

# Enterprise Budget

## Peppermint Leaf Production Years, Central Oregon Region

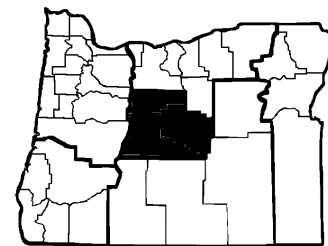
### Region

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EM 8814, October 2002

This enterprise budget estimates the typical costs and returns of producing peppermint in the Madras area of central Oregon. While efforts were made to reflect common practices, it is not representative of any particular farm and should be used only as a guide to estimate actual costs. The major assumptions used in constructing this budget are discussed below. Assistance provided by area producers is greatly appreciated. For costs and returns associated with first-year production of peppermint leaf, see EM 8813, *Enterprise Budget: Peppermint Leaf Establishment Year, Central Oregon Region*.

### Cropping Pattern

This budget is based on a typical 600-acre farm with 60 acres in production of peppermint leaf, 20 of which are in the first production year. This budget estimates per-acre costs and returns of a typical production year. The budget includes production costs for 1 acre, with a yield of 2,000 pounds per acre. The peppermint stand is assumed to have a 4-year life, including the first production year. A summary of the estimated costs and returns is shown in Table 1.

### Land and Irrigation

A land lease charge of \$100 per acre is included to represent the cost of leasing or owning the land. The charge is based on the cost of a long-term lease for good-quality irrigated farmland.

The field is sprinkler irrigated using a 7-foot wheel line. A water charge of \$3.17 per acre-inch covers the cost of irrigation water and canal maintenance. Calculations are based on the North Unit Irrigation District rates for Deschutes River water rights. A charge of \$55 per acre covers electricity, repair, and maintenance costs for the sprinkler system. Irrigation fixed costs include \$42 for wheel line interest and depreciation.

### Labor

Hand labor costs \$7.68 per hour, including worker's compensation, social security taxes, and other labor overhead expenses. Operator labor costs \$13.65 per hour and includes worker's compensation, social security taxes, and other labor overhead expenses. Labor hours for machinery operation are calculated by multiplying 1.21 times machine hours to allow for machinery setup, movement, and adjustments. Hand labor is used for sprinkler irrigation.

### Capital

Opportunity costs of capital are charged at a rate of 9 percent for current, intermediate, and long-term capital provided by the owner.

### Operations

Cultural operations are listed in the budget in the approximate order in which they typically are performed. Table 2 shows the cost of field operations with owned machinery. Immediately following harvest of the prior year's crop, the stems are chopped and spread. The mint is irrigated six times by October for 9 inches of water. A weed control application is made in December.

Fertilizer is applied in the early spring. There is one insect control measure done in the spring. There are nine irrigations for a total of 13.5 inches of water. Prior to harvest, weeds are controlled by hand hoeing. Harvest typically occurs in late July or early August.

### Machinery and Equipment

The machinery complement is sufficient to farm 600 production acres. A detailed breakdown of machinery values and costs used in this budget is shown in Table 3. January 1998 replacement costs are used. The machinery costs per hour are estimated based on the total farm use of the machinery. Fixed costs for machinery and equipment include the cost of interest and depreciation.

### Other

A miscellaneous charge of \$10 per acre is included to cover general insurance, tools, office supplies, and other expenses. A pickup and ATV are utilized for hauling supplies, checking irrigation, and other activities related to peppermint leaf production.

An annual noncash allocated cost of \$29.32 is included to cover the expense of establishing the peppermint leaf crop. This charge is calculated based on the costs and returns presented in EM 8813, *Enterprise Budget: Peppermint Leaf Establishment Year, Central Oregon Region*.

Total variable cost is \$555, and the break-even price over variable costs is \$0.28 per pound. The total of all costs is \$906, with a break-even price over total costs of \$0.45 per pound.



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## EM 8814 Enterprise Budget

Table 1. Peppermint leaf production years: Summary of estimated costs and returns per acre.

Item	Unit	Price (\$)	Quantity	Amount (\$)	Your Farm
<b>INCOME</b>					
Peppermint Leaf	Pound	0.54	2000.00	1,080.00	_____
<b>TOTAL INCOME</b>				1,080.00	_____
<b>DIRECT EXPENSES</b>					
Herbicides	Acre	92.72	1.00	92.72	_____
Insecticides	Acre	17.62	1.00	17.62	_____
Custom Applications	Acre	20.17	1.00	20.17	_____
Hand Labor	Acre	175.68	1.00	175.68	_____
Fertilizer	Acre	108.80	1.00	108.80	_____
Water	Acre	71.32	1.00	71.32	_____
Operator Labor	Hour	13.65	1.42	19.34	_____
Diesel Fuel	Gal	1.30	8.25	10.73	_____
Gasoline	Gal	1.55	0.41	0.64	_____
Repair & Maintenance	Acre	27.70	1.00	27.70	_____
Interest on Operating Capital	Acre	10.31	1.00	10.31	_____
<b>TOTAL DIRECT EXPENSES</b>				555.02	_____
<b>RETURNS ABOVE DIRECT EXPENSES</b>				524.98	_____
<b>FIXED EXPENSES</b>					
Implements	Acre	1.42	1.00	1.42	_____
Tractors	Acre	2.11	1.00	2.11	_____
Self-propelled Equipment	Acre	127.92	1.00	127.92	_____
Trucks	Acre	0.65	1.00	0.65	_____
<b>TOTAL FIXED EXPENSES</b>				132.10	_____
<b>TOTAL SPECIFIED EXPENSES</b>				687.12	_____
<b>RETURNS ABOVE TOTAL SPECIFIED EXPENSES</b>				392.88	_____
<b>ALLOCATED COST ITEMS</b>					
General Overhead	Acre	35.00	1.00	35.00	_____
Land Costs	Acre	100.00	1.00	100.00	_____
First-year Amortized Costs	Acre	29.32	1.00	29.32	_____
Irrigation Costs	Acre	55.00	1.00	55.00	_____
<b>RESIDUAL RETURNS</b>				173.56	_____

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Published October 2002.

## EM 8814 Enterprise Budget

Table 2. Peppermint leaf production years: Estimated per-acre resource use and costs for field operations.

Operation	Perf. Rate	Times Over	Month	Tractor Cost		Equipment Cost		Labor		Operating Input Cost	Total Cost
	(Hr/ac)			Direct	Fixed	Direct	Fixed	Hours	Cost		
Chop and Spread Stems	0.1	1	Aug	1.55	2.11	0.33	1.42	0.1	1.65	----	7.06
Irrigation Labor	----	6	Aug–Sept	----	----	0.96	0.78	3.2	24.86	----	26.60
Water	----	----	----	----	----	----	----	----	----	28.52	28.52
Broadleaf Weed Control	----	3	Aug	----	----	----	----	----	----	23.88	23.88
Broad-spectrum Weed Control	----	1	Nov	----	----	----	----	----	----	59.17	59.17
Fertilizer	----	----	----	----	----	----	----	----	----	114.72	114.72
240# N, 64# P, 64# K, 26# S	----	----	----	----	----	----	----	----	----	----	----
Broadleaf Weed Control	----	2	May	----	----	----	----	----	----	15.92	15.92
Irrigation	----	9	Apr–July	----	----	1.46	1.18	13.9	37.31	----	39.95
Water	----	----	----	----	----	----	----	----	----	42.79	42.79
Insect Control	----	1	June	----	----	----	----	----	----	25.62	25.62
Weed Control—Hand Labor	----	1	June	----	----	----	----	13.0	99.84	----	99.84
Swather	0.1	1	July	----	----	1.33	3.87	0.1	1.31	----	6.51
Combine w/ Pickup	1.0	1	Aug	----	----	33.75	122.07	1.2	16.38	----	172.20
Two 2-ton Trucks	----	----	----	----	----	0.06	0.65	1.0	13.65	----	14.36
Total											677.14
Interest on Operating Capital											10.31
Total Specified Cost											687.45

<sup>1</sup>Fertilizer and pesticide costs include cost of custom application.

## EM 8814 Enterprise Budget

Table 3. Self-propelled machines, tractors, and implements: Estimated performance rating, useful life, annual use, purchase price, repair cost, fuel consumption rating, and direct and fixed cost per hour and acre.

Item name	Size	Perf. Rate	Useful Life	Annual Use	Purchase Price	Repair Cost	Fuel Cons. Rate	Direct Cost		Fixed Cost	
		(Hr/acre)	(Years)	(Hours)	(\$)	(Percent purchase price)	(Gallons/hour)	(\$/hour)	(\$/acre)	(\$/hour)	(\$/acre)
Combine w/ pickup	14 ft	0.50	20	100	120,000.00	40	7.59	35.76	17.88	126.76	63.38
Swather	12 ft	0.30	20	120	55,000.00	50	4.04	16.71	5.01	48.41	14.52
Combine w/ pickup	14 ft	1.00	20	100	120,000.00	40	7.50	33.75	33.75	122.07	122.07
Swather	12 ft	0.08	20	120	55,000.00	50	4.04	16.71	1.33	48.41	3.87
ATV	20 hp	0.03	10	200	5,600.00	100	1.38	4.93	0.16	3.99	0.13
2wd cab tractor	130 hp	----	20	400	87,000.00	100	6.57	19.41	----	22.97	----
2wd cab tractor	180 hp	----	20	500	125,000.00	80	9.10	21.83	----	26.40	----
2wd tractor	50 hp	----	20	200	21,500.00	80	2.70	7.81	----	11.14	----
2wd tractor	80 hp	----	20	300	60,000.00	100	4.30	15.59	----	21.12	----
Tractor w/loader	80 hp	----	25	100	60,000.00	50	1.00	13.30	----	59.66	----
Bedder bar	12 ft	0.20	10	100	2,000.00	20	----	0.40	0.08	2.85	0.57
Carrot roller	4 row	0.16	20	20	2,000.00	20	----	1.00	0.16	10.56	1.69
Chisel	10 ft	0.20	20	100	12,500.00	50	----	3.12	0.62	13.20	2.64
Cultimulcher	12 ft	0.10	20	100	12,000.00	40	----	2.40	0.24	12.67	1.26
Disk	15 ft	0.10	20	50	17,000.00	60	----	10.20	1.02	35.91	3.59
Electric thinner	4 row	1.00	10	20	900.00	10	----	0.45	0.45	6.41	6.41
Flail mower	15 ft	0.10	20	100	13,500.00	50	----	3.37	0.33	14.26	1.42
Flamer	30 ft	0.16	20	50	9,000.00	70	----	6.30	1.00	19.01	3.04
Flex harrow	20 ft	0.08	25	100	10,000.00	50	----	2.00	0.16	9.94	0.79
Land leveler	12 ft	0.16	20	25	10,000.00	50	----	10.00	1.60	42.25	6.76
Mint planter	16 ft	0.50	25	20	7,500.00	20	----	3.00	1.50	36.71	18.35
Mint rake	12 ft	0.01	20	20	5,000.00	25	----	3.12	0.03	26.40	0.26
Paper roller	10 ft	0.50	20	20	2,000.00	20	----	1.00	0.50	10.56	5.28
Pasture harrow	12 ft	0.08	20	100	1,000.00	50	----	0.25	0.02	1.05	0.08
Precision planter	12.5 ft	0.20	20	75	5,000.00	50	----	1.66	0.33	7.04	1.40
Roller	12 ft	0.10	10	200	5,000.00	25	----	0.62	0.06	3.56	0.35
Rolling cultivator	12 ft	0.25	20	50	2,000.00	20	----	0.40	0.10	4.22	1.05
Rototiller	10 ft	1.00	20	50	4,200.00	80	----	3.36	3.36	8.87	8.87
Row sprayer	12.5 ft	0.20	20	75	13,000.00	70	----	6.06	1.21	18.31	3.66
Tool bar w/ shovels	12.5 ft	0.20	25	25	3,000.00	75	----	1.80	0.36	5.96	1.19