



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



Institute for Sustainable Food Systems
Kwantlen Polytechnic University

Technical Bulletin 2015-013

kpu.ca/isfs

Ermias Afeworki, Wallapak Polasub, Caroline Chiu and Kent Mullinix

This enterprise budget presents costs and returns for a 0.5 acre of beets 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 beet crop area is half an acre, consisting of 54 beds, each measuring 4' x 100' (400 square feet per bed) grown on a small-scale mixed-vegetable farm.
- 2) Beet 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 beet 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 beet enterprise.
- 7) The proportion of the farm's total cultivated acreage used to grow beets is used to allocate fixed costs to the beet 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 0.5 Acre	Unit	\$ per unit	\$ per 0.5 Acre	\$ per 100' Bed
Beet	7,000.00	pounds	\$2.50	\$17,500.00	\$324.07

ANNUAL VARIABLE COST					
Item	Quantity per 0.5 Acre	Unit	\$ per unit	\$ per 0.5 Acre	\$ per 100' Bed
Seeds and Plants					
Seed	1.00	pounds	500.00	500.00	9.26
Cover crop (winter grain) seed	30.00	pounds	0.50	15.00	0.28
Fertility and Nutrients					
Bone meal	55.00	pounds	0.91	50.05	0.93
Alfalfa	55.00	pounds	0.91	50.05	0.93
Lime	1000.00	pounds	0.10	100.00	1.85
Land Preparation					
Prepare land (plow, disk, rotovate) – operator labour	1.5	hours	15.00	22.50	0.42
Apply pre-plant amendments (lime, fertilizer, manure, compost) – operator labour	0.75	hours	15.00	11.25	0.21
Planting					
Seeding – regular labour	2	hours	12.00	24.00	0.44
Transplanting					
Pest Management					
Hand-weeding – regular labour	120	hours	12.00	1,440.00	26.67
Hoe-weeding – regular labour	10	hours	12.00	120.00	2.22
Other Activities					
Irrigating (set up, manage overhead or drip) – regular labour	4	hours	12.00	48.00	0.89
Post-Harvest Activities					
Harvesting – regular labour	45	hours	12.00	540.00	10.00
Post-harvest handling (wash, sort, pack, store) – regular labour	14	hours	12.00	168.00	3.11
Miscellaneous Expenses					
Repair and maintenance				595.40	11.03
Fuel				20.75	0.38
Interest on working capital				46.31	0.86
Marketing				1,535	28.43
TOTAL LABOUR COST				2,373.75	43.96
TOTAL MATERIAL COST				715.10	13.24
TOTAL MISCELLANEOUS COST				2,197.46	40.69
TOTAL VARIABLE COST				5,286.31	97.89

ANNUAL FIXED COST		
Item	\$ per 0.5 Acre	\$ per 100' Bed
Machinery		
Tractor	224.03	4.15
Rototiller	47.62	0.88
Discer	22.73	0.42
Manure spreader	64.94	1.20
Delivery van	285.71	5.29
Pick-up truck	95.24	1.76
Equipment and tools	274.66	5.09
Irrigation	183.73	3.40
Building and shelter	195.89	3.63
Overhead charges		
Land rent	210.00	3.89
Soil test	13.64	0.25
Farm liability insurance	81.82	1.52
Motor vehicle insurance	279.55	5.18
Office expenses	136.36	2.53
Electricity	95.45	1.77
Water	136.36	2.53
Telephone and internet	68.18	1.26
Bookkeeping fees	818.18	15.15
Professional fees (accountant, lawyers, etc)	95.45	1.77
TOTAL ANNUAL FIXED COST	3,329.53	61.66

TOTAL COST	\$ per 0.5 Acre	\$ per 100' Bed
TOTAL FIXED AND VARIABLE COST	8,615.84	159.55

NET RETURNS		
Item	\$ per 0.5 Acre	\$ per 100' Bed
Return Over Variable Cost	12,213.69	226.18
Return Over Fixed Cost	14,170.47	262.42
Return Over Total Cost	8,884.16	164.52

MACHINERY INFORMATION				
Item	Type	Purchase Price (\$)	Trade-in Value (\$)	Useful Life (Years)
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

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. We would like to recognize Kwantlen Polytechnic University's Michael Bomford (Sustainable Agriculture & Food Systems) and Caitlin Dorward (Institute for Sustainable Food Systems) for their invaluable input to this document. Finally, we would like to acknowledge the financial support provided by Vancouver City Savings Credit Union (VanCity).