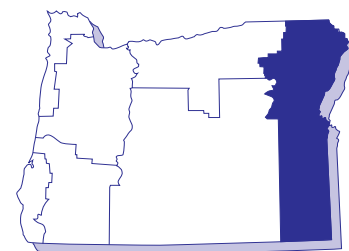




Enterprise Budget

Peppermint Production, Eastern Oregon Region



EM 8602, June 1995

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This enterprise budget estimates the typical costs and returns associated with producing peppermint in Northeastern Oregon. While efforts were made to reflect common practices, it is not representative of any particular farm and should thus be used only as a guide to estimating actual costs. The major assumptions used in constructing this budget are discussed below. Assistance provided by area producers is greatly appreciated.

The peppermint production budget includes the amortized cost of establishment shown in, *EM 8601, Peppermint Establishment, Eastern Oregon Region*. A 4-year production life is assumed for peppermint. The net establishment cost of the \$459.39 is amortized at 9.1 percent over 4 years for an annual payment of \$142.10.

Cropping Pattern

This budget is based on a 1,200-acre farm with 160 acres in peppermint production in rotation with a grain or pea crop. The budget estimates production costs for 1 acre.

Land and Irrigation

A land lease charge of \$100 per acre is included to represent the annual cost of renting land. Irrigation system costs are based upon a wheel-line irrigation system valued at \$485 per acre including pump and well costs. The straight-line depreciation method was used to calculate depreciation. Four-wheel lines valued at \$7,900 each have a 10-year life with a total salvage value of \$6,320, which results in an annual depreciation charge of \$15.80 per acre. The well has a 15-year life with a salvage value of \$5,200, resulting in an annual depreciation charge of \$8.66 per acre. The pump has a 5-year life with salvage value of \$4,000, resulting in an annual depreciation charge of \$20 per acre. Interest on the average investment is calculated to be 10 percent of the irrigation system market value minus salvage value divided by 2, or \$29.10 per acre.

Irrigation operating costs are based on labor, electricity, repair, and maintenance at a cost of \$4 per inch of water.

Labor

Hired labor typically costs approximately \$10 per hour including social security, FICA, and other payroll expenses. For this study, labor is treated as owner/operator labor valued at \$10 per hour and is assumed to be a noncash cost.

Capital

Opportunity costs of capital are charged at a rate of 8 percent for current and intermediate capital provided by the owner.

Machinery and Equipment

The machinery complement is sufficient to maintain and harvest the 160 acres of peppermint on the farm in a timely manner. A detailed breakdown of machinery values used in this budget is shown in Table 1. January 1994 replacement costs are used, assuming the machinery is half depreciated. Estimated machinery costs are shown in Table 2.

The hours of annual use for machinery are calculated based on the machinery's field capacity in acres per hour. The annual use values from Table 1 represent the hours the machinery is used to maintain and harvest the 160 acres.

Operations

Cultural operations are listed in the budget in the order they are performed. In the fall, a custom blend fertilizer containing 30 lb of nitrogen, 90 lb of phosphate, 60 lb of potassium, and 20 lb of sulfur is custom applied. A total of 300 lb of ammonium nitrate is applied in the spring over two custom applications. In the summer, fertilizer is applied twice in the form of 108 lb of urea. Throughout the growing season, 20 acre-inches of water is applied. Custom hand hoeing is hired at a cost of \$35 per acre.

Custom harvesting begins in early August at a cost of \$3 per pound. The typical yield obtained from peppermint production is estimated at 70 lb per acre.

Other

A pickup is driven 20,000 miles annually, with 5,000 miles charged to the peppermint crop. A general overhead charge of \$25 per acre is included to cover general insurance, tools, shop, utilities, accounting fees, office supplies, and other miscellaneous expenses.



OREGON STATE UNIVERSITY EXTENSION SERVICE

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ECONOMIC COSTS and RETURNS Eastern Oregon Region Peppermint Production, 160 acres (\$/acre)

| <u>GROSS INCOME Description</u> | <u>Quantity</u> | <u>Unit</u> | <u>\$/Unit</u> | <u>Total</u> | <u>Your Returns</u> |
|-----------------------------------|-----------------|------------------|----------------------------|--------------|---------------------|
| Peppermint | 70.0 | lb | 13.00 | 910.00 | _____ |
| Total GROSS Income | | | | 910.00 | _____ |
| <u>VARIABLE COST Description</u> | <u>Labor</u> | <u>Machinery</u> | <u>Materials</u> | <u>Total</u> | <u>Your Cost</u> |
| FALL SEASON | | | | | |
| Fall Fertilizer | 0.00 | 0.00 | 44.38 | 44.38 | _____ |
| Fertilizer | | | 356.41 lb x 0.11 = 39.38 | | |
| Custom Application | | | 1 ac x 5.00 = 5.00 | | |
| Irrigate Fall | 0.00 | 0.00 | 16.00 | 16.00 | _____ |
| Lab/Elec/Rep&Maint | | | 4 in x 4.00 = 16.00 | | |
| Total FALL SEASON | | | | 60.38 | _____ |
| GROWING SEASON | | | | | |
| Spring Herbicide | 0.00 | 0.00 | 25.47 | 25.47 | _____ |
| Herbicide | | | 0.75 lb x 27.30 = 20.47 | | |
| Custom Application | | | 1 ac x 5.00 = 5.00 | | |
| Spring Herbicide | 0.00 | 0.00 | 42.46 | 42.46 | _____ |
| Herbicide | | | 0.75 lb x 27.30 = 20.47 | | |
| Herbicide | | | 0.125 gal x 127.00 = 15.87 | | |
| Oil Concentrate | | | 0.125 gal x 9.00 = 1.12 | | |
| Custom Application | | | 1 ac x 5.00 = 5.00 | | |
| Spring Fertilize (2x) | 0.00 | 0.00 | 40.00 | 40.00 | _____ |
| Ammonium Nitrate | | | 0.15 tn x 200.00 = 30.00 | | |
| Custom Application | | | 2 ac x 5.00 = 10.00 | | |
| Summer Fertilize (2x) | 0.00 | 0.00 | 35.41 | 35.41 | _____ |
| Urea | | | 0.108 tn x 234.00 = 25.41 | | |
| Custom Application | | | 2 ac x 5.00 = 10.00 | | |
| Irrigate Summer | 0.00 | 0.00 | 64.00 | 64.00 | _____ |
| Lab/Elec/Rep&Maint | | | 16 in x 4.00 = 64.00 | | |
| Hand Hoeing | 0.00 | 0.00 | 35.00 | 35.00 | _____ |
| Cust. Hand Hoeing | | | 1 ac x 35.00 = 35.00 | | |
| Harvesting Mint | 0.00 | 0.00 | 210.00 | 210.00 | _____ |
| Cust. Harv. Mint | | | 70 lb x 3.00 = 210.00 | | |
| Total GROWING SEASON | | | | 452.34 | _____ |
| MISCELLANEOUS | | | | | |
| Oregon Mint Commission Assessment | 0.00 | 0.00 | 4.20 | 4.20 | _____ |
| Charge | | | 70 lb x 0.06 = 4.20 | | |
| Pickup | 7.63 | 3.52 | 0.00 | 11.15 | _____ |
| Operating Capital Interest | 0.00 | 0.00 | 25.85 | 25.85 | _____ |
| Total MISCELLANEOUS | | | | 41.20 | _____ |
| Total VARIABLE COST | | | | 553.92 | _____ |
| GROSS INCOME minus VARIABLE COST | | | | 356.08 | _____ |

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ECONOMIC COSTS and RETURNS Eastern Oregon Region Peppermint Production, 160 acres (\$/acre)

| <u>FIXED COST Description</u> | <u>Unit</u> | <u>Total</u> | <u>Your Cost</u> |
|---|-------------|----------------|------------------|
| CASH Cost | | | |
| Machinery & Equipment Insurance | acre | 1.12 | _____ |
| Land Rent | acre | 100.00 | _____ |
| Total CASH Cost | | 101.12 | _____ |
| NONCASH Cost | | | |
| Machinery & Equipment Depreciation & Interest | acre | 6.73 | _____ |
| Amortized Establishment Cost | acre | 153.35 | _____ |
| Irrigation System Depreciation & Interest | acre | 73.56 | _____ |
| Total NONCASH Cost | | 233.64 | _____ |
| Total FIXED Cost | | 334.76 | _____ |
| Total of ALL Cost | | 888.68 | _____ |
| NET PROJECTED RETURNS | | 21.32 | _____ |
| Break-even Price, Total Variable Cost | | \$7.91 per lb | _____ |
| Break-even Price, Total Cost | | \$12.70 per lb | _____ |

Table 1. Machinery Cost Assumptions

| <u>Machine</u> | <u>Size</u> | <u>List Price</u> | <u>Current Market Value</u> | <u>Salvage Value</u> | <u>Useful Life</u> | <u>Remaining Life</u> | <u>Annual Use</u> |
|----------------|-------------|-------------------|-----------------------------|----------------------|--------------------|-----------------------|-------------------|
| Pickup | 4 wd | \$19,000 | \$12,350 | \$5,700 | 100,000 mi | 50,000 mi | 5,000 mi |

Table 2. Machinery Cost Calculations

| <u>Machine</u> | <u>Size</u> | <u>Cost per Mile</u> | | | | | <u>Total Cost</u> | <u>Miles per Acre</u> | <u>Cost per Acre</u> | | |
|----------------|-------------|-------------------------------------|---------------------------|-----------------|------------------|--------------|-------------------|-----------------------|----------------------|--------------|--------------|
| | | <u>Variable</u> | | <u>Fixed</u> | | | | | <u>Variable</u> | <u>Fixed</u> | <u>Total</u> |
| | | <u>Fuel & Repair & Lube</u> | <u>Depr. & Maint.</u> | <u>Interest</u> | <u>Insurance</u> | <u>Total</u> | | | | | |
| Pickup | 4 wd | \$0.08 | \$0.03 | \$0.22 | \$0.04 | \$0.36 | 31.25 mi | \$3.52 | \$7.85 | \$11.37 | |
| Total | | | | | | | | \$3.52 | \$7.85 | \$11.37 | |

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