



PLANNING FOR PROFIT



BRITISH COLUMBIA

Ministry of Agriculture,
Food and Fisheries

Summer 2001

Fresh Asparagus – Fraser Valley

This information is a tool to project costs and returns for B.C. farm enterprises and is a general guide to plan individual farm operations.

This sample budget should be used as a guide only and should not be used for business analysis. Each farm should develop their own budget to reflect their production goals, costs and market prices.

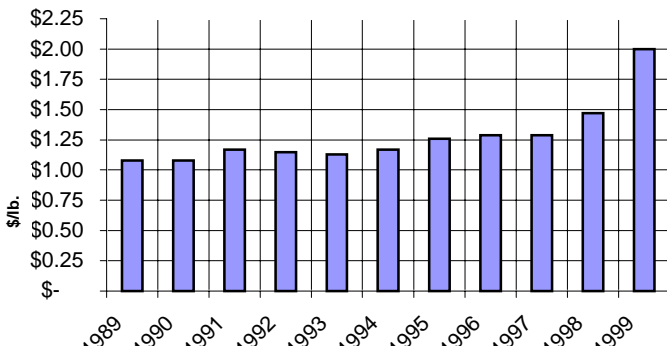
Information regarding financial planning and other enterprise budgets may be downloaded from the internet at <http://fbminet.ca/bc> or obtained from your local office of the B.C. Ministry of Agriculture, Food and Fisheries.

Market Factors

Asparagus is primarily consumed as a fresh vegetable but can also be bought as a canned product. The spears are sold mainly as a fresh product through direct farm market sales, to grocery stores and restaurants or through wholesalers, and processors. Currently there is a strong local market for the fresh product but there is competition from imported asparagus, which is available year round.

Presently, the amount of asparagus production in the Lower Mainland is small with few producers.

Historical Asparagus Prices (fresh sales)



Source: BCMAFF Horticultural Statistics (Field Vegetable Production) 1989-1999
BC Sales: Farm & Roadside

Risk Factors & Strategies

Production:

Productivity and the quality of spears are dependent on site preparation:

- Disease Asparagus is susceptible to Fusarium root and crown rot, asparagus rust and stemphylium purple spot. This risk is minimized by using resistant varieties and approved chemical sprays. Fusarium can be controlled by not planting in an area previously planted with asparagus.
- Insects Asparagus is susceptible to insect infestations which can be best managed with approved pesticides.
- Perennial and annual weeds Weed control is imperative to sustained production and can be assisted with approved herbicides.
- Soil Type Well drained soil and irrigation are usually necessary.
- Cooling Spears are highly perishable so quality must be maintained through immediate cooling following harvest, and minimization of storage.

Financial:

- Large capital investment required
- Delayed returns due to 5 years lag to full production.
- High labour costs.

Market:

There is strong competition from international markets (Washington, California and Michigan) so producers should identify markets prior to planting.

Key Success Factors

- Site selection and preparation (e.g., well drained deep soil, pH of 6.0 -7.5, perennial weed free)
- Use disease resistant varieties
- Maintain quality of harvested spears

Assumptions: Asparagus— Fresh Sales – Fraser Valley

The sample budget is based on interviews with producers and BCMAFF commodity specialists. Cost and revenue estimates are based on standard practices in the area and do not represent any particular farm.

The following assumptions were made in calculating the sample budget:

- Projected income and expenses based on one acre of production. However, total asparagus acreage for the unit is assumed to be 10 acres.
- High yielding cultivars are selected.
- The operation is well managed.

Production:

- 1 year old crowns are planted at a rate of 10,000 plants per acre.
- Full production is achieved in year 5 with an average yield of 4,500 lbs/acre.
- Spears are harvested 5 times a week by hand over a 2 month period.

Marketing:

- All harvested spears are sold as fresh product at a price of \$1.80/lb.

Direct Expenses:

- Annual machinery repair and maintenance costs are estimated at 3% of replacement cost of buildings and machinery.
- Fuel costs include the costs associated with land preparation, spraying, fertilizer application and general tractor use.
- Washing, grading, packing and cooling are done on site.
- Contract labour is used for planting, weeding, harvesting, washing and packing and is estimated to cost \$10/hour, including workers' compensation and benefits. Year 1 planting takes 50 hrs @ \$10/hr and weeding takes 30 hrs @ \$10/hr. In subsequent years, labour is needed for harvest (5 people for 1 hr/acre for 40 harvest days @ \$10/hr).
- Marketing costs include cooling, cartons, and transport. Number of cartons was halved as some producers reuse (carton holds 25 lbs) and value for trucking is \$0.69/case, cooling is \$0.25/case, cartons are \$1.50/case.

Sensitivity Analysis

The profitability of an asparagus operation is strongly influenced by market prices and yield. The table below illustrates the changes to income as yield and prices vary once full production is achieved. Price reflects direct market sales.

Yield (lbs/acre)		Contribution Margin * at target yield of price of 1.80/lb	Price (\$/lb.)		Contribution Margin * at target yield of 4,500 lb/acre
low	3,000	2,621	low	1.40	3,521
average	3,500	3,521	average	1.60	4,421
Target	4,500	5321	Target	1.80	5,321
high	5,000	6,221	High	2.00	6,221

*(gross income less direct expense = contribution margin)

Cash Flow Timing

The table below indicates the monthly flow of income and direct expenses. A complete Projected Cash Flow should include indirect expenses, capital sales and purchases, loans and personal expenses.

Months	J	F	M	A	M	J	J	A	S	O	N	D
% Inc				20	50	30						
% Exp				30	55	5				10		

Sample Enterprise Budget and Worksheet Asparagus Fresh Sales – Fraser Valley 1 acre

The sample enterprise budget provided should be viewed as a first approximation only. Use the column “Your Estimate,” to add, delete and adjust items to reflect your specific production situation.

Projected Income	Land Prep	Year 1	Year 2	Year 3	Year 4	Year 5	Your Estimate
Yield (lbs/acre)			1000	2000	3000	4500	
Price (sold as fresh (\$ /lb)			1.80	1.80	1.80	1.80	
Total Projected Income	0	0	1,800	3,600	5,400	8,100	
Projected Direct Expenses							
Crowns (@ 10,000/acre)	0	2,325	0	0	0	0	
<u>Fertilizer</u>							
46-0-0 (90kg N/acre)	32	32	32	32	32	32	
<u>Herbicide</u>							
Roundup (0.5-1.0kg/acre)	6	6	6	6	6	6	
Sencor (0.9kg/acre)	75	75	75	75	75	75	
Lorox (1.5kg/acre)	58	58	58	58	58	58	
<u>Insecticide</u>							
Decis (80ml/acre)	11	11	11	11	11	11	
<u>Other</u>							
Mach R&M	235	235	235	235	235	235	
Fuel Costs	96	35	35	35	35	35	
Irrigation	0	10	10	10	10	10	
Contract Labour	0	800	1,000	1,500	2,000	2,000	
Marketing (cartons, cooling, trucking)	0	0	60	200	317	317	
Total Direct Expenses	513	3,587	1,522	2,162	2,779	2,779	
Contribution Margin *	-513	-3,587	278	1,438	2,621	5,321	

* gross income less direct expense= contribution margin

Calculation of Projected Net Income

To assess net income, **indirect expenses** must be subtracted from income. Indirect expenses do not vary with the level of output and are typically associated with inputs used in more than one enterprise and must be allocated appropriately (prorated) between uses.

Projected Income
Less Projected Direct Expenses	-
= Projected Contribution Margin	=
Less Projected Indirect Expenses	
Depreciation (e.g., buildings and equipment)	-
Interest	-
Other Indirect Expenses (e.g., operator labour)	-
= Projected Net Income

Asparagus Fresh Sales – Fraser Valley 1 acre

Buildings and Machinery Replacement Cost

Buildings and Cooler	\$10,500
Crowns	2,325
Power and field machinery	50,000
Irrigation	10,000
Vehicles	18,000

- Buildings accommodate equipment, supply storage, workshop and packing, sorting area
- Power and field machinery include tractor, plow, disk, fertilizer spreader, chemical applicator
- Irrigation includes equipment and water

Labour Requirements

Contract Labour (per acre)

Year 1

Planting	50 hrs
Weeding	30 hrs

Years 2 to 5

Harvest	(5 people for 1 hr/acre for 40 harvest days)= 200 hours
---------	---

Alternative Production Practices

An alternative production practice is to grow white asparagus by the exclusion of light. This method entails mounding soil over the rows and cutting the spears while still under the surface of the ground. The spears need to be handled in the absence of light. This is an expensive practice due to management techniques of covering the rows and more laborious harvesting. However, the product can be sold for up to three times more than conventional asparagus.

For More Information

References

- BCMAFF 2001-2001 Vegetable Production Guide
- BCMAFF Infobasket <http://infobasket.gov.bc.ca>
- BCMAFF web site <http://www.agf.gov.bc.ca>
- BCMAFF Planning for Profit Enterprise Budgets <http://fbminet.ca/bc>
- Ontario Ministry of Agriculture, Food and Rural Affairs, Asparagus Factsheets <http://www.gov.on.ca/OMAFRA/english/crops/hort/vegetable.html#Asparagus>
- Michigan Asparagus Growers <http://www.asparagus.org/>
- Oregon State University, Commercial Vegetable Production Guide <http://www.orst.edu/Dept/NWREC/vegindex.html>

Contact

- Kathleen Zimmerman, BCMAFF Abbotsford, Vegetable Specialist (604) 556-3046.

The following people and organizations contributed to the preparation of this factsheet:

- Kathleen Zimmerman, BCMAFF Abbotsford, Vegetable Specialist (604) 556-3046
- Mark Sweeney, BCMAFF, Abbotsford, Berry Industry Specialist (604) 556-3056
- Rosanne Smit, Contractor, Vancouver, BC.