



# PLANNING FOR PROFIT



BRITISH COLUMBIA Ministry of Agriculture,  
Food and Fisheries

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## Red Delicious Apples (202 trees/acre)-Okanagan 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.

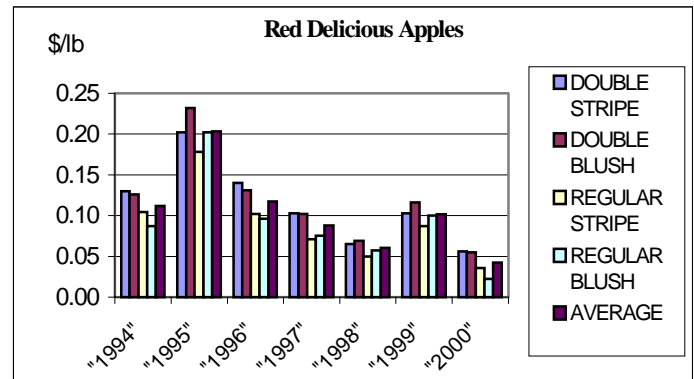
### Market Factors

Apple production is well suited to the Okanagan Valley with most producers belonging to local Packinghouse cooperatives.

Distribution and marketing is done through the packinghouses and B.C. Tree Fruits. Only fresh market apples graded as Fancy or better provide a price return. Commercial or Cull grades destined for processing markets do not pay growers any returns.

The market for apples is influenced by global supply and demand. Current world supply is in a surplus. The demand for traditional apples such as Red Delicious is losing favour to the newer apple varieties, although all apple variety prices are currently in a downward trend.

The potential for direct marketing is limited, although price returns per pound are generally greater than packinghouse returns.



Note: weighted averages for all grades & sizes. Source: BC Fruit Packers, Kelowna, B.C.

### Risk Factors & Strategies

Price Fluctuations in prices which are influenced by the global marketplace are the largest risk factor. Producers are competing with low cost producers from other regions of the world. Global oversupply results in dramatic price declines. Producers must be very conservative in assessing price returns when establishing financial plans.

Production Horticultural skills must be at a high level. Inexperience and lack of diligence can cause a set back or general reduction in yield. Fireblight infections can be devastating if not kept in check. Scab, powdery mildew, insect damage and rodent damage can also cause substantial losses 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, irrigation systems, and trees are substantial. Equipment sharing, land leasing, and reducing labour input costs can offset the financial risk. Crop insurance, whole farm insurance, and NISA are risk management tools to consider.

## Assumptions—Red Delicious Apples (202 trees/acre)-Okanagan Valley

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 established Red Delicious apples in the Okanagan Valley. Total farm size of 20 acres.
- Production of 20,000 lbs/acre (25 bins) delivered to local packinghouse cooperative and marketed through B.C. Tree Fruits.
- 90% of the total yield (Fancy grades or better) attains price returns at a target price of \$0.12/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, 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: mowing (5X @ 0.75 hr each); weed spraying (3X @ 0.5 hr each); tree spraying (12X @ 0.5 hr each); ground fertilizing (1X @ 0.25 hrs each); bin hauling (2.5 hrs).
- Hired labour is required for pruning, hand thinning, and harvesting. Labour costs for pruning and thinning are based on \$10/hr. Costs for harvesting are based on: \$15.00 per bin or \$10/hr equivalent (1.5 hr/bin); \$10/hr x 10 bins/hr for yarding bins in and out of orchard. WCB and benefits are detailed separately at 14.3% of total labour (2.85% WCB; 4.3% C.P.P., 3.15% E.I.; 4% vacation pay).
- Marketing costs only includes bin hauling charges (3.89 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 crew, 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.

## Sensitivity Analysis

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

	Marketable Yield (lb)	Contribution margin*
<b>Low</b>	10,800	1,620
<b>Average</b>	14,400	2,160
<b>Target</b>	18,000	2,700
<b>High</b>	21,600	3,240

\*\$0.12/lb

	Price(\$/lb)	Contribution margin*
<b>Low</b>	0.08	1,440
<b>Average</b>	0.10	1,800
<b>Target</b>	0.12	2,160
<b>High</b>	0.20	3,600

\*18,000 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 and fruit quality. 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
<b>%Income</b>		45		15		15		5		20		
<b>%Expense</b>			20	15	10	30	5			20		

Income Assumptions: fruit shipped to packinghouse and stored until sold, \$0.04/lb advance Oct; 50%-prorated advance Feb; 20%-prorated advance April; 20%-prorated advance June; 5% pool close Aug.

## Sample Enterprise Budget and Worksheet Red Delicious Apples (202 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.

### Projected Income

		Your Estimate
Yield (lb/acre)	20,000	
Fresh Market- (90% FCY ) (lb/acre)	18,000	
<b>Total Projected Income (0.12/lb)</b>	<b>2,160</b>	

\*\* 90% of the total yield attains price returns at a target price of \$0.12/lb

<b>Projected Direct Expenses</b>	<b>#applied/yr</b>	<b>rate/acre</b>	<b>unit</b>	<b>price/unit</b>		
Irrigation tax	1			50	50	
Pest monitoring charges	1			75	75	
Rodent Bait	1	2.00	kg	7.07	14	
Dormant Oil(L)	1	18.20	L	1.06	19	
Fixed Copper	1	1.60	kg	11.22	18	
Diazinon	1	0.91	kg	21.76	20	
Foray	2	1.60	L	27.06	87	
Nova	2	0.14	kg	234.32	66	
Dithane	4	2.40	kg	9.86	95	
Zolone	2	0.81	L	28.12	46	
Ziram	1	2.00	kg	12.95	26	
Herbicides					96	
Thinning sprays	1	1.60	L	0.87	33	
Nitrogen(34-0-0)	1	118.00	kg	0.53	62	
Foliar nutrients					73	
Hive rental		1	hive	50.00	50	
Crop insurance					75	
Machinery R&M, Fuel, Oil & Lube					361	
Marketing (bin hauling)		25	bin	3.89	97	
Labour—pruning	202	0.25	hr	10	505	
hand thinning	202	0.25	hr	10	505	
picking		25.00	bin	15	375	
yarding bins in/out		2.50	hr	10	25	
benefits & WCB (14.3%)					202	
<b>Total Direct Expenses</b>					<b>2,975</b>	
<b>Contribution Margin</b>					<b>-815</b>	

### 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.

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

# Assumptions—Red Delicious Apples (202 trees/acre)-Okanagan Valley

## Key Success Factors

- High level of horticultural training & skills to produce high quality and high yields.
- Reduce direct and indirect expenses as much as possible. Hire out as little of the labour inputs as possible (eg. prune yourself)
- Choose red delicious strains with the best returns (ie., double stripe, double blush).

## Alternative Production Practices

- Better returns can be achieved by planting to new varieties and at higher densities. Current prices for Red Delicious are very poor and most producers find it difficult to meet costs of production.
- Growers may also consider growing a greater diversity of crops to help reduce overall farm risk.

## Buildings and Machinery Replacement Cost (20 acres)

Buildings	\$40,000
Tractor (Power Machinery)	50,000
Implements	6,000
...mower, tiller, blade, ripper	11,500
...sprayers	17,500
...loader & attachments	7,000
...fertilizer spreader	2,300
Small tools & equipment	16,500
Irrigation System	45,000
Supplies (bins, boxes, etc.)	1,000
Farm vehicles	25,000
<b>Total</b>	<b>221,800</b>

## Labour Requirements

Labour Hours	per acre
Pruning	50.5
Hand thinning	50.5
Mow, spray, fertilize	11.5
Picking	37.5
Yarding bins in/out	2.5
<b>Total</b>	<b>152.5</b>

## For More Information

### References

- 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 site.  
<http://fbminet.ca/bc>

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