to the sector, but rather deserve recognition for their unique qualities and proven reliability. In the case of the Perennial Plant Association's 'Plant of the Year Award', the winner is chosen based on voting by the Association's membership (see Table 1).

**Table 1.** Winners of the Perennial Plant Association's 'Plant of the Year Award'.

Year	Plant
1990	<i>Phlox stolonifera</i>
1991	<i>Heuchera micrantha</i> 'Palace Purple'
1992	<i>Veronica</i> 'Sunny Border Blue'
1993	<i>Coreopsis verticillata</i> 'Moonbeam'
1994	<i>Astilbe</i> 'Sprite'
1995	<i>Perovskia atriplicifolia</i>
1996	<i>Penstemon digitalis</i> 'Husker Red'
1997	<i>Salvia</i> 'May Night'
1998	<i>Echinacea purpurea</i> 'Magnus'
1999	<i>Rudbeckia fulgida</i> 'Goldsturm'
2000	<i>Scabiosa columbaria</i> 'Butterfly Blue'
2001	<i>Calamagrostis x acutiflora</i> 'Karl Foerster'
2002	<i>Phlox</i> 'David'
2003	<i>Leucanthemum</i> 'Becky'
2004	<i>Athyrium niponicum</i> 'Pictum'
2005	<i>Helleborus x hybridus</i>
2006	<i>Dianthus gratianopolitanus</i> 'Feuerhexe'
2007	<i>Nepeta</i> 'Walker's Low'
2008	<i>Geranium</i> 'Rozanne'
2009	<i>Hakonechloa macra</i> 'Aureola'
2010	<i>Baptisia australis</i>
2011	<i>Amsonia hubrichtii</i>
2012	<i>Brunnera</i> 'Jack Frost'
2013	<i>Polygonatum odoratum</i> 'Variegatum'
2014	<i>Panicum virgatum</i> 'Northwind'
2015	<i>Geranium x cantabrigiense</i> 'Biokova'

Strong consumer interest in new plant introductions and 'Plant of the Year' recipients is almost assured due to the extensive promotional campaigns that accompany their release.

It is important to do your homework when selecting new crops. The label 'new' does not always mean the plant is 'better'. It is very disheartening and expensive to propagate large numbers of a new crop only to find out there is no demand. Sector demand for a crop can subside quickly if it is found to be difficult to grow, has a serious pest problem, or performs poorly in some

geographic regions. For example, the demand for ash trees declined dramatically in 2005 due to concern over the impact of an exotic pest, the emerald ash borer. Since being first detected in southeastern Michigan and Windsor, Ontario in the summer of 2002, the borer has killed more than five million ash trees<sup>29</sup>.

In addition, before propagating any plant, it is advisable to determine if it is protected by a patent, trademark, or is registered with the Canadian Ornamental Plant Foundation (COPF).

**Plant Patents:** In Canada, the *Plant Breeders' Rights Act* was given Royal Assent in 1990. This legislation makes it possible for breeders to legally protect new plant varieties for up to 18 years. Thereby, providing compensation to the breeder for the time, expertise and money invested in the development of a new variety.

The intent of the legislation is to stimulate plant breeding in Canada, to provide Canadian producers better access to foreign varieties, and to facilitate the protection of Canadian varieties in other countries. In order to be eligible for protection, the plant must be new, distinct, uniform, and stable.

A species must be prescribed by regulation before an application for plant breeders' rights can be made. The nursery crops currently prescribed by regulation in Canada are apple, begonia, blueberry, cherry, chrysanthemum, clematis, dianthus, grapevine, impatiens, maple, peach, pear, pelargonium geranium, plum, potentilla, raspberry, rose, spirea, strawberry, viburnum and yew.

Plants must be registered in each country where protection is desired. A plant registered in another country, but not in Canada, can be legally propagated and sold in Canada. However, it would be an offence to offer the plant for sale in a country where it is registered, if you are not licenced to do so. Lawsuits have been filed for infringement of patents and trademarks based on plants being offered for

<sup>29</sup> D. Balser and D. Todd, "Emerald Ash Borer". *The Buckeye*, January 2005.

sale on Internet web sites. Be very careful when listing patented or trademarked plants for sale on the Internet if you are not licenced to sell the material in all countries where the plant is protected.

Contact the Plant Breeders' Rights Office to apply for a plant patent, or to obtain information on plants patented in Canada. When a plant is awarded protection through the Act, it is published in the *Plant Variety Journals*.

**Canadian Ornamental Plant Foundation (COPF)** - is a non-profit corporation founded to facilitate the introduction of new horticultural cultivars in Canada. The Foundation works with growers to simplify royalties, and will work with plant introducers to profit from their introduction. The main activity of the COPF is to collect royalties on behalf of plant breeders. The money collected is paid to the breeders on a quarterly basis. Thereby, the Foundation encourages plant breeding and the development of new plants for the benefit of the entire horticulture industry.

The Foundation annually releases a compendium of their new ornamental plant registrations. In 2002, the COPF released 359 new introductions from 25 different breeders, including 10 Canadian plant breeders. Eighty-nine of the introductions were nursery crops (excluding annuals). New rose cultivars accounted for 25% of the nursery plant registrations.

**Trademarks** - the use of trademarks is an increasing trend in the nursery sector. A trademark is a way to protect the marketing interests of a plant and is a less costly to enforce than a patent.

The symbols <sup>TM</sup> (or <sup>SM</sup>) or ® are used to designate a trademarked name. A plant's cultivar name and the name of a patented plant cannot be trademarked. For instance, the Flower Carpet® Yellow rose is protected by a registered trademark, but its cultivar name, *Rosa* var. 'Noason', cannot be trademarked.

### **Crop Specialization versus Diversification:**

You should also consider whether to produce a specialized or diversified mix of crops. Crop specialization has the advantages of allowing standardization of production methods and materials, requires a narrower range of knowledge, and enables more specialization of equipment and marketing. However, specialists are more vulnerable to sudden changes in crop demand or supply.

Most nursery stock is grown for speculative markets. It is uncommon for a nursery to have a written contract for a crop at the beginning of its production cycle. Nurseries set annual production volumes for a crop on projected sales, which is based on long-term sales trends and market research. The economic principles of supply and demand are very important to nursery operators because of the speculative nature of nursery stock sales.

Cycles in supply are common for nursery crops. Oversupply is the biggest concern since it can lead to depressed prices. Oversupply is a risk in the sector because:

- it is relatively easy for new producers to enter the marketplace since there are no marketing boards or quotas to control the volume of production,
- there is a vast array of substitutes for any given crop in the marketplace - substitutions can occur between different species (e.g. *Potentilla fruticosa* 'Yellow Gem' for *Spirea japonica* 'Little Princess') or varieties (e.g. *Rhododendron catawbiense* 'Boursault' for *R.* 'Roseum Elegans'), and
- nurseries often cannot quickly adjust production levels in response to changes in demand, since it can take up to 4 years for a crop to reach a marketable size.

The fact that nursery managers have no control over the two major factors determining the annual demand for nursery crops, the economy and the weather<sup>30</sup>, makes the situation less tenable.

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<sup>30</sup> M.P. Garber and K. Bondari, "Retail Garden Outlets: Business Characteristics and Factors

Downturns in the economy or poor spring weather can reduce the ability and interest of gardeners to purchase nursery crops. These conditions may also result in shifts in consumer buying patterns. For instance, consumers may prefer to purchase lower priced plants, such as bedding plants over trees and shrubs. This will reduce the total value of plant sales, but may actually increase the demand of specific plants.

One way to provide some protection against changes in crop demand and supply is to diversify the range of crops produced and the markets targeted.

#### **The Type and Size of Stock to Produce:**

The size of stock produced and the type of production system used must also be considered. Will you grow liners or larger stock sizes? Will you grow in containers or in the field? Answers to these questions will be based on many factors, including individual skills, the type of equipment already possessed by the farm, the size of the farm, the type and quality of the soil resource, and personal interest.

Virtually all nursery stock is started as liners. A liner is a small plant that is usually transplanted into a #1 (one gallon) container or into field soil for growing-on, to produce a larger plant that is better suited for retail or landscape sales. Some nurseries specialize in the production of liners. The crop may be sold to retailers and landscapers, but the major market is other growers. Even though the majority of nurseries do in-house propagation, this production does not usually meet their needs. Based on a 2002 sector survey<sup>31</sup>, in-house production of liners supplies on average 58.5% of a nursery's needs. Therefore, nurseries rely on other suppliers to satisfy their liner requirements.

**Figure 5.** Container-grown 'Rheingold' cedars in a poly-covered hoop house.



**Figure 6.** Outdoor, field-grown nursery stock.



There are many reasons for purchasing liners from other growers, such as:

- it is more cost effective because production costs for specialty propagators are lower due to economies of scale and greater automation,
- to compensate for in-house crop failures,
- the nursery has poor success propagating the crop,
- the crop is very new to the market and the nursery has not established sufficient stock plants to propagate the quantity they need,
- propagation requires specialized skills and equipment, which some nurseries do not possess and do not want to invest in, and
- the crop can only be propagated by specialized methods, such as grafting, budding, or tissue culture.

Traditionally, nursery production was all soil-based, either being harvested bareroot or with a ball of soil that is usually wrapped in burlap and tied. This latter stock is referred to as balled & burlapped or B&B. However, roughly

<sup>31</sup> *The Nursery and Landscape Industry in British Columbia*, 2002. BC Landscape & Nursery Association.



60% of all nursery plants sold in the U.S. were container-grown in 1999<sup>32</sup>. The sector trend is towards more container production, at the expense of field production. Some reasons for the shift towards container production are:

- the high cost of land in B.C.,
- returns per hectare can be more than 15-fold greater for container versus field production,
- customers prefer container stock due to its uniformity, ease of handling, and improved establishment,
- greater opportunity for mechanization; mechanization is required for large-scale production to be competitive,
- the ability to harvest and transplant stock during most of the year,
- plant harvesting is not affected as much by poor weather,
- it results in accelerated crop growth, and
- it does not directly lead to soil erosion.

There is a tremendous range in container sizes used by the sector. Containers range from liners (e.g. multiple-celled plug trays and 7 to 15-cm pots) to large pots (1 to 5 gallon) and tubs (7 to 25 gallon). The B.C. nursery sector has adopted the nursery stock container classes of the American National Standards Institute (ANSI Z60.1-1996).

This system defines container classes based on minimum and maximum volumes. For instance, a #1 pot must have a volume of 2.5 to 4.1 litres<sup>33</sup>. The container standards are listed in the *B.C. Landscape Standard* that can be obtained from the BCLNA.

Growers that sell container stock to U.S. retailers need to be aware of U.S. labeling requirements. In 2005, U.S. regulators notified the retail sector that container stock must comply with the *Uniform Weights and Measures Law* and the *Uniform Packaging*

*and Labeling Regulations*. The intent is to provide accurate labeling to assist consumers to compare similar products. If a plant is sold in a 1-gallon pot, the container must have a volume of 1-gallon. This legislation requires that three kinds of information be easily accessible to the consumer, either on signage or on the container label, including:

- a declaration of identity - the common or botanical name of the plant,
- a declaration of net contents - must describe the contents by weight, measure (container volume) or count, and the quantity declaration must be presented in Imperial and metric measure, and
- a declaration of responsibility – the name of the business that grew, brokered or retailed the item.

**Figure 7.** Digging a field-grown tree with a tree spade.



**Figure 8.** The root ball is wrapped in burlap and secured with a wire basket.



<sup>32</sup> "News Watch. Horticultural Research Institute Funds Development of Mechanized Container-Handling System". *American Nurseryman*, January 15, 1999, page 10.

<sup>33</sup> *BC Landscape Standard*, 2001 (6<sup>th</sup> edition). Published by the BC Society of Landscape Architects and the BC Nursery Trades Association.

Relative to field production, container production has several disadvantages. First, it has higher capital investment. Building and machinery replacement costs are 3-fold higher for container versus field production, and the difference is even greater if the container operation has a propagation greenhouse or pot-in-pot beds. Second, it requires a higher level of management due to the greater dependence on supplemental irrigation and nutrition. Third, the grower must deal with the problem of wind-throw of containers. Fourth, there is a greater threat of root damage as a result of root exposure to extreme temperatures.

The impact of soil removal on land productivity should not be ignored if you choose to produce balled stock.

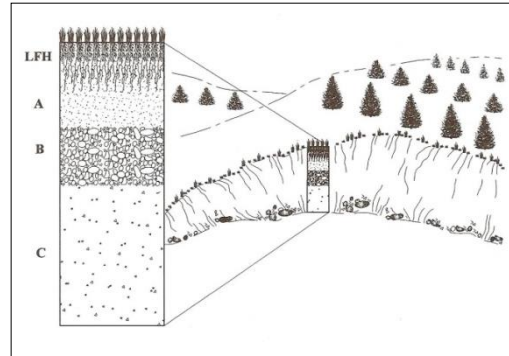
Soil consists of several distinct layers (refer to Figure 9), including the A horizon, and the underlying B and C horizons. The A horizon or topsoil contains large quantities of organic matter and plant nutrients, relative to the B and C horizons.

Organic matter consists of plant and animal tissues in varying stages of decomposition. Soil organic matter has an important role in soil productivity. It improves soil structure, aeration, water penetration, and moisture-holding capacity, and it is largely responsible for nutrient availability in the soil. Removal of soil from the A horizon, which occurs when balled stock is dug, results in a reduction in the soil organic matter content and, thereby, reduces soil productivity. About 470 tons of soil per acre, or 7 cm in 5 years, is removed with the harvest of trees with a 100 cm root ball<sup>34</sup>.

The addition of compost or manure, and the use of cover crops are recommended to encourage the development of fertile and deep topsoil. This will result in a greater proportion of the soil removed at tree harvest consisting of added materials, thereby reducing the loss of native soil.

Other management practices recommended to reduce soil loss are presented in the Ministry's *Environmental Farm Plan Reference Guide*.

**Figure 9.** A soil profile<sup>35</sup> showing the LFH layer, which contains non-decomposed and partially decomposed litter, and the A, B, and C horizons. The A horizon is the first layer of true mineral soil and the topsoil layer, the B horizon is the subsoil, and the C horizon represents the soil parent material.



A new container system that has been adopted by several nurseries in B.C. is the pot-in-pot system. This system incorporates a typical nursery container that is placed within a plastic liner embedded in the soil. If poor soil drainage does not permit the use of the in-ground system, a system has been developed for use above ground.

The pot-in-pot system is an alternative to field production for larger nursery stock. The system incorporates the benefits of container systems and eliminates some of the disadvantages. The pot-in-pot system eliminates wind-throw of containers and heat-induced root damage during the summer, and reduces winter damage to the root system. The biggest drawbacks of the system are the cost and preventing root growth out of the drain holes and into the native soil. Pot-in-pot production may not be practical in the wet coastal areas because of drainage problems.

The BCLNA's *Buyers Guide* provides information on the types of plants grown in the field and the approximate volumes of

<sup>34</sup> Davidson, H., Mecklenburg, R. and Peterson, C. 1988. Nursery Management Administration and Culture. Prentice Hall, NJ.

<sup>35</sup> *Environmental Guidelines for the Nursery & Turf Industry in British Columbia*, 1994. Published by the BC Ministry of Agriculture, Fisheries and Food.

production. The *Buyers Guide* is also an excellent resource to identify suppliers of specific types of nursery stock.

**Figure 10.** The pot-in-pot crop can be easily removed from the liner pot that is embedded in the soil.



**Comparison of Relative Production Costs of Different Stock Types:**

Table 2 lists the relative direct expenses for three representative crop sizes, including liners, #1 containers, and balled stock. There are major differences in the proportion of direct expenses attributed to crop supplies and labour, with liner crops requiring significantly higher labour and less crop supplies, relative to #1 containers and balled stock. Labour requirements will depend largely on the efficiency of the nursery layout and on the adoption of mechanization.

**Table 2.** Comparison of Direct Expenses Incurred with Liner, Container, and Field-Grown Deciduous Stock.

Direct Expense	6 cm Liner Deciduous Shrub <sup>36</sup>	#1 Deciduous Shrub <sup>37</sup>	Field-Grown Deciduous Tree <sup>38</sup>
<b>Crop Supplies</b> (liners, soilless media, fertilizer, pesticides, pots and plant tags)	29%	81.4%	69.5%
<b>Utilities / Fuel</b>	13%	0.2%	6.3%
<b>Repairs &amp; Maintenance</b>	4%	0.2%	3%
<b>Labour</b> (propagation, potting, pest control, grading and loading, field preparation)	44%	15.2%	19.2%
<b>Marketing</b>	10%	3%	2%

<sup>36</sup> BCMAF, "Deciduous Shrub Liner Production Fraser Valley." *Planning For Profit*, Fall 1996.

<sup>37</sup> BCMAF, "One Gallon Deciduous Shrub Containers Fraser Valley." *Planning For Profit*, Fall 1996.

<sup>38</sup> BCMAF, "Field Grown Deciduous Trees." *Planning For Profit*, Spring 1993.



For many new growers, the scale of your operation will not justify purchasing the latest mechanized equipment nor, in some cases, even basic mechanized systems. For instance, a sector survey found that small growers (sales of \$100,000 to \$300,000) do not have automated potting equipment<sup>39</sup>. In contrast, 16.8% of medium-sized growers (sales of \$300,000 to \$1 million) and 43.9% of large growers (sales in excess of \$1 million) do have automated potting machines<sup>40</sup>. Without automated systems, costs of production can be expected to be higher for a new nursery relative to an established, larger nursery.

A shortage of skilled labour in some of the major nursery producing regions is driving the development and adoption of mechanization. One exciting area of mechanization is the development of robotics systems. In the future, there will be greater use of automated systems in the nursery sector. This will reduce production costs, but will increase capital costs.

There are also differences in the returns and capital costs. Liner crops have higher returns per unit area, higher costs for buildings and machinery, and lower land requirements, relative to #1 pots and field-grown caliper stock. The major capital cost with liner production is the propagation greenhouse, whereas for container and field-grown stock it is tractors and associated equipment.

A 2002 sector survey of nursery growers, conducted by the BCLNA, concluded that “operations with 80% or more acres in field production return median sale of about \$9,000 per acre [per year]. Operations with 80% or more acres in container and/or greenhouse/polyhouse production return median sales of about \$140,000 per acre. Operations with no field production at all

return median sales of about \$155,000 per acre.”<sup>41</sup>

**Figure 11.** Automated pruner for use with a rolling table system.



**Figure 12.** Retractable roof greenhouses are very versatile; automation enables variable shade control and excellent ventilation.



**Method of Propagation:** There are many different propagation methods to produce nursery crops. The method used depends on the nursery’s propagation skills and which method is most cost effective for the crop.

Most nursery crops are produced from seeds, cuttings or divisions. Production from seeds is generally the least expensive method but the plants produced are not generally identical to their parents. Thus, seed propagation is not suitable for most cultivars.

<sup>39</sup> *The Nursery and Landscape Industry in British Columbia*. 2002. BC Landscape & Nursery Association.

<sup>40</sup> *The Nursery and Landscape Industry in British Columbia*. 2002. BC Landscape & Nursery Association.

<sup>41</sup> *The Nursery and Landscape Industry in British Columbia*, 2002. BC Landscape & Nursery Association.

In order to maintain the unique characteristics of a cultivar, it is necessary to use an asexual method of propagation. Rooting of cuttings and plant division are common asexual methods. Grafting (Figure 13), budding, and tissue culture techniques are also important methods. However, their use is limited because they are labour-intensive and require very specialized skills and equipment. Grafting, budding and tissue culture methods are usually reserved for high value crops that cannot be efficiently propagated from seeds or cuttings.

**Figure 13.** Whip grafted maple liners.



Some nursery catalogues list the method of propagation used for each crop. This can be very useful information for the new grower. For example, the wholesale catalogue from Monrovia Nursery does provide this type of information.

To work out a propagation protocol for a particular crop requires research and personal experience. There is considerable information available in books, trade magazines and scientific journals. The best advice is to keep detailed records so that you can repeat procedures that are successful. The International Plant Propagators' Society is an excellent resource for information, either through the proceedings from their annual meetings or from discussions with members at Society events. The motto of the Society is *To Seek and To Share* and

members truly do openly share information with members.

When propagating plant material it is important to be aware of any trademarks or patents that may be registered on the particular variety or cultivar being propagated. For more information on these subjects refer to the section titled *Plant Patents*.

**Suppliers of Planting Stock:** Once decisions have been made on the crops to produce, the next question often is where to purchase stock plants. The BCLNA's *Buyers Guide* is an excellent source to identify suppliers. It lists the volumes, sizes and types of crops grown at member nurseries. The *Buyers Guide* is available from the BCLNA and there is an online version.

If you are purchasing stock plants for in-house asexual propagation, it is critical to ensure you are buying material that is true-to-name. It is also important to ensure the material is free of regulated pests. If a regulated pest is detected at your nursery, then the Canadian Food Inspection Agency (CFIA) will take steps to eradicate it. These actions can include prohibitions on plant movement and destruction of affected stock, which can result in lost market opportunities and serious financial hardship. The threat posed by regulated pests is very real and has been referred to as the single greatest external threat to the sector.

In the past decade, several exotic pests (e.g. *Phytophthora ramorum*, Asian Longhorned Beetle and Emerald Ash Borer) have been detected in North America and have had a very negative impact on the ornamental sector. The finding of *Ralstonia solanacearum*, Race 3 (Biovar 2) in the U.S. in 2003 resulted in more than 800 greenhouses being quarantined and financial losses for the sector estimated at more than \$4 million. The detection of the pathogen in some greenhouses resulted in the entire geranium crop being destroyed, with no immediate financial compensation. In 2004, the detection of the quarantine pathogen, *Phytophthora ramorum*, at a few facilities in B.C. resulted in the destruction of over a



\$500,000 worth of plants, and in excess of \$2.2 million in total costs for crop destruction and lost business.

**Figure 14.** Restricted access, signage and foot dips are components of nursery biosecurity.



Due to concerns of spreading *Phytophthora ramorum*, the organism that causes Sudden Oak Death or Ramorum Blight, the B.C. nursery sector implemented a voluntary *P. ramorum* certification program in 2004. The program is now part of the national Clean Plants program, which is managed by the Canadian Nursery Certification Institute. The program includes nursery sampling and testing for *P. ramorum*, and the implementation of biosecurity, record keeping and audit procedures. The program was developed to provide growers with a method of assuring themselves, their clients, the public and Canada's trading partners that B.C. is not producing or selling *P. ramorum* infected plants. Providing a *P. ramorum* certification program was crucial to maintain access to the Canadian and US markets. The situation is continually changing and you are advised to check with the CFIA or the Canadian Landscape and Nursery Association for the latest requirements for wholesale nurseries.

Growers need to understand the risk associated with importing plant material and take effective action to minimize the risks.

Although producers should expect clean stock from suppliers, in reality this is not always true. Producers need to implement procedures to detect pests on incoming stock and reduce the risk of spreading the pest to other crops at their operation. Some steps that can be taken to protect your nursery include:

1. **Know Your Suppliers** - Are they in or near an area that is regulated for a pest of concern? Where do they source their stock? What steps do they take to ensure their stock is clean?
2. **Isolate Crops at the Facility** - New shipments, especially from high risk areas or of high risk crops, should be isolated in a 'quarantine' area and regularly monitored for pests.
3. **Quick Detection and Action of Unknown Pests** - Monitor crops regularly, especially new stock. Be aware of regulated pests, and their symptoms and signs. Information on some of the exotic pests of concern to nursery growers are described in Chapter 1 of the *Nursery Production Guide*. Immediately contact local agencies for assistance to identify a 'new' pest or disorder.
4. **Sanitation** - Off-load plant shipments at a location that can be easily cleaned; bag and discard all debris. Grow potted crops on a free-draining surface to prevent puddles and splashing. Take steps to reduce the risk of spreading pests between production areas on staff and equipment.
5. **Maintain Accurate Records on Crop Movements** - Crop movement records are required for trace-out investigations. Keep records on the product, amount, date, and the origin and/or receiver of the plants.

## **BUSINESS REGISTRATION AND LICENCING**

Once the decision has been made to undertake a nursery business venture, one of the first details to address is what type of business structure to operate under. "From a legal point of view, there are three common types of businesses: sole proprietorship, partnership and corporation. Each has different and important implications for liability, taxation and succession."<sup>42</sup> For a discussion on the advantages and disadvantages of each refer to the Small Business B.C. Education Centre website. It is advisable to consult a lawyer and/or accountant to determine which business structure is most suitable and to help set up the business.

Contact your local Government Agent Office or the provincial Corporate Registry for information on how and where to register or incorporate a business in your area.

A municipal business license may be required for each location that the business occupies, depending on whether the business sells at the wholesale or retail level, and whether the products are grown on site or shipped in from elsewhere. A business license may also be required for each municipality in which the business makes sales. Business license requirements may vary between municipalities, check with the city hall licensing department of the municipalities involved.

There is considerable information on the Internet that will be useful when setting up your business. The Canada / British Columbia Business Services Society's website has resources for new business entrepreneurs. The business start-up section has information on business registering and licensing requirements, land use and zoning, labour requirements, and keeping business records. The site also has an interactive

business planner, small business guides, e-business information and numerous links to useful government sites.

The One Stop Business Services site is an excellent source for details on starting a new business, and business registration and licensing. Once you have your business registered provincially, enter the one stop business registration service to register for the other government registrations you need: GST, PST, Canada Revenue Agency, WorkSafeBC coverage, and municipal license. You must complete a company name search before you can apply for these government registrations.

One Stop Business Service Centres are located throughout the province, see their website for office locations.

## **INSURANCE COVERAGE**

Insurance coverage beyond WorkSafeBC is another area to consider. Private insurers can provide customized insurance plans to meet your needs. The plan may include farm, greenhouse, liability, life and other types of insurance coverage.

Weather can damage a crop or make it unmarketable. Insurance against weather-related crop loss is provided by the government-run Production Insurance program in B.C. At this time, the program does not provide coverage for any nursery crops.

The Canadian Agricultural Income Stabilization (CAIS) Program is a joint federal/provincial/territorial business risk management program that provides disaster protection. CAIS helps producers to protect their farming operations from both small and large drops in income. A farm will receive a payment from CAIS when their current year farm income is less than their average farm income from previous years. The amount of support received is based on the level of protection chosen. The program is a whole-farm program available to eligible farmers regardless of the commodities they produce.

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<sup>42</sup> Online Small Business Workshop.

## **ROLES OF SECTOR ASSOCIATIONS**

There is a network of agricultural sector associations which provide various forms of representation for the B.C. nursery sector. The following list progresses from the local grassroots level through to the national organizations.

### **Landscape and Nursery Only:**

**B.C. Landscape & Nursery Association (BCLNA)** - The BCLNA has more than 600 members, representing three commodities: wholesale nursery, retail nursery/garden centre; and landscape professionals. It also includes as members the sector's educators, suppliers, consultants and affiliated government agencies.

The organization was formed in 1953 and is today a strong organization, providing a forum for companies with shared interests and concerns to work together on local, regional and provincial issues. Individual companies may contact the BCLNA for a listing of membership services and benefits.

**Canadian Nursery Landscape Association (CNLA)**: Individual companies can join the CNLA only by becoming a member of a provincial nursery association, such as the

BCLNA. The CNLA, which counts as members all the provincial associations, represents the nursery sector on all national issues. It also provides a wide range of membership benefits.

### **Pan-Horticulture:**

**Canadian Horticulture Council:** The nursery sector is represented in this national organization through the CNLA. Representing a cross-section of Canadian horticultural organizations, it includes in its membership individual provincial organizations as well as umbrella groups like CNLA.

### **Pan-Agriculture:**

**B.C. Agriculture Council (BCAC):** The BCAC is the provincial "umbrella" organization for agriculture. Individual farm organizations (like the BCLNA) are members through their association. Its objective is to provide an efficient and effective voice for those issues which impact on all of B.C. agriculture.

**Canadian Federation of Agriculture:** This organization, like the CHC, includes both individual and umbrella groups from across Canada. It provides a voice for pan-Canadian agricultural issues.

## APPENDIX 1 - Regulations

There are numerous municipal, federal, and provincial acts and bylaws that regulate what you can do on your farm. Below is some information on a few regulations that should be considered when setting up a nursery. This is not an all-inclusive listing.

### FEDERAL REGULATIONS

**Customs Act:** The Act governs the importation and exportation of goods in and out of Canada. The Act also regulates the transportation, movement and storage of goods. A certificate of origin is required for all goods being imported into Canada and goods being exported to the U.S. For detailed information on the required documentation for import and export shipments, visit the [importsource.ca](http://importsource.ca) or [exportsource.ca](http://exportsource.ca) website.

**Excise Tax Act (GST):** Legislates taxes payable on goods and services sold within Canada (Goods and Services Tax). Individuals or businesses operating in Canada with worldwide annual revenues from taxable supplies of goods and services over \$30,000 are required to register for GST with the Canada Revenue Agency (CRA), and collect and remit GST on sales made within Canada. Registration is voluntary for business with annual revenue below \$30,000 but may be beneficial in order to receive input tax credits on business purchases made.

**Fisheries Act:** The *Fisheries Act* is federal legislation established to protect Canada's fisheries resources and supporting habitats. It applies to all Canadian waters, including ditches, streams, marshes, rivers, lakes, estuaries, coastal waters and marine offshore areas. The Act also applies to seasonally wetted fish habitat such as shorelines, stream banks, flood plains, intermittent tributaries and privately owned land.

The habitat protection provisions of the *Fisheries Act* are of particular interest to farmers. These sections prescribe that no one may carry out work or undertaking that results in a harmful alteration, disruption or destruction of fish habitat, unless it has been authorized by Department of Fisheries and Oceans (DFO). The Act also prohibits the deposit of harmful substances into waters containing fish, such as fertilizers, pesticides, manure, sediment, etc.

Farmers should contact DFO before working in any watercourse to help determine the requirements that may apply to a specific project.

**Migratory Birds Convention Act:** This Act is designed to protect migratory birds that inhabit Canada during part or all of the year. There are provisions in the Act covering when and where birds may not be killed or captured or their nests or eggs disturbed. Although migratory birds may damage agricultural lands, it is an offence under the Act to release substances which may harm them.

**Pest Control Products Act:** The intent of the Act is to ensure the safety, merit and value of pest control products used in Canada. It focuses on the protection of human health and the environment, and product performance.

Under the Act, a control product is defined as any product, device, organism or substance that is manufactured, represented, sold or used to control, prevent, destroy, mitigate, repel or attract pests. The term pest includes any injurious, noxious or troublesome insect, fungus, bacterial organism, virus, weed, rodent or other plant or animal pest. Products regulated under the Act include herbicides, fungicides, insecticides, biological agents such as bacteria and viruses, antimicrobial agents, growth regulators, wood preservatives and water purification products.

All pest control products used or imported into Canada must be registered in Canada.

***Plant Breeders' Rights Act:*** Governs the rights to propagate, or sell for the purpose of propagation, new varieties and cultivars of plant material that have been registered with the Plant Breeders' Rights Office, for a period of up to 18 years. For specific information on which cultivars or varieties are protected by the Act contact the Canadian Ornamental Plant Foundation.

***Plant Protection Act:*** The purpose of this Act is to protect plant life and the agriculture and forestry industries by preventing the importation, exportation and spread of injurious pests, and by providing for their control and eradication as well as the certification of plants and other things.

Regulations under the Act restrict the movement of plant material worldwide. There are also provincial acts that regulate the movement of nursery stock to prevent the spread of pests. The *Nursery Production Guide* provides information on plants that have movement restrictions due to the provincial and federal regulations. Contact the Canadian Food Inspection Agency (CFIA) for information on movement restrictions and phytosanitary requirements of nursery stock.

**Domestic Shipments** - Some areas in Canada are classified as a 'regulated region', due to the presence of a regulated pest. Nursery stock to be shipped from a regulated to a non-regulated area requires a domestic movement certificate. A certificate is issued based on an inspection of the stock by the CFIA. For some regulated pests, there are specific management practices that must be implemented for stock to qualify for a movement certificate.

**Export Shipments** - A phytosanitary certificate from the CFIA is required for all export shipments. This document is an assurance that the plants are free of quarantine pests and substantially free of other pests. Export certification is a quarantine requirement of importing countries.

**Import Shipments** - An import permit is required to import nursery stock into Canada from any country, with the exception of the continental U.S. An import permit is required for nursery stock from the continental U.S. only where there are specific quarantine regulations governing their movement. Permits are often issued for a three year period. Permit application forms are available from the CFIA. A phytosanitary certificate issued by the exporting country is required in most cases, as described above.

The Act also provides for the monitoring of pests. It obligates anyone discovering a pest, in an area where the pest has not previously been known to exist, to notify Agriculture and Agri-Food Canada immediately and provide a specimen for identification.

## PROVINCIAL REGULATIONS

***Assessment Act:*** B.C. Assessment is responsible for classifying and determining the market value of all properties in B.C. This information is used by taxing authorities to set property taxes.

Property taxes are usually based on market value. However, the value of farm land (Class 9 land) is based on agricultural productivity of the land. Land productivity is calculated from a commissioner rate formula. Based on this formula, the maximum value of 'farm class' land is about \$10,000/ha, which is well below the market value. Therefore, the farm land classification significantly reduces the property taxes assessed.

To be classified as farm land, the property must produce primary agricultural products



for sale such as a crop or livestock. Classification of farm status of an operation is made by the B.C. Assessment on the basis of land area and annual gross income from primary production.

**Commercial Transport Act:** Covers the registration, licensing and operation of commercial vehicles. Its goal is to ensure public safety. Provisions under the Act cover vehicle and load size, weight, projections and overhangs. Under the Act, the police and appointed inspectors can prohibit the operation of any vehicle they feel is unsafe.

**Drainage, Ditch and Dike Act:** Establishes a system for the regulation and authorization of ditches, watercourses, drainages, and dikes throughout the province.

**Drinking Water Protection Act:** Prohibits contaminating drinking water by introducing or causing anything to be introduced into a domestic water system, a drinking water source, a well recharge zone or an area adjacent to a drinking water source.

**Electrical Safety Act:** Outlines the duties and responsibilities of owners and occupiers of structures in which electrical equipment is used. It also outlines what is required of contractors and employees designing, installing, testing and using electrical equipment.

**Employment Standards Act:** Governs payment of wages, hours of work, breaks, and termination of employees, and employers' record keeping obligations. A guide to the *Employment Standards Act* is available from the Ministry of Jobs, Tourism and Skills Training.

**Environmental Management Act:** The Act is responsible for controlling pollution in B.C. The Act defines pollution as "the presence in the environment of substances or contaminants that

substantially alter or impair the usefulness of the environment." Under the Act, agricultural waste must not be directly discharged into a watercourse or ground water. Regulations in the Act also address specific issues including agricultural waste control, open burning smoke control, compost production and use, petroleum storage, chemical waste control, and spill reporting.

If agricultural wastes are handled on the farm in accordance with the Code of Agricultural Practice of Waste Management, then the operation is exempt from holding a waste management permit.

The *Environmental Farm Plan Reference Guide* supports the Code, and provides the sector with various options for managing farms in an environmentally sound manner, without contravening Federal or Provincial environmental laws or regulations.

#### ***Farm Practices Protection (Right to Farm)***

**Act:** The fundamental policy of the Act is that farmers have a right to farm in B.C., particularly in the Agricultural Land Reserve, provided they use 'normal farm practices' and follow other legislation listed in the Act. The Act stipulates that farm operations must abide by regulations in the *Health Act*, *Pesticide Control Act* and *Waste Management Act*.

The Act also amends the *Municipal Act* and *Land Title Act* to encourage local governments to support farming by ensuring local bylaws reflect provincial standards for farming.

The Act also establishes an improved complaint resolution process for people who live near farms and have concerns about farm practices which create dust, odour, noise or other disturbances.

**Fish Protection Act:** Fish and fish habitat are protected by rules established in relation to water licenses on "sensitive streams" where the sustainability of fish habitat is at risk. The Act allows the provincial government to establish directives for local

governments in preserving streamside areas from residential, commercial and industrial development.

**Health Act:** Safeguarding the health of British Columbians is the focus of this Act. The Act regulates farm practices that may result in a health hazard. Such hazards can occur when nutrients, contaminants or pathogens are discharged into or on to land, water or air. Refuse, unpurified sewage, and other substances may not be discharged to the environment.

Specific regulations cover removal of health hazards, sanitation standards in public buildings, ventilation, sewage handling, and water and food safety. Agritourism and destination nursery businesses also need to consider the Act's regulations concerning food service facilities that may be part of the operation.

**Highway Act:** The purposes of this Act are to ensure travel on highways is safe and to protect B.C.'s transportation infrastructure. Under the Act, it is an offence to place or leave any material on public roads. This includes offensive substances (such as mud or manure), containers, and other debris.

Signs and mail boxes cannot be erected without a permit from the B.C. Ministry of Transportation and Infrastructure. To obtain a sign, a roadside vendor must provide safe access and sufficient parking. Lights which distract motorists are forbidden.

Ditches, culverts or flumes cannot be changed or installed without permission. The ministry may impose load restrictions limiting the size and weight of agricultural vehicles on certain roads.

**Motor Vehicle Act:** The purpose of the Act is to protect people traveling on public roads. Specific provisions cover the movement of farm equipment on public roads. Farmers may drive, propel, draw

and move implements of husbandry on certain roads. They may also carry farm products, supplies, stock, fertilizer, seed and tools in trailers. Slow moving vehicles may not impede other traffic.

The Act regulates the distance at which signs can be erected from highways in rural areas of B.C., as well as light emissions and reflections which may affect visibility on the highway. Other provisions cover the parking of vehicles along highways and the use of vehicles along highways to sell produce.

Specific regulations cover the location of cattle guards, fences and gates.

Under the Act it is an offence to dump or deposit any "noisome, nauseous or offensive matter" on a highway or right-of-way.

**Integrated Pest Management Act:** This Act establishes a regulatory regime for the control of pesticides. The Ministry of Environment is responsible to license and certify sales, purchases and the use of pesticides in the Province. The Act also regulates storage, disposition and transportation of pesticides. Applicators and sellers of pesticides are required to undergo training and certification. To obtain a certificate you must pass the provincial Pesticide Applicator Exam. Courses are offered at some community colleges to prepare applicants for the exam, and study kits including reading material and videos are available for learning the exam material.

**Plant Protection Act:** The Act provides for the prevention of the spread of pests destructive to plants in B.C. It gives inspectors the power to enforce provisions in the Act, including the establishment of quarantine areas. This Act is the provincial counterpart to the federal *Plant Protection Act*. The B.C. Plant Protection Advisory Council helps enforce the Act by advising provincial and federal officials of potential insect, plant disease, weed and other hazards.

**Safety Standards Act:** The purpose of this Act is to ensure boiler and pressure vessel safety in British Columbia. The Act outlines the responsibilities of boiler, pressure vessel and refrigeration equipment owners and qualifications needed by personnel operating it. Specific regulations cover the design, construction, installation, inspection, operation, condition, alteration maintenance, transportation, repair, testing, sale and exchange of boilers, pressure vessels, pressure piping, fittings and refrigeration equipment.

**Social Services Tax Act:** Social Services Tax, or PST, is applicable to most products sold in the province of B.C. Any business selling taxable goods at retail is required to register as a vendor with the Consumer Taxation Branch, Ministry of Finance, and collect and remit social service tax (retail sales tax) on taxable sales.

In B.C., bona fide farmers are exempt from paying social services tax on certain purchases intended for farm use. Tax exemptions include supplies, such as fertilizer, growing medium and fuel, and purchases of capital assets such as tree diggers and irrigation equipment.

Coloured fuel and propane may be purchased PST exempt for vehicles used entirely for farm business use. A Family Farm Truck Emblem may be obtained to purchase PST exempt fuel for vehicles that are used for farm and restricted personal use.

To claim farmers' provincial sales tax exemption, farm businesses must obtain a **B.C. Farm Identity Card** which identifies them as a bona fide farmer. A "bona fide farmer" means a person who holds or leases land classified as farm land under the provisions of the Assessment Act of B.C. Once bona fide farmer status has been established, a refund may also be obtained for tax paid

on applicable farm purchases for the previous two years.

All bona fide B.C. farmers are eligible for the B.C. Farmer Identity Card. For details on how to obtain a B.C. Farmer Identity Card, contact the B.C. Agriculture Council.

**Soil Conservation Act:** The Act is intended to protect soil on land in the Agricultural Land Reserve by regulating its removal and the placement of fill. Removal or deposit of fill on land requires the approval of the local government authority and a permit from the Agricultural Land Commission. The Commission sets terms and conditions on the quantities of earth involved, how the work is to be undertaken, and the restoration required to return the land to a condition fit and suitable for agriculture.

**Transport of Dangerous Goods Act:** Establishes requirements to provide for the safe transport of goods deemed to be dangerous. Under the Act, all safety requirements must be met and all dangerous goods and vehicles transporting dangerous goods must be appropriately marked. Regulations specify which substances and organisms are dangerous and establish classes of dangerous goods. They are: (1) explosives, (2) gasses, (3) flammable and combustible liquids, (4) flammable solids, (5) oxidizing substances, (6) poisonous and infectious substances, (7) radioactive materials, (8) corrosives, and (9) miscellaneous products, substances or organisms dangerous to life, health, property or the environment.

**Weed Control Act:** The purpose of the Act is to protect our natural resources and sector from the negative impacts of noxious weeds. It is an offense under the Act to sell nursery stock that contains a noxious weed, or a propagative part of a noxious weed.

**Worker's Compensation Act:** The Industrial Health & Safety Regulations cover a broad range of issues regarding worker safety. A requirement of the regulations is the implementation of an industrial health and safety program at the workplace.

Four sets of health and safety regulations cover B.C. companies, large and small:

- a) Occupational Health and Safety Regulations establish minimum health and safety requirements.
- b) Occupational First Aid Regulations outline the first aid services and equipment employers must provide.
- c) Workplace Hazardous Materials Information System regulations cover hazardous substances and the information that must be provided.
- d) Occupational Environment Regulations cover work conditions such as illumination, atmospheric contaminants and ventilation in factories, shops and offices.

Registration is required for all employers and a premium is payable based on wages and an assessed rate to provide WCB insurance coverage for workers. Individuals operating as a proprietorship are not required to register with WCB but may opt for the Optional Personal Protection.

The Farm and Ranch Safety and Health Association (FARSHA) assists producers to follow B.C.'s Occupational Health and Safety Regulations for Agriculture. FARSHA is a non-profit organization that is dedicated to reduce the incidence of injuries and accidents on B.C. farms and ranches. They also provide resource materials, presentations, assistance in establishing safety committees, and on-site health and safety reviews.

**Water Act:** This Act creates a system for the regulation of the Province's fresh water systems. A license must be obtained before using, storing or diverting surface water or making changes in or about a stream.

## **MUNICIPAL REGULATIONS**

Municipalities have bylaws to deal with greenhouse site coverage, building codes, woodwaste deposition, storm water

management plans, boiler emissions, and setbacks from property lines and water courses.

Municipalities also have zoning bylaws that restrict the type of development permitted on a parcel of land. While checking on the zoning of property you are interested in purchasing, inquire about future municipal plans for the area. Plans for large roadways or subdivisions may already be in the works.

Contact the municipal government for more specific information on bylaws that will pertain to your nursery.