

Tree Nursery Profit\$

Agdex FS275/821-1

... profit planning tools for an Alberta coniferous & deciduous tree nursery enterprise

Business Summary

This factsheet provides economic information on establishing and operating a tree nursery in central Alberta. This information was generated by a group of tree nursery operators who arrived at a consensus on investment, production, costs and revenues.

This is an established tree nursery operation that markets both coniferous and deciduous trees to the wholesale market.

This information is intended as a business planning tool. Managers will have to assess all the key production and financial variables that would influence the success of their enterprise.

Production Targets

Tree losses from seeding until harvest	
Coniferous	33%
Deciduous	33%

Production planning should be based on planting sufficient trees each year to sustain target sales and revenues.

Coniferous trees will require 15 acres with 1 acre (600 trees) planted each year. A year of preparation is required followed by planting 1-gallon size seedlings in the next year. Seedlings grow for 5 years and then harvested and marketed at various sizes for the next 6 years.

Deciduous trees will require 70 acres in production with 5 acres (3,000 trees) planted each year. A year of preparation is required followed by the planting of two-year old liners in the next year. Seedlings grow for 3 years and are harvested and are marketed at various sizes for the next 7 years.

Financial Benchmarks

Deciduous revenues as a percentage of total revenues	80%
Labour costs as a percentage of gross revenues	30%

Market Factors

This is a wholesale operation marketing caliper trees FOB (freight on board) the nursery. Primary clients are landscapers and municipalities. Marketing strategies focus on providing a wide variety of trees to meet client needs, developing client relationships and providing high quality stock.

Capital Investment

The investment reflects an established operation that has been in business for a period of time and can generate \$400,000 per year from tree sales. *This is not a startup enterprise.*

	Investment
Land (160 acres)	\$ 320,000
Developments	
Deer fence	\$ 35,000
Well	\$ 7,000
Single phase power	\$ 25,000
Natural gas	\$ 3,200
Telephone	\$ 1,000
Septic system	\$ 5,000
Yard site development	<u>\$ 15,000</u>
Total Developments	\$ 91,200
Main building (50' x 100')	\$ 160,000
Irrigation system (85 acres)	\$ 115,500
Field Equipment	
60 hp tractor	\$ 60,000
20 hp tractor	\$ 20,500
60 hp Skidsteer Loader	\$ 125,000
Cultivators (8' & 5')	\$ 3,450
Sprayer	\$ 3,450
Rototillers (4' & 7')	\$ 7,875
Disc	\$ 2,875
Rotary mower	\$ 1,725
Fertilizer spreader	\$ 2,300
Blade	\$ 2,800
Transplanter	\$ 5,500
Trucks	\$ 30,000
Flatdeck trailer	\$ 7,000
Quad & trailer	\$ 5,750
Hand tools	\$ 6,750
Fuel tanks	\$ 1,200
Shop equipment	\$ 11,500
Office equipment	<u>\$ 23,000</u>
Total Equipment	\$ 320,675
Total Capital Investment	\$1,006,875



Cash Flow Projections — Tree Nursery Enterprise

Cash flow must be looked at separately from revenue and expenses to assess the viability of the enterprise. Year to year variations in prices and the trees marketed will affect cash flow. Individuals investing in a tree nursery enterprise will require sufficient start-up capital to meet cash outflows until sales are made.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cash Outflows						
Total Capital Investment	\$ 672,625	\$308,000	\$ 26,250			
Direct Planting Costs	\$ 68,400	\$ 68,400	\$ 68,400	\$ 68,400	\$ 68,400	\$ 68,400
Indirect Costs	\$ 112,355	\$112,355	\$112,355	\$ 155,941	\$189,053	\$ 222,263
Total Cash Operating Costs¹	\$ 180,755	\$180,755	\$180,755	\$ 224,341	\$257,453	\$ 290,663
Total Debt Payments	\$ 44,670	\$ 44,670	\$ 44,670	\$ 44,670	\$ 44,670	\$ 44,670
Cash Withdrawals	\$ 11,250	\$ 11,250	\$ 11,250	\$ 11,250	\$ 11,250	\$ 11,250
Total Cash Outflows	\$ 909,300	\$544,675	\$262,925	\$ 280,260	\$313,373	\$ 346,583
Cash Inflows						
Sales Revenues				\$ 89,695	\$179,390	\$ 358,780
Equity Capital (investment)	\$ 533,644					
Start-Up Capital (operating)	\$ 130,000	\$185,000	\$185,000	\$ 165,000	\$ 90,000	
Debt Capital	\$ 473,231					
Total Inflows	\$1,136,875	\$185,000	\$185,000	\$ 254,695	\$269,390	\$ 358,780
Net Cash Flows	\$ 227,575	\$(359,675)	\$(77,925)	\$ (25,565)	\$(43,983)	\$ 12,197
Cumulative Cash Flows	\$ 227,575	\$(132,099)	\$(210,024)	\$(235,589)	\$(279,572)	\$(267,375)
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	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Cash Outflows						
Total Capital Investment						
Direct Planting Costs	\$ 68,400	\$ 68,400	\$ 68,400	\$ 68,400	\$ 68,400	\$ 68,400
Indirect Costs	\$ 305,050	\$260,015	\$260,015	\$ 260,015	\$260,015	\$ 260,015
Total Cash Operating Costs	\$ 373,450	\$328,415	\$328,415	\$ 328,415	\$328,415	\$ 328,415
Total Debt Payments	\$ 44,670	\$ 44,670	\$ 44,670	\$ 44,670	\$ 44,670	\$ 44,670
Cash Withdrawals	\$ 11,250	\$ 11,250	\$ 11,250	\$ 11,250	\$ 11,250	\$ 11,250
Total Cash Outflows	\$ 429,370	\$384,335	\$384,335	\$ 384,335	\$384,335	\$ 384,335
Cash Inflows						
Sales Revenues	\$ 448,475	\$448,475	\$448,475	\$ 448,475	\$448,475	\$ 448,475
Equity Capital (investment)						
Start-Up Capital (operating)						
Debt Capital						
Total Inflows	\$ 448,475	\$448,475	\$448,475	\$ 448,475	\$448,475	\$ 448,475
Net Cash Flows	\$ 19,105	\$ 64,140	\$ 64,140	\$ 64,140	\$ 64,140	\$ 64,140
Cumulative Cash Flows	\$ (248,270)	\$(184,130)	\$(119,990)	\$ (55,850)	\$ 8,289	\$ 72,429
Debt level is not likely to exceed 50% of total capital investment.						

Snapshot Enterprise Budget

Coniferous & Deciduous Tree Nursery - Year 7

Projected Revenues	No.	Avg. Price	Revenues	Your Snapshot
Coniferous Trees				
2 metre	107	\$170	\$ 18,190	_____
2.5 metre	205	\$225	\$ 46,125	_____
3 metre	64	\$273	\$ 17,472	_____
3.5 metre	27	\$320	\$ 8,640	_____
Deciduous Trees				
50 mm Trees	533	\$165	\$ 87,945	_____
60 mm Trees	564	\$192	\$ 108,288	_____
70 mm Trees	432	\$210	\$ 90,720	_____
80 mm Trees	229	\$230	\$ 52,670	_____
100 mm Trees	67	\$275	\$ 18,425	_____
Total Projected Revenues			\$ 448,475	_____
Projected Direct Costs				
Seedlings/Liners			\$ 60,000	_____
Herbicide			\$ 4,500	_____
Fertilizer			\$ 2,000	_____
Pesticide			\$ 1,200	_____
Custom charges			\$ 500	_____
Seed			\$ 200	_____
Packaging			\$ 28,964	_____
Re-planting costs			\$ 43,512	_____
Labour (hired + owner)			\$ 161,250	_____
Worker's Compensation Board			\$ 1,900	_____
Machinery Repairs & Maintenance			\$ 18,000	_____
Fuel and Oil			\$ 7,800	_____
Irrigation Repairs & Maintenance			\$ 6,500	_____
Utilities (power, natural gas, telephone)			\$ 10,750	_____
Marketing and Advertising			\$ 7,200	_____
Building Repairs & Maintenance			\$ 1,000	_____
Office Supplies			\$ 3,000	_____
Memberships			\$ 600	_____
Professional Fees			\$ 2,500	_____
Professional Development			\$ 2,000	_____
Bad Debts ²			\$ 3,000	_____
Interest on Operating ³			\$ 12,324	_____
Total Projected Direct Costs			\$ 335,188	_____
Projected Indirect Costs				
Land taxes, licences and insurance			\$ 6,000	_____
Depreciation ⁴			\$ 44,138	_____
Total Projected Indirect Costs			\$ 50,138	_____
Total Projected Direct & Indirect Costs			\$ 385,327	_____
Gross Operating Profit			\$ 19,636	_____
Interest on Investment⁵				
Land, development, buildings & irrigation			\$ 20,209	_____
Field equipment			\$ 9,444	_____
Total Interest on Investment			\$ 29,652	_____
Total Projected Economic Costs			\$ 414,979	_____
Return to Management⁶			\$ 10,016	_____

Sensitivity Analysis

The profitability of a tree nursery enterprise will be strongly influenced by tree losses and market prices.

Tree losses due to weather, deer and rodents will have a significant impact on the profitability of the operation. The table below shows the impact of higher or lower levels of losses on Gross Operating Profit.

Level of Tree Losses	Gross Operating Profit
25%	\$ 73,186
33%	\$ 19,636
40%	\$(27,219)
50%	\$(94,156)

Changes in price levels are expected to have the following effect on Gross Operating Profit.

Change in Price Levels	Gross Operating Profit
+20%	\$109,331
+10%	\$ 64,484
- 10%	\$(25,211)
- 20%	\$(70,059)

Definitions

¹Cash operating costs: Direct costs + taxes, licences and insurance.

²Bad debts: An allowance for uncollected debts.

³Interest on operating: The interest on an operating loan, estimated at 7% for 6 months.

⁴Depreciation: The reduction in the value of an asset over its lifetime.

⁵Interest on Investment: The cost of investing in capital assets rather than in a financial investment. Valued at 5.89% on all asset categories.

⁶Return to Management: An amount left to compensate the owner-operator for risk and management.

Risk Factors

Individual operators must address the following risk factors:

- Tree losses from weather, rodents and deer
- Disease and pest problems
- Regulatory changes
- Market conditions — prices and trends
- Insurance — tree nursery crops are not insurable
- Nursery crops have a limited market life
- Out of province competition

Management Strategies

Key management strategies that will contribute to the production and economic performance:

- Ongoing education and seeking the advice of other producers.
- Keeping capital costs down by building own facilities and only paying for materials.
- Growing a diversity of crops.
- Adopting appropriate cultural practices.
- Using “Deer Fences” where the damage to nursery crops by deer is a significant problem.

For more information, contact:

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Visit our website at <http://www.agric.gov.ab.ca>

Publications

“Guide to Establishing A Nursery In Alberta” #98-25

Available only from Crop Diversification Centres

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