

AG Ventures

Agriculture Business Profiles

Revised May 2006

Agdex 275/830-1

Commercial Tree Nursery Industry

The purpose of this factsheet is to provide an objective overview of the tree nursery industry. This overview is not intended to be a substitute for individuals making their own thorough assessment of key factors that would influence the success of their individual enterprise.

1. Industry Highlights

- In a nursery enterprise, plants are managed through various stages of production until they have grown to a saleable size. Nurseries are involved in the production and marketing of:
 - evergreen trees and shrubs
 - deciduous trees and shrubs
 - fruit trees
 - seedlings and rooted cuttings
 - perennial flowers
 - forest seedlings
- Combined Canadian sales for sod and nursery products were \$675 million in 2004. This trend coincides with high building permit numbers across Canada and housing starts hitting an all-time high in 2004.¹
- The nursery/landscape business has enjoyed an 8.7 per cent growth over the past 10 years, according to the Canadian Landscape Nursery Association.²
- Industry estimates indicate there were over 4,000 acres of tree nurseries in Alberta in 2004.³
- Statistics Canada indicated a four per cent growth in 2004 for shrubs and ornamental trees nursery area across Canada.⁴
- Landscapers, followed by garden centres selling to do-it-yourselfers, are the two largest consumers of nursery stock.⁵
- Nurseries range in size from small hobby type operations that market a few trees to family and friends, to large-scale commercial operations with their own retail outlets. Tree nurseries are often operated as complementary enterprises to landscaping services, garden centres and sod farms.
- Nurseries may specialize and produce only one major class of nursery stock such as forest seedlings or offer a wide variety of stock to consumers.

1 Greenhouse, Sod and Nursery Industries Statistics Canada 2004 Cat No. 22-202-XIB

2 "Landscape/nursery sector –virtually recession proof" – Farmcentre.com interview with Chris Andrews, executive director of Canadian Landscape Nursery Association, published October/November 2004.

3 "Landscape/nursery sector –virtually recession proof" – Farmcentre.com interview with Chris Andrews, executive director of Canadian Landscape Nursery Association, published October/November 2004.

4 Greenhouse, Sod and Nursery Industries Statistics Canada 2004 Cat No. 22-202-XIB

5 Greenhouse, Sod and Nursery Industries Statistics Canada 2004 Cat No. 22-202-XIB

- A extremely critical management issue in the nursery industry is to establish the markets for the nursery crops before undertaking any production activities. New entrants to nursery crop production must be prepared to spend time researching potential customers, researching different crops, selecting target markets and developing marketing strategies for gaining exposure and acceptance by consumers. The target market determines the nursery crop to be produced, the type of operation to be established and the production practices to be used.

Table 1. Types of nursery producing ornamental trees and shrubs

| Type | Description |
|-----------------------|--|
| Grower/retail nursery | Retail outlet with acreage to grow on-site. |
| Wholesale nursery | Grows plants to sell to other nurseries, landscapers or retailers. May grow on contract basis. |
| Landscape nursery | Provides landscape services and retail sales. |
| Farmer's Market | Sells locally at retail prices. |
| Mail order/website | Sells at provincial/national level. |

- Consumer demand for nursery crops is driven by housing starts, the desire for homeowners to be surrounded by aesthetically pleasing environments and the growing number of hobby gardeners. Demographic experts cite three key demographic trends that show promise for horticultural industries. Baby boomers are getting older, they have money to spend and they are spending money on both interior and exterior home renovations. Boomers are also spending time in the yard and garden.⁶
- An important element in the success of a nursery enterprise is to consistently produce and market high quality products. The market for nursery stock is expected to increase in size due to following factors:
 - homeowners with higher income levels and greater disposable incomes
 - greater numbers of hobby gardeners
 - greater public interest in gardening and landscaping

- increased environmental awareness and the knowledge that trees contribute to a clean environment
- new markets such as industrial landscaping
- an increasing awareness of the therapeutic value of gardening⁷

- Despite this optimistic outlook for the nursery industry, it's important to recognize that nursery products are luxury items and will experience reduced demand during periods of economic downturn. Industry insiders feel the nursery industry can ride through an economic downturn, as people will stay home and spend time in their yard/garden and buy plant material.⁸

- Entrants to the industry require:
 - knowledge of the growing requirements of the various crops
 - the ability to maintain various irrigation, heating, cooling and production equipment
 - the skill to research products and services
 - the know how to develop marketing and sales plans
 - the ability to manage people
 - the ability to sell products and provide quality customer service
 - the knowledge to manage finances

2. Regulatory Basics

- Nursery crops marketed directly to consumers via retail outlets or farm gate sales may be regulated by local municipalities. Sales to consumers within the boundaries of a town or city may require a business and other licenses.
- Retail operators need to be aware of several different regulations. These regulations may include:
 - zoning and building – governed by the local municipality
 - business license – governed by local authorities
 - provincial or municipal sign laws – dealing with the size, location or type of sign used to promote a business
 - Workers' Compensation, provincial employment standards and CRA deductions

6 "Landscape/nursery sector – virtually recession proof" – Farmcentre.com interview with Chris Andrews, executive director of Canadian Landscape Nursery Association, published October/November 2004.

7 Bedding Plants IV, A Manual on the Culture of Bedding Plants as a Greenhouse Crop; Edited by E. Jay Holcomb, Pennsylvania Flower Growers, 1994, page 32.

8 "Landscape/nursery sector – virtually recession proof" – Farmcentre.com interview with Chris Andrews, executive director of Canadian Landscape Nursery Association, published October/November 2004.

- land bylaw use
- access to water/irrigation licenses
- pesticide applicator's license issued through Alberta Environmental Protection's regional offices
- Tree nursery operators also need to monitor ongoing regulatory issues such as:
 - changes in the pesticide legislation
 - changes to plant breeder's rights
 - changes to municipal taxation
 - changes to trade regulations that may restrict exports of nursery crops or increase competition

3. Market Basics

- The key marketing issues of nursery crops are to target market selection, determine what nursery crops to grow and market access.
- Nursery growers must be prepared to do market research. They need to research consumer tastes and preferences for nursery stock as there are different markets for their products and different strategies for gaining exposure and acceptance by consumers. Before any production activities are started, growers require the following information:
 - consumer demographics and trends for purchasing nursery stock
 - consumers specifications, as well as the production requirements necessary for producing the desired product
 - current production levels and any excess in supply
 - production costs and the current wholesale and retail prices for nursery stock
 - marketing strategies of the wholesale buyers
- Entrants to the nursery industry must avoid the trap of producing nursery stock that is the easiest to grow or what they themselves like the most. The main groupings of nursery crops are field and container production. It can be further subdivided into bare root, large caliper trees, pot-in-pot, propagation, deciduous or conifer trees or shrubs, native plants and perennials. You may decide to grow a mixture of crops to reduce risk. Entrants are strongly advised to do a business plan and a market study before starting to grow any crop. Whatever crops you decide to grow, focus on producing high quality, pest-free products.
- The major nursery crops are:
 - evergreen trees and shrubs (evergreens retain their foliage the year-round and include spruce, pine, juniper and cedar)
 - deciduous trees and shrubs (deciduous trees shed their leaves every year)
 - fruit trees
 - seedlings (young plants grown from seed) and cuttings (plants established from stems, roots or leaves of plants)
- Keeping accurate records to determine which crops and varieties sell the best is necessary to establish trends.
- The key characteristic of nursery crops is that they are sold with roots intact. Nursery crops may be marketed as potted stock, container-grown stock, bare root or roots in a ball wrapped with burlap. Nursery operators need to determine which form best meets the needs of their particular market and their operation.
- Nursery operators must clearly establish the market(s) for their nursery crops. The main buyers of nursery stock include consumers, retailers and landscape contractors.
- Retail consumers use nursery stock to landscape their homes. To sell directly to these consumers requires having a retail outlet for the nursery stock. This allows growers the following advantages:⁹
 - the ability to supply high quality products to their customers
 - direct sales that provide cash in periods of cash shortages, especially in the spring
 - interaction with their customers and an opportunity to gain valuable feedback
 - the ability for a producer to start small and test the market as they grow in size
- Developing and operating a retail outlet at the nursery site means the operator must be aware of the following:
 - regulatory requirements of a retail outlet operation
 - liability issues and insurance to provide coverage against injuries to customers
 - the proximity to residential areas, easy access to good roads, a parking area, good signage and facilities to accommodate customers

9 Direct Marketing, A Handbook for Farm Producers; Province of British Columbia, Ministry of Agriculture, Fisheries and Food, page 1.

- To increase sales producers who choose to operate a retail outlet must be prepared to:
 - determine promotional activities to reach potential customers and generate purchases
 - develop a retail environment that creates sales appeal
 - present high quality nursery stock and target market selection
 - effectively display nursery stock to promote sales
 - identify plants with labels that are easy to read and adhere to plants
 - Marketing directly to consumers requires the nursery operator and staff to be friendly, possess retailing skills, provide information such as plant descriptions and how to care for the plants, have a basic understanding of landscaping and be prepared to work long hours; seven days a week during the busy season.
 - Customer service is an important factor in increasing customer perceptions of value and thereby increasing sales. Some suggestions for improved customer service include:
 - making it easy for customers to identify staff
 - having a clear policy covering guarantees and replacement plants
 - not misrepresenting products or services
 - offering personalized services (design outlay or planning services)
 - The wholesale market involves marketing to retail outlets, garden centres, landscape contractors and mass merchandisers such as large retail chains. Growers who are in the wholesale market must ensure that they are growing plant stock that meets the requirements of the specific buyers. A garden centre operator has different needs from a landscaper.
 - Producers seeking to wholesale must be prepared to perform the following activities:
 - develop contacts with prospective buyers and maintain contact with existing clients
 - assess new trends in order to respond to changing consumer tastes and preferences
 - monitor construction starts and the general level of activity within the housing sector
 - sort, handle, label and transport stock as required by buyers
 - provide bar coding for large retailers and wholesalers
 - Nursery operators must be prepared to promote their enterprise and nursery stock. Communication practices used to create awareness include direct mail, catalogues, highway signage, media advertisements (radio, TV, newspaper), websites and trade shows. Word of mouth has worked effectively for many growers.
 - Key pricing issues for nursery stock are the growth rate of new housing and commercial developments, the amount of nursery imports from British Columbia and the northwest United States, competitor pricing, the services you can provide with your trees and how much your customers are willing to pay.
 - **Cost of production** – The price for nursery stock should cover all costs including production, marketing, overhead, the cost of unsold and replacement plants, the cost of unpaid accounts and a return to the owners' capital and management contributions.
 - **Customer perceptions** – Customer questionnaires can determine how customers rank the importance of price as compared to factors such as service and selection. An understanding of customer perceptions of value allows you to determine a maximum acceptable price that consumers are prepared to pay for their plants.
 - *The critical marketing issues* for the tree nursery enterprise manager are to produce the right product, have the product available for consumers at the right time and price, and have the product available at the right market location. Key management activities include researching the various markets in order to determine which products to produce and identifying target markets. This means staying aware of trends in consumer tastes and preferences.
- #### 4. Production Basics
- Nursery crop production requires highly technical and specialized production skills, particularly with respect to propagation. In addition to a fundamental and practical understanding of plants and how they grow, nursery operators require an understanding of the specific growing requirements of each crop and how these growing conditions can be managed to achieve efficient production.
 - New entrants can learn from existing operations, as well as from published materials to assist in developing production processes.

- Hands-on experience can provide new entrants with skills in propagation and managing fertility programs, insects, diseases and weeds.
- Key production issues in a nursery operation include:
 - crop selection
 - production systems that are crop and market specific
 - resource requirements that are crop and market specific
 - cost of production information for each nursery crop and market segment
 - ensuring customers receives quality products
 - recruiting, training and keeping skilled labour force
- **Site location** – Factors to be considered when evaluating tree nursery sites include:
 - soil type and conditions
 - environmental conditions including rainfall, snow accumulation, wind and hail
 - slope of the land
 - access to water for irrigation
 - proximity to markets
 - access to good roads
 - access to labour
 - room for future expansion
 - zoning requirements or limitations
 - potential environmental hazards such as industrial pollution or contaminated water
- **Equipment requirements** – The basic requirements for a nursery operation include:
 - irrigation equipment
 - field equipment such as tractors, trailers and cropping equipment
 - sprayers for control of weeds, insects and diseases
 - office equipment
- **Production systems** – Nurseries use field production or container production systems. In a field production system, plants may be dug, have the soil removed from their roots and marketed as a bare root product. An alternative is to dig the plants with a soil ball around the roots, which can be either wrapped in burlap (known as balled and burlapped or b&b) or potted for sale as potted stock.
- Container grown nursery stock is grown entirely in containers. Container nursery stock is widely accepted by nursery growers as it allows more plants to be grown in a given area and provides a higher percentage of marketable plants than field culture.
- Container grown or potted stock can be planted over a longer season, thus providing the operator with a longer sales season and greater sales volumes. Consumers generally have fewer losses and better results with containerized stock, as compared to other types. A trend today is to grow the majority of ornamental plants in containers. It is estimated that over 80 per cent of plant stock is container grown.
- The main limitations to container grown stock are that containers limit the size of the nursery stock that can be produced. Plants may also become root bound in the container. Unsold stock at the end of the growing/sales season requires significant protection from winter injury.
- **Crop selection** – The decision as to which crops to grow is based on market research and production capabilities. The specific market being targeted determines what crops to produce and crop specifications such as caliper or container stock.
- Each nursery crop requires specific growing practices to improve the quality of the plant. These practices include pruning, as well as control of weeds, insects and diseases.
- Nursery operators can either produce their own plants from seed and vegetative propagation, or purchase seedlings and cuttings from other growers. Purchasing nursery stock allows operators to produce saleable plants more quickly. However, nursery operators who produce their own stock are assured of a reliable supply.
- Key production requirements in producing nursery crops from seed include the following:
 - a good source of seed from a hardy location
 - proper storage conditions for each crop species to maintain seed viability (key requirements are moisture content, storage temperature and relative humidity)
 - seed treatments to break the dormancy of the seeds
 - germination requirements
- Vegetative propagation refers to reproduction through the regeneration of tissues and plant parts. There are different methods of vegetative propagation that can be used, depending on the specific plant species.

- **Irrigation** – These practices have an effect on plant growth and timing. Plants require an adequate supply of water at all stages of growth. Factors such as type of crop (container or field crop), stage of development, temperature, sunlight, air movement, soil or media, and drainage all influence the water requirements for nursery crops. Growers need to determine the best irrigation system and irrigation practices for their particular situation.
 - **Fertilization** – This is a critical element in nursery crop production. For each crop, growers must determine the desired growth rate and how fertilizer rates and formulation will be adjusted to each stage of development.
 - *The critical production management issues* for nursery crop producers are:
 - knowing the growing requirements for the nursery crops being produced
 - developing an effective production process for each nursery crop
 - continually seeking out research information and production practices that contributes to improved yields and quality
 - effectively managing labour requirements
- 5. Economic/Finance Basics**
- Nursery crop growers are continually challenged to achieve a balance between providing consumers with a high quality product, controlling production costs and running a profitable operation.
- Key economic issues in a nursery crop operation are:
 - assessing the profitability and cash flow performance of a proposed enterprise before committing capital
 - determining the capital investment requirements for the proposed nursery operation
 - assessing the financial risks in terms of changing prices or yields
 - managing the costs of production for each nursery crop
 - acquiring the needed capital at favorable terms
 - Individual managers must be prepared to keep accurate records of their production costs to be used in monitoring the profitability of the enterprise.
 - Table 2 shows land in acres and input factors such as labour and purchases for Prairie Provinces (Alberta, Saskatchewan and Manitoba).¹⁰
 - Table 3 shows number of sales of nursery stock by buyer for Prairie Provinces (Alberta, Saskatchewan and Manitoba).¹¹
 - Published data providing insight to the revenues and expenses for nursery operations is limited. Table 4 provides Statistics Canada data of the industry averages for selected expense items (as a per cent of sales) based on a survey of 14 Alberta nursery growers for 1989.¹²

Table 2. Sod and nursery trades, input factors: land, labour and purchases 2003 and 2004.¹⁰

| | 2003 prairie provinces | 2004 prairie provinces |
|---|---------------------------|---------------------------|
| Total number reporting | 355 | 255 |
| Land owned and used for growing nursery stock or sod – acres | 9,000 | 8,020 |
| Land rented and used for growing nursery stock or sod – acres | 1,660 | 1,970 |
| Number of full-time employees | 760 | 770 |
| Number of part-time employees | 1,360 | 1,170 |
| Gross yearly payroll – dollars | 20,177,000 | 21,963,500 |
| Purchased for growing on – dollars | 4,882,000 | 4,792,200 |
| Purchased for resale – dollars | 11,141,000 | 11,155,700 |
| Total purchases of nursery stock – dollars | 16,023,000 | 15,947,700 |

¹⁰ Greenhouse, Sod and Nursery Industries Statistics Canada 2004 Cat No. 22-202-XIB

¹¹ Greenhouse, Sod and Nursery Industries Statistics Canada 2004 Cat No. 22-202-XIB

¹² Original Source; Statistics Canada, Small Business and Special Surveys Division. Presented in Alberta Business Profile; Nurseries; published by Alberta Economic Development and Tourism, March 1993.

Table 3. Sales of nursery stock: 2003 and 2004 (includes purchases for resale).¹¹

| Value of stock sold to: | 2003 prairie provinces | 2004 prairie provinces |
|---|-----------------------------------|-----------------------------------|
| Retail – dollars | 19,884,000 | 18,899,800 |
| Fruit growers – dollars | 312,000 | 171,700 |
| Landscape contractors – dollars | 20,480,000 | 21,904,500 |
| Garden centres – dollars | 4,500,000 | 4,519,100 |
| Mass merchandisers – dollars | 701,000 | 1,637,200 |
| Other growers of nursery stock – dollars | 1,934,000 | 2,791,100 |
| Other buyers – dollars | 6,144,000 | 4,497,500 |
| Total sales of nursery stock – dollars | 53,955,000 | 54,420,900 |

Table 4. Selected Industry Averages for Alberta Nurseries – 1989 Expense as a per cent of Sales

| Expense Item | All Businesses Surveyed | Bottom 25% of Businesses Surveyed | Top 25% of Businesses Surveyed |
|------------------------------------|------------------------------------|--|---|
| Cost of Goods Sold | 31.4 | 17 | 37.6 |
| Purchases and materials | 33.7 | 17 | 37.9 |
| Closing inventory | 25.9 | 47.1 | 16.4 |
| Opening inventory | 23.7 | 47.1 | 16.1 |
| Wages Salaries and Benefits | 31.6 | 53.9 | 29.1 |
| Wages and benefits – direct | 6.9 | 0 | 6.5 |
| Wages and benefits – indirect | 24.6 | 53.9 | 22.6 |
| Occupancy Expenses | 18.5 | 25.2 | 15.1 |
| Depreciation | 7.9 | 16.2 | 4.5 |
| Repairs and maintenance | 4.3 | 3.1 | 4.2 |
| Fuel and oil | 0.7 | 2.8 | |
| Utilities | 3.3 | 3.2 | 4.4 |
| Rent | 2.3 | 0.1 | 2.1 |
| Financial Expenses | 3.5 | 3.3 | 4.1 |
| Interest and bank charges | 2.9 | 2.5 | 3.6 |
| Professional fees | 0.6 | 0.8 | 0.5 |
| General Expenses | 7.3 | 7.7 | 7.5 |
| Advertising | 2.2 | 0.8 | 2.7 |
| Delivery expenses | 3.8 | 5.9 | 3.4 |
| Insurance | 1.3 | 1.1 | 1.4 |
| Other Expenses | 6.5 | 16.9 | 5.3 |
| Total Expenses | 98.9 | 124.1 | 98.8 |
| Net Profit (loss) | 1.1 | -24.1 | 1.2 |

- Entrants to the nursery industry must research prices, costs and operating requirements of various types of nursery operations. They must also be prepared to estimate the costs and returns for the specific operation(s) they are considering putting into place.
- Capital investment and operation budget information is available from Alberta Agriculture, Food and Rural Development. *Tree Nursery Profit\$* covers capital investment costs as well as cash flow projections.¹³ *Tree Nursery Profit\$* is profit planning tool intended to provide producers with a framework to identify the type of information and analysis required to assess the viability of their proposed operation. These budgets use assumptions that are considered reasonable. However, individuals need to recognize that key financial variables change as the industry develops. The production costs for individual enterprises vary with the size, location, crops, machinery, labour required and marketing activities.
- In addition to profitability, nursery operators also need to assess the cash flow implications for their proposed enterprise. The key issue is whether the proposed operation will generate sufficient cash flows to meet the cash outflows required for living expenses, debt repayment, operating expenses and capital expenditures.
- It's essential that individuals considering establishing a nursery operation take the time to assess both the profitability and the cash flow implications of their proposed operation. Individuals should consider various strategies for strengthening the financial performance of the proposed operation.
- Financing nursery operations is a separate, but related issue. Conventional lenders, such as banks, may see nursery enterprise as high-risk ventures. In order to acquire the capital needed to develop an enterprise, individual managers will be required to have:
 - a solid business plan with developed markets
 - high levels of equity capital to put into the venture
 - access to capital from private sources such as family and friends
 - a sound production process

- *The critical economic issues* for a nursery enterprise are to achieve all of the factors necessary for their enterprise to be profitable. These factors are:

- gaining access to consumers who are willing to buy
- achieving a market price that is competitive and profitable
- performing the production, harvest and marketing activities at a cost that can be covered by revenues

6. Resources

- The following resources are available to individuals seeking to take a more detailed look at the nursery industry.

Industry Associations

Landscape Alberta Nursery Trades Association
 10215 - 176 Street
 Edmonton, Alberta T5S 1M1
 Phone: (780) 489-1991
 E-mail: info@landscape-alberta.com
 Website: www.landscape-alberta.com

Canadian Nursery Landscape Association
 7856 Fifth Line South RR#4 Station Main
 Milton, Ontario L9T 2X8
 Phone: (888) 446-3499
 E-mail: info@canadanursery.com
 Website: www.canadanursery.com

Canadian Ornamental Plant Foundation
 975 McKeown Avenue, 5A - # 218
 North Bay, Ontario P1B 9P2
 Phone: (800) 265-1629
 Fax: (705) 495-1449
 E-mail: copf@efni.com
 Website: www.copf.org

Publications

Prairie Landscape Magazine
 E-mail info@landscape-alberta.com
 Website: www.landscape-alberta.com/pub.html
 Phone: (780) 489-1991

Landscape Ontario's Horticultural Trades Association
 E-mail: lo@horttrades.com
 Website: www.hort-trades.com
 Phone: (800) 265-5656

American Nurseryman
 E-mail: editors@amerinursery.com
 Website: www.amerinursery.com
 Phone: (800) 621-5727

Government Resources

Alberta Ag-Info Centre
Toll free: 1-866-882-7677

Tree Nursery Profit\$ – Agdex FS275/821-1
Alberta Agriculture, Food and Rural Development
March 2004

Guide to Establishing A Nursery in Alberta – #98-25
Alberta Agriculture, Food and Rural Development
Available at: [www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/opp4112](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/opp4112)

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Canadian Ornamental Situation and Trends (2004)
Agriculture and Agri-Food Canada
Published December 2005

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Nabi Chaudhary – Crops, Economic Analyst; Alberta
Agriculture, Food and Rural Development

Nigel Bowles – Executive Director; Landscape
Alberta Nursery Trades Association

7. Key Management Issues

- Have you clearly defined the products you will be marketing and the target markets that you will be marketing to?
- Have you determined how you will access your market?
- Have you clearly defined the production process and the production resources that you will require to produce for the specific markets targeted above?
- Have you clearly defined the marketing activities that you will be required to perform in order to market your product to the specific market?
- Are you aware of the intensive management required by the production activities of a nursery operation?
- Are you aware of the amount of time you will have to devote to researching your markets and adjusting your production activities to best meet the needs of customers?
- Are you aware of the key performance factors and the level of performance you will have to achieve for your business to be economically viable?
- Have you objectively and thoroughly compared the marketing, production, economic and management requirements of a nursery enterprise together with the resources, skills and abilities that you have available?