



PLANNING FOR PROFIT



BRITISH
COLUMBIA

Ministry of Agriculture,
Food and Fisheries

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Organic Apples – Okanagan Valley Slender Spindle - 1210 trees/acre

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.

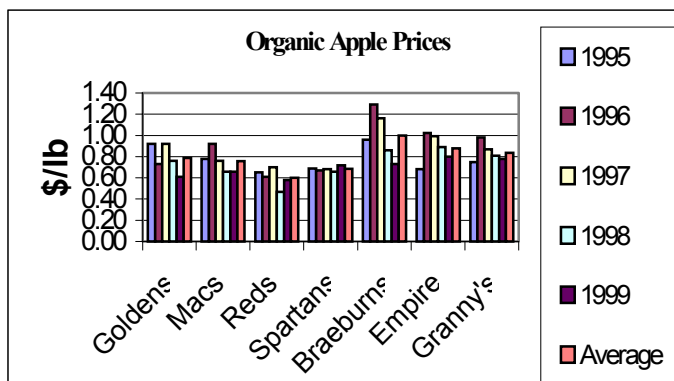
Information regarding financial planning and other enterprise budgets may be downloaded from the internet at <http://fbminet.ca/bc> or obtained from your local office of the B.C. Ministry of Agriculture, Food and Fisheries.

Market Factors

Apple production is well suited to the Okanagan Valley. Many organic apple producers market through smaller independent packinghouses, with the fruit being sold to Canadian, US and European markets. Only fresh market apples graded as Fancy or better provide a price return. Processing grades do not provide growers any returns. Overall, fruit in the 80-88 size category pay the best return.

Organic apples are subject to certification restrictions. Growers belonging to one organic association or certifying body may not be recognized by all potential organic markets. The demand for traditional apples is losing favour to the newer apple varieties. All apple variety prices are currently in a downward trend.

The potential for direct marketing to roadside stands, peddlers and consumers is limited, although price returns per pound are generally greater than packinghouse returns.



Note: Prices are unweighted average of all grades & sizes (excluding cee & cull grades). Source: Organics Plus, Cawston, B.C.

Risk Factors & Strategies

Price Fluctuations in prices which are influenced by the global marketplace are the largest risk factor. Producers must be very conservative in assessing price returns when establishing financial plans.

Production A high level of horticultural skills is required to attain yield projections. Inexperience as well as lack of diligence can cause a set back or general reduction in yield. In addition, varieties have different yield potentials (e.g. Fuji & Ambrosia lower by 25%). Fireblight infections, scab, powdery mildew, insect and rodent damage can all cause substantial losses. Excellent weed control, nutrition, and soil preparation in addition to proper irrigation are also essential. Hail damage is a constant threat as are sunburn and poor colour development during very hot summers and harvest periods.

Financial Capital inputs including land, equipment, trees, irrigation and support systems are substantial. Equipment sharing or leasing, land leasing, and replant grants can offset the financial risk. Crop insurance, whole farm insurance, and NISA are risk management tools to consider.

Assumptions—Organic Apples Slender Spindle 1210 trees/acre

The sample budget reflects standard practices in the area and does not represent any particular farm. The budget is based on interviews with producers, packinghouse staff, and BCMAFF specialists plus information from local nurseries and agricultural suppliers.

- 1 acre of organic apples (no variety specified) in the Okanagan Valley. Total farm size of 20 acres.
- 0.5 inch caliper trees are planted 3 feet apart in rows 12 feet apart (1210 trees/acre) at a cost of \$7.79 per tree. The trees require a support system consisting of steel posts spaced every 25 feet (168 posts x \$9.50/post), 3 high tensile wires (3.5 x 3,750 ft rolls) and wire tree ties (3 per tree).
- Production of 6,000 lbs (7.5 bins) is attained in year 2 (one year after planting) and full production of 32,000 lbs (40 bins) is attained by year 7. Fruit is marketed through local packinghouses.
- 85% of the total yield (Fancy grades or better) attains price returns at a target price of \$0.25/lb.
- Building & machinery repair and maintenance costs are estimated at 3% of replacement value for one acre. These costs include the repair and maintenance of buildings, tractors, implements (mower, tiller, cultivator, sprayer, loader & attachments, farm vehicles and irrigation system.
- Fuel costs are calculated on the basis of a standard 8L/hr fuel consumption, \$0.50/L fuel cost, and the time/acre required to complete the following tasks with a tractor: land clearing & prep (10 hrs); planting (8 hrs); mowing (4X in years 1 to 7; 1 hr each); cultivating (4X in year 1 to 7; 3.5 hr each); compost spreading (1X per year; 3.5 hr each); tree spraying (6X in year 1; 10X in year 2 to 7; 0.5 hr each); bin yarding (0.75, 1.75, 3, 3.5, 3.75 and 4 hrs in years 2 to 7, respectively).
- Marketing costs are bin hauling charges (3.89/bin for empties in + full out) and not packinghouse administration fees.
- There is a variable amount of labour associated with equipment set-up and maintenance, purchasing supplies, organizing picking crews, general administration, etc. Due to the high cost variability, these operations are not accounted for in this sample budget, but are important parts of any farm operation.

Key Success Factors

- Reduce direct and indirect expenses as much as possible. Hire out as little of the labour inputs as possible (ie.prune & thin as much as possible yourself)
- Research varieties and make choices based on market returns, yield potentials, growth requirements, planting site and input costs.
- High level of horticultural training & skills to ensure high quality and high yields.
- Good site selection and preparation.

Sensitivity Analysis

The profitability of an operation will be strongly influenced by prices and marketable yield. The table below illustrates the changes to income as prices and yield vary in the full production year..

	Yield (lb)	Income*
Low	17,000	4,250
Average	20,400	5,100
Target	27,200	6,800
High	30,600	7,650

*\$0.25/lb

	Price(\$/lb)	Income*
Low	0.12	3,264
Average	0.20	5,440
Target	0.25	6,800
High	0.30	8,160

*27,200 lbs

Cash Flow Timing

The table below indicates the monthly flow of income and direct expenses. It assumed that the fruit once delivered to the packinghouse is put into storage and packed and shipped according to market demands, fruit quality, etc. A complete Projected Cash Flow should include indirect expenses, capital sales and purchases, loans and personal expenses..

Month	J	F	M	A	M	J	J	A	S	O	N	D
%Income	13	13	13	13	13	5				10	10	10
%Expense			8	10	20	40	6			16		

Sample Enterprise Budget and Worksheet Organic Apples – Slender Spindle - 1210 trees/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. The budget is based on resource material and interviews with producers and BCMAFF commodity specialists.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Your Estimate	
Projected Income	planting						full prod'n		
Yield (lb/acre)	0	6,000	14,400	23,000	27,000	30,000	32,000		
Fresh Market- FCY+ (lb/acre)	0	5,100	12,240	19,550	22,950	25,500	27,200		
Fresh Market-FCY+(0.25/lb)	0	1,275	3,060	4,888	5,738	6,375	6,800		
Total Projected Income	0	1,275	3,060	4,888	5,738	6,375	6,800		
Projected Direct Expenses									
Trees (1/2")*	9,426	283							
Soil amendments (manure)	363	363	363	363	363	363	363		
Support system*	2,216								
Irrigation system* & tax	1,550	50	50	50	50	50	50		
Pest monitoring charges	35	35	35	35	35	35	35		
Dormant Oil	0	19	19	19	19	19	19		
Dipel	0	99	99	99	99	99	99		
Isomate-C-plus	0	174	174	174	174	174	174		
Kumulus 80DF	23	68	68	68	68	68	68		
Lime sulphur/fish oil	0	156	156	156	156	156	156		
Blood/Bone meal (12%N), 10%P)	514	0	0	0	0	0	0		
Foliar nutrients	12	67	67	67	67	67	67		
Hive rental	0	50	50	50	50	50	50		
Crop insurance	0	75	75	75	75	75	75		
Machinery R&M	308	308	308	308	308	308	308		
Fuel, Oil &lube	196	130	130	136	138	139	140		
Labour -plant, prune, train, general	3,436	878	1,455	2,275	2,549	2,755	2,892		
Labour harvest -inc. yarding		163	381	652	760	815	869		
Total Direct Expenses	18,077	2,917	3,429	4,527	4,912	5,173	5,365		
Contribution Margin	(18,077)	(1,642)	(369)	361	826	1,202	1,435		

* May be a viewed as a capital item.

Calculation of Projected Net Income

To assess net income, **indirect expenses** must be subtracted from income. Indirect expenses do not vary with 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

Labour Requirements—Organic Apples Slender Spindle 1210 trees/acre

Person Labour Hours	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Machine Hours of Labour	Hours/ acres	\$ Rate per hour
Land clear/prep	60.0							Land clearing/		
Irrigation install	20.0							prep		
Survey, plant, support, paint	144.5							stump removal	5	80
Pruning/training	10.1	10.1	20.2	40.3	40.3	40.3	40.3	ground ripping	3	125
Banding/isomate install	0.0	17.0	17.0	17.0	17.0	17.0	17.0	Irrigation	1	
Thinning (blossom/fruit)	4.0	36.0	86.4	138.0	162.0	180.0	192.0	Install (trenching)		75
Weeding	25.0	25.0	15.0	15.0	15.0	15.0	15.0	Support system	4	50
Mildew infections removal	4.0	4.0	4.0	4.0	4.0	4.0	4.0	post		
Compost spreading	3.5	3.5	3.5	3.5	3.5	3.5	3.5			
Cultivating	14.0	14.0	14.0	14.0	14.0	14.0	14.0			
Mowing	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Tree spraying	3.0	5.0	5.0	5.0	5.0	5.0	5.0			
Harvest										
...picking	0.0	11.3	26.3	45.0	52.5	56.3	60.0			
...yarding bins in/out	0.0	0.8	1.8	3.0	3.5	3.8	4.0			
TOTAL	292.1	130.6	197.1	288.8	320.8	342.8	358.8			

Hired labour is required for land clearing, irrigation installation, planting, pruning, hand thinning, codling moth control, weeding, removal of primary mildew infections and harvesting. Planting costs assume 4 hrs x \$10/hr for surveying and staking, 3 min/tree x \$10/hr for planting and painting, 4 hrs x \$50/hr for post pounding, and 8 hrs x \$10/hr for wire installation. Labour costs for pruning, weeding, mildew control, and codling moth control are based on \$10/hr. Thinning costs are based on 4 hrs x \$10/hr for year 1 and \$0.06/lb for years 2 to 7. Costs for harvesting are based on \$12/hr or \$18.00 per bin (1.5 hr/bin) for picking and 10 bins/hr x \$10/hr for bin yarding. WCB and benefits are detailed separately and are rated at 14.3% of labour costs (WCB 2.85%; CPP 4.3%; EI. 3.15%; vacation pay 4%).

Alternative Production Practices

Growers may choose to plant benchgrafts or sleeping eyes instead of nursery trees to reduce the initial tree input costs. Planting to benchgrafts or sleeping eyes will delay production by one year and reduce replanting costs. There is a greater tree mortality, however, with such plantings, thereby potentially further delaying production.

Buildings and Machinery Replacement Cost—20 acres

Buildings	\$40,000
Tractor (Power Machinery)	50,000
Mower, tiller, cultivator, etc.	17,500
Sprayer	15,000
Loader & attachments	7,000
Manure spreader	6,000
Small tools & equipment	16,500
Irrigation System	45,000
Supplies (bins, boxes, etc.)	1,000
Farm vehicles	25,000
Support System	44,320
Total	267,320

For More Information

- Linda Edwards. 1998 Organic Tree Fruit Mgt., Certified Organic Association of BC.
- BCMAFF web site <http://www.agf.gov.bc.ca>
- BCMAFF Infobasket <http://infobasket.gov.bc.ca>
- BCMAFF Tree Fruit Production Guide
- Assessing the Economic Impact and Establishment Cost of Replanting Orchards. Nov.1999. BCMAFF
- Horticultural Management for Slender Spindle and Super Spindle Orchards. 1996. Okanagan Valley Tree Fruit Authority.
- Farm Business Management web <http://fbminet.ca/bc>

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