



# Southwest British Columbia Small-Scale Farm Enterprise Budget: **Turnip**



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This enterprise budget presents costs and returns for a 0.125 acre of turnips grown on a small-scale mixed vegetable farm in southwest British Columbia, Canada. The sample values are typical of small-scale root crop production using low-input growing methods and selling directly to consumers through venues such as farmers' markets. These values were derived from data gathering sessions with representative farmers from the region, but do not represent any particular farm, and should be used only as a guide. The actual costs of production may vary from farm to farm depending on production method and scale, machinery use and other input costs. This budget is also available as a dynamic MS Excel spreadsheet to facilitate more detailed planning for your own operation. Please refer to the "Institute for Sustainable Food Systems Enterprise Budget User Guide for assistance in tailoring the spreadsheet to your own farm.

## Assumptions:

- 1) The turnip crop area is 0.125 (1/8) acre, consisting of 14 beds, each measuring 4' x 100' (400 square feet per bed) grown on a small-scale mixed-vegetable farm.
- 2) Turnip takes three months from seed to harvestable maturity.
- 3) An annual land rent of \$400 per acre is included in overhead charges.
- 4) Physical farm labourers (regular labour) are paid \$12 per hour.
- 5) Equipment operators (operator labour) are paid \$15 per hour.
- 6) The proportion of sales of turnip to the total annual sales of 20 crops, grown on a 3.85-acre mixed vegetable farm, is used to allocate marketing costs to the turnip enterprise.
- 7) The proportion of the farm's total cultivated acreage used to grow turnips is used to allocate fixed costs to the turnip enterprise.
- 8) Fuel cost is \$1.30 per liter.
- 9) The interest rate is fixed at 5%.
- 10) The annual fixed cost is estimated using the straight-line depreciation method.
- 11) Management time is not included as a cost. The net return over total cost may be considered as the return to management time.

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<b>REVENUE</b>					
<b>Item</b>	<b>Quantity per 0.125 Acre</b>	<b>Unit</b>	<b>\$ per unit</b>	<b>\$ per 0.125 Acre</b>	<b>\$ per 100' Bed</b>
Turnip	1,750.00	pounds	\$2.50	\$4,375.00	\$312.50

<b>ANNUAL VARIABLE COST</b>					
<b>Item</b>	<b>Quantity per 0.125 Acre</b>	<b>Unit</b>	<b>\$ per unit</b>	<b>\$ per 0.125 Acre</b>	<b>\$ per 100' Bed</b>
<b>Seeds and Plants</b>					
Seed	0.60	pounds	20.00	12.00	0.86
Cover crop (winter grain) seed	27.00	pounds	0.60	16.20	1.16
<b>Fertility and Nutrients</b>					
Chicken manure	1.63	yards	50.00	81.25	5.80
Lime	260.00	pounds	0.10	26.00	1.86
<b>Other Materials</b>					
Floating row cover (reemay)	1.00	5000 sq. ft	200.00	200.00	14.29
<b>Land Preparation</b>					
Prepare land (plow, disk, rotovate) – operator labour	0.5	hours	15.00	7.50	0.54
Apply pre-plant amendments (lime, fertilizer, manure, compost) – operator labour	0.25	hours	15.00	3.75	0.27
<b>Planting</b>					
Seeding – regular labour	0.5	hours	12.00	6.00	0.43
<b>Pest Management</b>					
Hand-weeding – regular labour	40	hours	12.00	480.00	34.29
Hoe-weeding – regular labour	2.5	hours	12.00	30.00	2.14
<b>Other Activities</b>					
Irrigating (set up, manage overhead or drip) – regular labour	1	hours	12.00	12.00	0.86
<b>Post-Harvest Activities</b>					
Harvesting – regular labour	11	hours	12.00	132.00	9.43
Post-harvest handling (wash, sort, pack, store) – regular labour	3.5	hours	12.00	42.00	3.00
<b>Miscellaneous Expenses</b>					
Repair and maintenance				148.85	10.63
Fuel				5.25	0.37
Interest on working capital				15.03	1.07
Marketing				385.07	27.50
<b>TOTAL LABOUR COST</b>				<b>713.25</b>	<b>50.95</b>
<b>TOTAL MATERIAL COST</b>				<b>335.45</b>	<b>23.96</b>
<b>TOTAL MISCELLANEOUS COST</b>				<b>554.20</b>	<b>39.59</b>
<b>TOTAL VARIABLE COST</b>				<b>1,602.90</b>	<b>114.49</b>

<b>ANNUAL FIXED COST</b>		
<b>Item</b>	<b>\$ per 0.125 Acre</b>	<b>\$ per 100' Bed</b>
<b>Machinery</b>		
Tractor	56.01	4.00
Rototiller	11.90	0.85
Discer	5.68	0.41
Manure spreader	16.23	1.16
Delivery van	71.43	5.10
Pick-up truck	23.81	1.70
<b>Equipment and tools</b>	68.66	4.90
<b>Irrigation</b>	45.93	3.28
<b>Building and shelter</b>	48.97	3.50
<b>Overhead charges</b>		
Land rent	52.50	3.75
Soil test	3.41	0.24
Farm liability insurance	20.45	1.46
Motor vehicle insurance	69.89	4.99
Office expenses	34.09	2.44
Electricity	23.86	1.70
Water	34.09	2.44
Telephone and internet	17.05	1.22
Bookkeeping fees	204.55	14.61
Professional fees (accountant, lawyers, etc)	23.86	1.70
<b>TOTAL ANNUAL FIXED COST</b>	<b>832.38</b>	<b>59.46</b>

<b>TOTAL COST</b>	<b>\$ per 0.125 Acre</b>	<b>\$ per 100' Bed</b>
<b>TOTAL FIXED AND VARIABLE COST</b>	<b>2,435.28</b>	<b>173.95</b>

<b>NET RETURNS</b>		
<b>Item</b>	<b>\$ per 0.125 Acre</b>	<b>\$ per 100' Bed</b>
<b>Return Over Variable Cost</b>	<b>2,772.10</b>	<b>198.01</b>
<b>Return Over Fixed Cost</b>	<b>3,542.62</b>	<b>253.04</b>
<b>Return Over Total Cost</b>	<b>1,939.72</b>	<b>138.55</b>

<b>MACHINERY INFORMATION</b>				
<b>Item</b>	<b>Type</b>	<b>Purchase Price (\$)</b>	<b>Trade-in Value (\$)</b>	<b>Useful Life (Years)</b>
Tractor	25 HP (new)	23,000.00	0.00	20
Rototiller	48" (new)	4,000.00	0.00	15
Discer	used	3,000.00	0.00	30
Manure spreader	used	4,000.00	0.00	10
Sprayer	used	5,000.00	0.00	10
Delivery van	Isuzu 2002 (used)	24,000.00	0.00	15
Pick-up truck	used	8,000.00	0.00	15

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