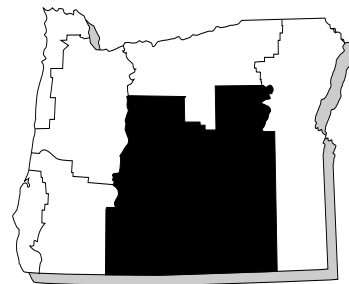




Enterprise Budget

Bluegrass, South Central Region



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EM 8571, September 1994

This enterprise budget estimates the typical costs and returns of producing certified bluegrass in the Madras area of South 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 estimating 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 establishment of bluegrass crops, see *EM 8572, Enterprise Budget: Bluegrass Establishment, South Central Region*.

Cropping Pattern

This budget is based on a 500-acre farm with 100 acres in production of bluegrass. This budget estimates costs for 1 acre. The stand is assumed to have a 4-year life, including the establishment year.

Land and Irrigation

A land lease charge of \$100 per acre is included to represent the cost of leasing or owning land. This charge is based on a long-term lease of good quality, irrigated acreage and includes canal maintenance costs. A water charge of \$0.96 per acre inch of water applied covers the cost of irrigation water. This is calculated based on the North Unit Irrigation District rates and the total water use by the 500-acre farm. This budget assumes the bluegrass is flood irrigated.

Labor

Labor costs \$7 per hour, including worker's compensation, unemployment insurance, social security taxes, and other payroll expenses. Hired labor is used for roguing and hauling seed. Owner/operator labor is assumed to be a cash expense of \$15 per hour. Labor hours for machinery operation are calculated by multiplying 1.21 times machine hours to allow for machinery setup, movement, and adjustment. All repairs are estimated separately from operation labor hours.

Capital

Opportunity costs of capital are charged at a rate of 8 percent for current, intermediate, and long-term capital provided by the owner/operator.

Machinery and Equipment

The machinery complement is sufficient to farm 500 production acres. A detailed breakdown of machinery values used in this budget is shown in Table 1. December 1993 replacement costs are used. Estimated machinery costs are shown in Table 2 assuming the machinery is half depreciated. Fifteen percent of the total pickup and ATV miles driven annually are allocated to bluegrass production.

Operations

Following harvest, the bluegrass is open field burned. The field is then alternately harrowed and propane burned for a total of three harrow operations and two propane burns. The bluegrass is irrigated with 14 inches of water in two sets, fertilizer is applied, and an herbicide combination is sprayed for cheatgrass and rattail fescue.

In the harvest year, cultural operations include roguing (spot spraying, clipping heads, and hoeing), irrigation, and a fungicide application. A seed certification inspection in June costs \$2 per acre.

The grass is swathed and combined by the owner/operator. Hired labor hauls the seed utilizing a pair of 2-ton trucks. Seed cleaning costs \$0.10 per pound. Straw is sold in the swath at \$10 per acre.

Other

Removing bluegrass at the end of the third and final production year requires an herbicide spray and rototilling. This cost is entered at one-third the full charge in this budget. A miscellaneous charge of \$10 per acre is included to cover general insurance, tools, office supplies, and other miscellaneous expenses.

Results

Total variable cost is \$576 and fixed cost is \$162 for a total cost of \$738 per acre. Break-even prices based on seed sales income only are \$0.58 per lb over total variable cost and \$0.74 per lb over total cost.



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ECONOMIC COSTS AND RETURNS SOUTH CENTRAL REGION Bluegrass, \$/acre (75 acres)

| <u>GROSS INCOME Description</u> | <u>Quantity</u> | <u>Unit</u> | <u>\$/Unit</u> | <u>Total</u> | <u>Your Income</u> |
|--|-----------------|------------------|------------------|--------------|--------------------|
| Bluegrass Seed | 1,000.00 | lb | 1.00 | 1,000.00 | _____ |
| Bluegrass Straw | 1.00 | acre | 10.00 | 10.00 | _____ |
| Total GROSS Income | | | | 1,010.00 | _____ |
| <u>VARIABLE COST Description</u> | <u>Labor</u> | <u>Machinery</u> | <u>Materials</u> | <u>Total</u> | <u>Your Cost</u> |
| PREHARVEST | | | | | |
| Open Field Burn Previous Year's Crop | 0.42 | 0.00 | 5.00 | 5.42 | _____ |
| Permit 1 ac x 5.00 = 5.00 | | | | | _____ |
| Harrow (3x) | 2.54 | 1.72 | 0.00 | 4.26 | _____ |
| Propane Burn (2x) | 3.63 | 2.91 | 30.40 | 36.94 | _____ |
| Propane 40 gal x 0.76 = 30.40 | | | | | _____ |
| Irrigate (7" x 2 sets) | 7.50 | 0.00 | 13.44 | 20.94 | _____ |
| Water 14 in x 0.96 = 13.44 | | | | | _____ |
| Fertilizer Application | 0.00 | 0.00 | 115.50 | 115.50 | _____ |
| 24-8-4-5 1,000 lb x 0.11 = 110.00 | | | | | _____ |
| Custom Application 1 ac x 5.50 = 5.50 | | | | | _____ |
| Weed/Insect Control | 0.00 | 0.00 | 71.06 | 71.06 | _____ |
| Broadleaf Herbicide 3.5 pint x 11.31 = 39.60 | | | | | _____ |
| Broadleaf/Ann. Gr. Herb. 2 lb x 5.30 = 10.60 | | | | | _____ |
| Broadleaf/Ann. Gr. Herb. 0.333 lb x 31.00 = 10.33 | | | | | _____ |
| Leafhopper Control 1.5 pint x 2.93 = 4.40 | | | | | _____ |
| Sticker 6.4 oz x 0.10 = 0.63 | | | | | _____ |
| Custom Application 1 ac x 5.50 = 5.50 | | | | | _____ |
| Rouging | 28.00 | 0.00 | 0.00 | 28.00 | _____ |
| Irrigate (7" x 2 sets) | 7.50 | 0.00 | 13.44 | 20.94 | _____ |
| Water 14 in x 0.96 = 13.44 | | | | | _____ |
| Seed Certification - June | 0.00 | 0.00 | 2.00 | 2.00 | _____ |
| Powdery Mildew/Rust Control | 2.59 | 1.84 | 3.07 | 7.50 | _____ |
| Fungicide 5 oz x 0.61 = 3.07 | | | | | _____ |
| Total PREHARVEST | | | | 312.56 | _____ |
| HARVEST | | | | | |
| Swath | 6.05 | 6.64 | 0.00 | 12.69 | _____ |
| Combine | 18.15 | 55.81 | 0.00 | 73.96 | _____ |
| Seed Cleaning | 0.00 | 0.00 | 100.00 | 100.00 | _____ |
| Seed Cleaning 1,000 lb x 0.10 = 100.00 | | | | | _____ |
| Haul | 0.56 | 1.52 | 0.00 | 2.08 | _____ |
| Total HARVEST | | | | 188.73 | _____ |
| POSTHARVEST | | | | | |
| Rotate | 6.05 | 6.19 | 0.00 | 12.24 | _____ |
| Herbicide Application | 0.86 | 0.83 | 7.99 | 9.68 | _____ |
| Crop Removable Herb. 1.33 pint x 6.00 = 7.99 | | | | | _____ |
| Total POSTHARVEST | | | | 21.92 | _____ |
| MISCELLANEOUS | | | | | |
| Operating Capital Interest | 0.00 | 0.00 | 21.51 | 21.51 | _____ |
| General Overhead | 0.00 | 0.00 | 10.00 | 10.00 | _____ |
| Pickup | 10.71 | 3.10 | 0.00 | 13.81 | _____ |
| ATV | 7.50 | 0.13 | 0.00 | 7.63 | _____ |
| Total MISCELLANEOUS | | | | 52.95 | _____ |
| Total VARIABLE COST | | | | 576.16 | _____ |
| GROSS INCOME minus VARIABLE COST | | | | 433.84 | _____ |

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ECONOMIC COSTS AND RETURNS
SOUTH CENTRAL REGION
Bluegrass, \$/acre (75 acres)

| <u>FIXED COST Description</u> | <u>Unit</u> | <u>Total</u> | <u>Your Cost</u> |
|---|-------------|---------------|------------------|
| CASH Cost | | | |
| Machinery & Equipment Insurance | acre | 5.09 | _____ |
| Land | acre | 100.00 | _____ |
| Total CASH Cost | | 105.09 | _____ |
| NONCASH Cost | | | |
| Machinery & Equipment - Interest & Depreciation | acre | 54.37 | _____ |
| Siphon Tube - Interest & Depreciation | acre | 2.16 | _____ |
| Total NONCASH Cost | | 56.53 | _____ |
| Total FIXED Cost | | 161.62 | _____ |
| Total of ALL Cost | | 737.78 | _____ |
| NET PROJECTED RETURNS | | 272.22 | _____ |
| Break-even Price Total Variable Cost | | \$0.58 per lb | _____ |
| Break-even Price, Total Cost | | \$0.74 per lb | _____ |

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Table 1. Machinery Cost Assumptions

| Item | Size | List Price | Current Market Value | Salvage Value | Useful Life | Remaining Life | Annual Use |
|----------------|---------|------------|----------------------|---------------|-------------|----------------|------------|
| Tractor | 50 hp | \$21,500 | \$13,975 | \$6,450 | 10,000 hr | 5,000 hr | 25 hr |
| Tractor | 80 hp | 34,000 | 22,100 | 10,200 | 10,000 hr | 5,000 hr | 28 hr |
| Tractor | 125 hp | 65,000 | 42,250 | 19,500 | 10,000 hr | 5,000 hr | 31 hr |
| Combine | | 60,000 | 36,000 | 12,000 | 4,000 hr | 2,000 hr | 75 hr |
| Swather | 12 ft | 45,000 | 27,000 | 9,000 | 2,000 hr | 1,000 hr | 25 hr |
| Dixon Harrow | 12 ft | 800 | 480 | 160 | 2,000 hr | 1,000 hr | 23 hr |
| Propane Burner | 30 ft | 8,660 | 5,197 | 1,734 | 2,000 hr | 1,000 hr | 15 hr |
| Rototiller | 100 in | 4,000 | 2,400 | 800 | 1,500 hr | 750 hr | 25 hr |
| Sprayer | 200 gal | 5,685 | 3,412 | 1,139 | 1,500 hr | 750 hr | 14 hr |
| ATV | | 3,500 | 2,100 | 700 | 4,000 mi | 2,000 mi | 38 mi |
| Farm Truck (2) | 2 ton | 6,000 | 3,600 | 1,200 | 90,000 mi | 45,000 mi | 150 mi |
| Pickup | 1/2 ton | 15,000 | 9,000 | 3,000 | 100,000 mi | 50,000 mi | 1,875 mi |

Table 2. Machinery & Equipment Cost Calculations

| Machine | Size | Costs per Hour or Mile | | | | | Costs per Acre | | | |
|----------------|---------|------------------------|--------|------------------|-----------|------------|----------------|----------------|----------------|-----------------|
| | | Variable | | Fixed | | Total Cost | Hours per Acre | Variable | Fixed | Total |
| | | Fuel & Repair & Lube | Maint. | Depr. & Interest | Insurance | | | | | |
| Tractor | 50 hp | \$2.70 | \$2.66 | \$6.04 | \$0.47 | \$11.87 | 0.33 | \$1.77 | \$2.15 | \$3.92 |
| Tractor | 80 hp | 4.32 | 4.28 | 5.73 | 0.44 | 14.77 | 0.38 | 3.25 | 2.33 | 5.57 |
| Tractor | 125 hp | 6.76 | 8.19 | 10.96 | 0.84 | 26.75 | 0.42 | 6.26 | 4.95 | 11.21 |
| Combine | | 9.37 | 46.44 | 18.38 | 1.20 | 75.39 | 1.00 | 55.81 | 19.58 | 75.38 |
| Swather | 12 ft | 5.00 | 14.91 | 34.46 | 2.25 | 56.62 | 0.33 | 6.64 | 12.24 | 18.87 |
| Dixon Harrow | 12 ft | 0.00 | 0.43 | 1.05 | 0.07 | 1.55 | 0.30 | 0.13 | 0.34 | 0.47 |
| Propane Burner | 30 ft | 0.00 | 2.81 | 22.74 | 1.49 | 27.04 | 0.20 | 0.56 | 4.84 | 5.41 |
| Rototiller | 100 in | 0.00 | 2.20 | 11.74 | 0.96 | 14.90 | 0.33 | 0.73 | 4.23 | 4.97 |
| Sprayer | 200 gal | 0.00 | 1.11 | 5.23 | 0.34 | 6.68 | 0.19 | 0.21 | 1.06 | 1.27 |
| ATV | | 0.06 | 0.20 | 1.48 | 0.08 | 1.82 | 0.50 | 0.13 | 0.78 | 0.91 |
| Farm Truck (2) | 2 ton | 0.32 | 1.20 | 0.32 | 0.26 | 2.14 | 2.00 | 1.52 | 0.62 | 2.13 |
| Pickup | 1/2 ton | 0.08 | 0.04 | 0.20 | 0.06 | 0.38 | 25.00 | 3.10 | 6.33 | 9.43 |
| Total | | | | | | | | \$80.10 | \$59.43 | \$139.53 |



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