



Southwest British Columbia Small-Scale Farm Enterprise Budget: High Tunnel Cucumber



Institute for Sustainable Food Systems
Kwantlen Polytechnic University

Technical Bulletin 2015-005

kpu.ca/isfs

Ermias Afeworki, Wallapak Polasub, Caroline Chiu and Kent Mullinix

This enterprise budget presents costs and returns for a 0.02 acre of cucumbers grown in a high tunnel on a small-scale mixed vegetable farm in southwest British Columbia, Canada. The sample values are typical of small-scale cucurbit 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 cucumber crop area is 0.02 acre, consisting of two beds, each measuring 4' x 100' (400 square feet per bed) grown on a small-scale mixed-vegetable farm.
- 2) Cucumber 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 cucumber to the total annual sales of 16 crops, grown on a 2-acre mixed vegetable farm, is used to allocate marketing costs to the cucumber enterprise.
- 7) The proportion of the farm's total cultivated acreage used to grow cucumbers is used to allocate fixed costs to the cucumber 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.

REVENUE					
Item	Quantity per 0.02 Acre	Unit	\$ per Unit	\$ per 0.02 Acre	\$ per 100' Bed
Cucumber	4,350.00	pounds	\$2.50	\$10,875.00	\$5,437.50

ANNUAL VARIABLE COST					
Item	Quantity per 0.02 Acre	Unit	\$ per unit	\$ per 0.02 Acre	\$ per 100' Bed
Seeds and Plants					
Seed	550.00	seeds	0.04	22.00	11.00
Cover crop (winter weed) seed				6.00	3.00
Fertility and Nutrients					
Compost (Chicken manure)	60.00	pounds	0.60	36.00	18.00
Lime	30.00	pounds	0.30	9.00	4.50
Other Materials					
Potting mix			9.00	9.00	4.50
Trays	10.00	trays	1.20	12.00	6.00
Mulch (landscape fabric)				100.00	50.00
Land Preparation					
Custom plowing				4.80	2.40
Apply pre-plant amendments (lime, manure) – regular labour	1	hours	12.00	12.00	6.00
Prepare for planting (form beds, irrigation set-up, etc) – operator labour	0.5	hours	15.00	7.50	3.75
Planting					
Transplanting (potting up, moving, transplanting) – regular labour	2.5	hours	12.00	30.00	15.00
Pest Management					
Mulching – regular labour	1	hours	12.00	12.00	6.00
Other Activities					
Irrigating (manage drip or overhead) – regular labour	0.5	hours	12.00	6.00	3.00
Twining – regular labour	2	hours	12.00	24.00	12.00
Post-Harvest Activities					
Harvesting – regular labour	11	hours	12.00	132.00	66.00
Miscellaneous Expenses					
Repair and maintenance				19.40	9.70
Fuel				3.30	1.65
Interest on working capital				5.56	2.78
Marketing				1,487.22	743.61
TOTAL LABOUR COST				228.30	114.15
TOTAL MATERIAL COST				194.00	97.00
TOTAL MISCELLANEOUS COST				1,515.48	757.74
TOTAL VARIABLE COST				1,937.78	968.89

ANNUAL FIXED COST		
Item	\$ per 0.02 Acre	\$ per 100' Bed
Machinery		
Tractor	11.63	5.81
Rototiller	3.04	1.52
Pick-up truck	32.08	16.04
Trailer	0.75	0.38
Equipment and tools	5.71	2.85
Irrigation	10.92	5.46
Building and shelter	6.18	3.09
Overhead charges		
Land rent	8.40	4.20
Soil test	1.05	0.53
Farm liability insurance	8.82	4.41
Motor vehicle insurance	21.84	10.92
Office expenses	5.25	2.63
Electricity	10.08	5.04
Water	10.50	5.25
Telephone and internet	5.25	2.63
TOTAL ANNUAL FIXED COST	141.49	70.74

TOTAL COST	\$ per 0.02 Acre	\$ per 100' Bed
TOTAL FIXED AND VARIABLE COST	2,079.27	1,039.64

NET RETURNS		
Item	\$ per 0.02 Acre	\$ per 100' Bed
Return Over Variable Cost	8,937.22	4,468.61
Return Over Fixed Cost	10,733.51	5,366.76
Return Over Total Cost	8,795.73	4,397.86

MACHINERY INFORMATION				
Item	Type	Purchase Price (\$)	Trade-in Value (\$)	Useful Life (Years)
Tractor	23 HP	16,000.00	1500.00	20
Rototiller	48" (new)	4,000.00	1500.00	15
Manure spreader	used	5,000.00	0.00	10
Pick-up truck	new	35,000.00	0.00	15
Trailer	used	1,000.00	0.00	20

ACKNOWLEDGMENTS

The authors would like to express our sincere appreciation to all the farmers who contributed information used to develop this enterprise budget. We would also like to thank Chris Bodnar, co-owner of Close to Home Organics Ltd, and Heather Pritchard, farm program manager at Farm Folk City Folk, for helping us connect with experienced farmers. Kwantlen Polytechnic University's Michael Bomford (Sustainable Agriculture & Food Systems) and Caitlin Dorward (Institute for Sustainable Food Systems), reviewed and revised this document. Finally, we would like to acknowledge the financial support provided by Vancouver City Savings Credit Union.