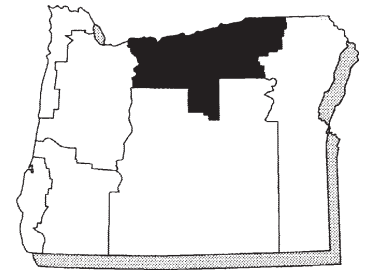


Enterprise Budget

Wheat, Spring (Direct Seeded, Annual Crop) 1997 North Central Region

Clark Seavert, Extension agent, Hood River and Wasco counties, and
Sandy Macnab, Extension agent, Wasco and Sherman counties,
Oregon State University



EM 8757, May 2000

This enterprise budget estimates the typical costs associated with annual cropping of spring wheat utilizing direct seeding practices in the Mid-Columbia area of Oregon. It should be used as a guide to estimate actual costs and is not representative of any particular farm. The major assumptions used in constructing this budget are discussed below. An attempt has been made to report typical cultural practices used in annual cropping of spring wheat utilizing minimum tillage practices; however, this does not represent the only production method. Assistance provided by area producers in compiling this report is greatly appreciated.

Cropping Pattern

This budget is based on a 3,000-acre farm utilizing minimum tillage practices. Typical yield in this budget is 38 bushels per acre, the approximate average yield for the past 2 years.

Land

A land lease charge of \$25 per acre is included to represent the cost of leasing or owning land. While crop-share rental arrangements are common in the area, their terms are varied and difficult to generalize. However, you can easily modify this budget to represent a crop-share arrangement by multiplying the appropriate cost and return items by the tenant's percentage share. Record the results in the "Your Cost" column, then calculate new variable, fixed, and total costs of production.

Labor

General labor is hired to drive trucks during harvest at a rate of \$8 per hour. Operator labor is charged \$9 per hour. Both rates include workers' compensation, unemployment insurance, and other labor overhead expenses. All labor is treated as a cash, variable expense in this budget.

Capital

Interest on operating capital is 10.25 percent and treated as a cash expense. One-third of the cash expenses are borrowed for a 6-month period. Interest on intermediate and long-term capital is 11 percent and treated as a noncash opportunity cost to the owner.

Machinery and Equipment

The machinery and equipment used in the budget reflects the typical machinery complement of a 3,000-acre annual cropped wheat farm utilizing minimum tillage in the Mid-Columbia area. A detailed breakdown of machinery values is shown in Table 1. Other machinery in Table 1 includes one set of older disc-type drills, trap wagon, disc, rotary hoe, and harrow. Estimated machinery cost calculations are in Table 2 and based on estimates from the American Society of Agricultural Engineers, assuming the machinery is half depreciated. Fuel costs are \$1.30 per gallon for gasoline and \$0.94 per gallon for off-road diesel fuel.

Operations

Tillage is assumed to be a minimum tillage practice utilizing a direct-seed drill. Moldboard and chisel plows, cultivators, and a rod weed are not used. Nitrogen fertilizer is applied as anhydrous ammonia, and sulfur is applied every year. Grain is harvested using a combine and two grain trucks, one new and one 10 years old. The older truck is licensed and used only during harvest. Grain is delivered to a local grain storage facility 12 miles from the farm. Six months of storage is assumed before final delivery to the Portland market.

Other

A miscellaneous charge of \$4.47 per acre is included to cover other labor costs, plus \$1 per acre for machinery, and a \$5 per-acre charge for accounting fees, office supplies, and other supplies. **Note that this budget assumes no participation in government programs.**



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EM 8757 Enterprise Budget

ECONOMIC COSTS AND BREAK-EVEN PRICES
Wheat, Spring (Direct Seeded, Annual Crop) North Central Region 1997
 (\$/acre) 3,000 acres, 38 bu/acre

| <u>GROSS INCOME Description</u> | <u>Quantity</u> | <u>Unit</u> | <u>\$/Unit</u> | <u>Inc/Bu</u> | <u>Total</u> | <u>Your Income</u> |
|-------------------------------------|-----------------|------------------|-----------------------------|---------------|--------------|--------------------|
| Spring Wheat | 38 | bu | 3.95 | 3.95 | 150.10 | _____ |
| Total GROSS Income | | | | | 150.10 | _____ |
| <u>VARIABLE COSTS Description</u> | <u>Labor</u> | <u>Machinery</u> | <u>Materials</u> | <u>\$/bu</u> | <u>Total</u> | <u>Your Cost</u> |
| Crop Production | | | | | | |
| Fertilizer | 0.00 | 0.00 | 15.65 | 0.41 | 15.65 | _____ |
| Nitrogen | | | 45 lb x 0.27 = 12.15 | | | |
| Sulfur | | | 10 lb x 0.35 = 3.50 | | | |
| Direct Seed Drill | 0.74 | 10.91 | 9.75 | 0.56 | 21.40 | _____ |
| Wheat Seed | | | 75 lb x 0.13 = 9.75 | | | |
| Herbicides | 0.32 | 0.93 | 11.13 | 0.33 | 12.39 | _____ |
| Chemicals | | | 1 ac x 13.67 = 6.83 | | | |
| Custom Application | | | 1 ac x 4.30 = 4.30 | | | |
| Harvesting Operations | | | | | | |
| Combine | 0.79 | 2.69 | 0.00 | 0.09 | 3.47 | _____ |
| Hauling Grain | 1.62 | 1.34 | 0.00 | 0.08 | 2.96 | _____ |
| Marketing | 0.00 | 0.00 | 21.28 | 0.56 | 21.28 | _____ |
| Handling | | | 38 bu x 0.10 = 3.80 | | | |
| Storage | | | 38 bu x 6 mo x 0.025 = 5.70 | | | |
| Transportation | | | 38 bu x 0.28 = 10.64 | | | |
| Wheat Commission | | | 38 bu x 0.03 = 1.14 | | | |
| Other Charges | | | | | | |
| Pickup & Truck Repairs, Fuel & Lube | 0.00 | 2.54 | 0.00 | 0.07 | 2.54 | _____ |
| Other Machinery | 0.00 | 0.52 | 0.00 | 0.01 | 0.52 | _____ |
| Miscellaneous | 4.47 | 1.00 | 5.00 | 0.28 | 10.47 | _____ |
| Interest: Operating Capital | 0.00 | 0.00 | 1.53 | 0.04 | 1.53 | _____ |
| Total VARIABLE COSTS | 7.94 | 19.93 | 64.35 | 2.43 | 92.21 | _____ |
| GROSS INCOME minus VARIABLE COSTS | | | | 1.52 | 57.89 | _____ |

EM 8757 Enterprise Budget

ECONOMIC COSTS AND BREAK-EVEN PRICES Wheat, Spring (Direct Seeded, Annual Crop) North Central Region 1997 (\$/acre) 3,000 acres, 38 bu/acre

| <u>FIXED COSTS Description</u> | <u>Unit</u> | <u>\$/bu</u> | <u>Total</u> | <u>Your Cost</u> |
|--|-------------|--------------|--------------|------------------|
| CASH Costs | | | | |
| Machinery & Equipment - Insurance | acre | 0.05 | 1.88 | _____ |
| Pickup & Trucks - Insurance | acre | 0.00 | 0.19 | _____ |
| Crop - Hail & Fire Insurance | acre | 0.05 | 2.00 | _____ |
| Conservation Practices | acre | 0.00 | 0.00 | _____ |
| Total Fixed CASH Costs | | 0.11 | 4.06 | _____ |
| GROSS INCOME minus VARIABLE AND FIXED CASH COSTS | | 1.42 | 53.82 | _____ |
| NONCASH Costs | | | | |
| Machinery & Equipment - Depreciation, Int, & Housing | acre | 0.49 | 18.44 | _____ |
| Pickup & Trucks - Depreciation, Interest, & Housing | acre | 0.08 | 3.11 | _____ |
| Other Machinery - Depreciation & Interest | acre | 0.04 | 1.37 | _____ |
| Land Charge | acre | 0.66 | 25.00 | _____ |
| Total NONCASH Costs | | 1.26 | 47.92 | _____ |
| Total FIXED COSTS | | 1.37 | 51.99 | _____ |
| TOTAL OF ALL COSTS PER ACRE | | 3.79 | 144.20 | _____ |
| NET PROJECTED RETURNS | | 0.16 | 5.90 | _____ |

Table 1. Machinery Cost Assumptions

| <u>Machine</u> | <u>Size</u> | <u>Current Market Value</u> | <u>Hours or Miles of Annual Use</u> | <u>Expected Life (yrs)</u> |
|-------------------|------------------|-----------------------------|-------------------------------------|----------------------------|
| Tractor, Crawler | Crawler Tractor | \$155,000 | 488 | 20 |
| Combine | 30' Hillside | 220,000 | 262 | 10 |
| Moldboard Plow | 10-16" | 0 | 0 | 0 |
| Chisel Plow | 25' | 0 | 0 | 0 |
| Cultivate | 40' | 0 | 0 | 0 |
| Field Sprayer | 60' | 20,000 | 243 | 15 |
| Rod Weed | 48' | 0 | 0 | 0 |
| Direct-seed Drill | 36' | 54,000 | 246 | 15 |
| Pickup | 3/4-ton 4X4, new | 27,000 | 12,000 | 10 |
| Truck | 2-ton | 49,000 | 2,750 | 20 |
| Truck | 2-ton, older | 15,000 | 2,250 | 10 |
| Other Machinery | | 15,000 | N/A | 10 |

EM 8757 Enterprise Budget

Table 2. Machinery Cost Calculations

| Machine | Size | ___ Variable ___ | | ___ Fixed ___ | | Total Cost |
|-----------------------|------------------|------------------|-----------------|------------------|-----------|------------|
| | | Fuel & Lube | Repair & Maint. | Depr. & Interest | Insurance | |
| Costs per Hour | | | | | | |
| Tractor, Crawler | Crawler Tractor | \$6.49 | \$4.54 | \$33.58 | \$2.86 | \$47.46 |
| Combine | 30' Hillside | 5.41 | 25.37 | 123.88 | 7.56 | 162.22 |
| Moldboard Plow | 10-16" | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chisel Plow | 25' | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cultivate | 40' | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Field Sprayer | 60' | 0.00 | 12.08 | 9.88 | 0.49 | 22.46 |
| Rod Weed | 48' | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Direct-seed Drill | 36' | 0.00 | 122.34 | 25.87 | 1.32 | 149.52 |
| Costs per Mile | | | | | | |
| Pickup | 3/4-ton 4X4, new | 0.15 | 0.06 | 0.29 | 0.02 | 0.53 |
| Truck | 2-ton | 0.30 | 0.75 | 1.50 | 0.08 | 2.64 |
| Truck | 2-ton, older | 0.30 | 0.09 | 0.76 | 0.03 | 1.19 |
| Costs per Acre | | | | | | |
| Other Machinery | | 0.00 | 0.52 | 1.37 | 0.61 | 2.49 |

Table 3. Estimated Cost of Each Operation with Power-Unit

| Operation | Tractor | Miles per Hour | Acres per Hour | Labor Cost per Acre | Machine Costs | | Total Cost per Acre |
|-------------------|---------|----------------|----------------|---------------------|------------------------|---------------------|---------------------|
| | | | | | Variable Cost per Acre | Fixed Cost per Acre | |
| Combine | N/A | 4.5 | 11.46 | \$0.79 | 2.69 | 11.47 | \$14.95 |
| Field Sprayer | Crawler | 4.0 | 24.73 | 0.32 | 0.93 | 1.89 | 3.15 |
| Direct-seed Drill | Crawler | 4.0 | 12.22 | 0.74 | 10.91 | 5.21 | 16.86 |

EM 8757 Enterprise Budget

Table 4. Estimated per-Acre Returns Over Cash Costs at Varying Yields and Prices

| Price per Bu | Bushels per Acre | | | | | | |
|--------------|------------------|-----|------|------|------|------|------|
| | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| \$ 3.25 | -\$15 | \$1 | \$17 | \$34 | \$50 | \$66 | \$82 |
| \$ 3.50 | -9 | 9 | 26 | 44 | 61 | 79 | 96 |
| \$ 3.75 | -3 | 16 | 35 | 54 | 72 | 91 | 110 |
| \$ 4.00 | 4 | 24 | 44 | 64 | 84 | 104 | 124 |
| \$ 4.25 | 10 | 31 | 52 | 74 | 95 | 116 | 137 |
| \$ 4.50 | 16 | 39 | 61 | 84 | 106 | 129 | 151 |
| \$ 4.75 | 22 | 46 | 70 | 94 | 117 | 141 | 165 |

Table 5. Estimated per-Acre Returns Over Total Costs at Varying Yields and Prices

| Price per Bu | Bushels per Acre | | | | | | |
|--------------|------------------|-------|-------|-------|-----|------|------|
| | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| \$ 3.25 | -\$63 | -\$47 | -\$30 | -\$14 | \$2 | \$18 | \$35 |
| \$ 3.50 | -57 | -39 | -22 | -4 | 13 | 31 | 48 |
| \$ 3.75 | -50 | -32 | -13 | 6 | 25 | 43 | 62 |
| \$ 4.00 | -44 | -24 | -4 | 16 | 36 | 56 | 76 |
| \$ 4.25 | -38 | -17 | 5 | 26 | 47 | 68 | 90 |
| \$ 4.50 | -32 | -9 | 13 | 36 | 58 | 81 | 103 |
| \$ 4.75 | -25 | -2 | 22 | 46 | 70 | 93 | 117 |

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