



Southwest British Columbia Small-Scale Farm Enterprise Budget: **Hop**



Institute for Sustainable Food Systems
Kwantlen Polytechnic University

Technical Bulletin 2015-025

kpu.ca/isfs

Ermias Afeworki, Wallapak Polasub, Caroline Chiu and Kent Mullinix

This enterprise budget presents costs and returns establishing and producing hops for a 1 acre small-scale farm in southwest British Columbia, Canada. The sample values are typical of small-scale hop production using low-input growing methods and selling directly to brewers. These values were derived from data gathering session 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 static MS Excel spreadsheet.

Assumptions:

- 1) The hop crop area is 1 acre
- 2) Hop takes two years from seed to harvestable maturity (full production).
- 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) A 2% of annual sales of hops is charged as marketing cost.
- 7) The interest rate is fixed at 5%.
- 8) The annual fixed cost is estimated using the straight-line depreciation method.
- 9) Management time is not included as a cost. The net return over total cost may be considered as the return to management time.

1 st YEAR (ESTABLISHMENT)					
REVENUE	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Hops	0.00	pounds	17.50	0.00	
VARIABLE COST					
Item	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Seeds and Plants					
Rhizomes	1000	number	3.00	3,000.00	
Cover crop	50	pounds	0.80	40.00	
Fertility					
NPK	80	pounds	3.15	252.00	
Compost				125.00	
Soil amendment				50.00	
Pest Management					
Mulch (paper)				700.00	
Labour activities					
Land preparation	40	hours	15.00	600.00	
Fertilizer application	3	hours	12.00	36.00	
Constructing trellis				3,000.00	
Twining	35	hours	12.00	420.00	
Training and pruning	50	hours	12.00	600.00	
Weeding	16	hours	12.00	192.00	
Mowing	4	hours	12.00	48.00	
Irrigation system set up	8	hours	12.00	96.00	
Irrigation system take down	8	hours	12.00	96.00	
Miscellaneous Expenses					
Post digger rental				500.00	
Twine	2000	strings	0.17	340.00	
Fuel cost				104.00	
Repair and maintenance				520.00	
Interest on working capital				535.95	
TOTAL VARIABLE COST				11,254.95	

1 st YEAR (ESTABLISHMENT)					
ANNUAL FIXED COST					
Item	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Machinery					
Tractor				791.67	
Rototiller				64.17	
Vacuum sealer				250.00	
Miniature pelletizer machine				91.67	
Trailer				141.67	
Trellis System				710.42	
Equipment and tools				899.17	
Building and shelter				187.13	
Irrigation				137.50	
Overhead Expenses					
Land rent				420.00	
Liability insurance				882.00	
Soil test				78.75	
Internet and telephone				525.00	
Electricity				504.00	
Water				52.50	
Office supplies				525.00	
TOTAL FIXED COST				6,260.63	

TOTAL COST	\$/Acre	Your estimate
TOTAL VARIABLE AND FIXED COST	17,515.58	

NET RETURN		
Item	\$/Acre	Your estimate
Return Over Variable Cost	-11,254.95	
Return Over Fixed Cost	-6,260.63	
Return Over Total Cost	-17,515.58	

2 nd YEAR (FRUIT BEARING)					
REVENUE	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Hops	1,000.00	pounds	17.50	17,500.00	

VARIABLE COST					
Item	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Seeds and Plants					
Cover crop	50	pounds	0.80	40.00	
Fertility					
NPK	160	pounds	3.15	504.00	
Compost				250.00	
Soil amendment				100.00	
Pest Management					
Predatory insects				50.00	
Mulch (paper)				700.00	
Labour Activities					
Fertilizer application	6	hours	12.00	72.00	
Twining	35	hours	12.00	420.00	
Training and pruning	50	hours	12.00	600.00	
Weeding	16	hours	12.00	192.00	
Mowing	4	hours	12.00	48.00	
Irrigation system set up	8	hours	12.00	96.00	
Irrigation system take down	8	hours	12.00	96.00	
Pulling bines	7.5	hours	12.00	90.00	
Picking hops	67.5	hours	12.00	810.00	
Harvesting (machine)	8	hours	12.00	96.00	
Drying and packaging	45	hours	12.00	540.00	
Miscellaneous Expenses					
Harvester rental	8.00	hours	200.00	1,600.00	
Twine	2000	strings	0.17	340.00	
Mylar (foil bags)	5	pounds	60.00	300.00	
Electricity (drying and packing)				100.00	
Fuel cost				104.00	
Repair and maintenance				520.00	
Interest on working capital				383.40	
Marketing				350.00	
TOTAL VARIABLE COST				8,401.40	

2nd YEAR (FRUIT BEARING)

ANNUAL FIXED COST					
Item	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Machinery					
Tractor				791.67	
Rototiller				64.17	
Vacuum sealer				250.00	
Miniature pelletizer machine				91.67	
Trailer				141.67	
Trellis system				710.42	
Equipment and tools				899.17	
Building and shelter				187.13	
Irrigation				137.50	
Overhead expenses					
Land rent				420.00	
Liability insurance				882.00	
Soil test				78.75	
Internet and telephone				525.00	
Electricity				504.00	
Water				52.50	
Office supplies				525.00	
TOTAL FIXED COST				6,260.63	

TOTAL COST	\$/Acre	Your estimate
TOTAL VARIABLE AND FIXED COST	14,662.03	

NET RETURNS		
Item	\$/Acre	Your estimate
Return Over Variable Cost	9,098.60	
Return Over Fixed Cost	11,239.38	
Return Over Total Cost	2,837.98	

3 rd YEAR (FULL PRODUCTION)					
REVENUE	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Hops	1,250.00	pounds	17.50	21,875.00	

VARIABLE COST					
Item	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Seeds and Plants					
Cover crop	50	pounds	0.80	40.00	
Fertility					
NPK	160	pounds	3.15	504.00	
Compost				250.00	
Soil amendment				100.00	
Pest Management					
Predatory insects				50.00	
Mulch (paper)				700.00	
Labour activities					
Fertilizer application	6	hours	12.00	72.00	
Twining	35	hours	12.00	420.00	
Training and pruning	50	hours	12.00	600.00	
Weeding	16	hours	12.00	192.00	
Mowing	4	hours	12.00	48.00	
Irrigation system set up	8	hours	12.00	96.00	
Irrigation system take down	8	hours	12.00	96.00	
Pulling bines	10	hours	12.00	120.00	
Picking hops	90	hours	12.00	1,080.00	
Harvesting (machine)	10	hours	12.00	120.00	
Drying and packaging	60	hours	12.00	720.00	
Miscellaneous Expenses					
Harvester rental	10.00	hours	200	2000	
Twine	2000	strings	0.17	340.00	
Mylar (foil bags)	5	pounds	60.00	300.00	
Electricity (drying and packing)				100.00	
Fuel cost				104.00	
Repair and maintenance				520.00	
Interest on working capital				428.60	
Marketing				437.50	
TOTAL VARIABLE COST				9,438.10	

3rd YEAR (FULL PRODUCTION)					
ANNUAL FIXED COST					
Item	Quantity/Acre	Unit	\$/Unit	\$/Acre	Your estimate
Machinery					
Tractor				791.67	
Rototiller				64.17	
Vacuum sealer				250.00	
Miniature pelletizer machine				91.67	
Trailer				141.67	
Trellis system				710.42	
Equipment and tools				899.17	
Building and shelter				187.13	
Irrigation				137.50	
Overhead expenses					
Land rent				420.00	
Liability insurance				882.00	
Soil test				78.75	
Internet and telephone				525.00	
Electricity				504.00	
Water				52.50	
Office supplies				525.00	
				TOTAL FIXED COST	6,260.63

TOTAL COST	\$/Acre	Your estimate
TOTAL VARIABLE AND FIXED COST		15,698.73

NET RETURNS		
Item	\$/Acre	Your estimate
Return Over Variable Cost	12,436.90	
Return Over Fixed Cost	15,614.38	
Return Over Total Cost	6,176.28	

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.