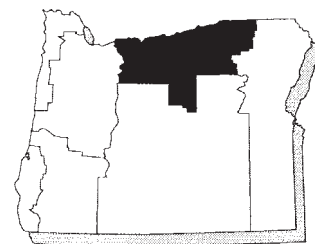


# Enterprise Budget

## Wheat, Irrigated, North Central Region

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**EM 8456, March 1991**

This enterprise budget estimates the typical costs and returns of producing irrigated wheat in the Hermiston area of north central 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. Assistance provided by area producers is greatly appreciated.

### Cropping Pattern

This budget is based on a 1,875 acre, circle-irrigated farm with 250 acres in wheat production each year following potatoes. The remaining acres are planted in a rotation of potatoes, corn, and alfalfa. Typical yield in this budget is 120 bushels/acre.

### Land and Irrigation

A land lease charge of \$150.00 per acre (based on a 5- to 10-year lease) 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, and you can then calculate new variable, fixed, and total costs of production.

The irrigation system includes a center pivot, pump, and mainline costing \$55,000 per circle. It is assumed to have a 20-year useful life and a salvage value of \$5,500. Irrigation system fixed costs include straight-line depreciation and interest on the average investment, totalling \$44.00 per acre. An annual charge of \$2.00 per acre is included to account for repairs and maintenance of the system.

### Labor

Hired labor typically costs \$7.00 per hour including social security, FICA, and other payroll expenses. For this study, all labor is treated as hired labor valued at \$7.00 per hour and assumed to be a cash cost. Labor hours are calculated based on machinery hours.

### Capital

Opportunity costs of capital are charged at a rate of 12% for current and intermediate capital provided by the owner/operator. The long-term capital rate is 10%.

### Machinery and Equipment

The machinery complement is sufficient to farm 1,875 acres. A detailed breakdown of machinery values used in this budget is shown in table 1. December 1989 replacement costs are used, assuming the machinery is half-depreciated. Estimated machinery costs are shown in table 2. The machinery costs per hour are estimated based on the total farm use of the machinery. Then costs per acre are estimated based on the hours of annual use in wheat production shown in table 1.

### Operations

Use of lodging and disease resistant cultivars is assumed. Since this wheat crop is assumed to follow potatoes, no preplant N is used. However, P, K, and sulfur are applied and incorporated with a 250-hp tractor pulling a disc and packer. A spring top-dress of 100 lb of N is applied. Weed control is required every year, and insect control is typically required once every three years. A final application of 50 lb of N is applied through the irrigation system during the growing season.

The wheat is harvested using a combine, and is dumped in a bank-out wagon. The bank-out wagon is then used to load trucks that custom haul the grain to a local storage facility, where it is sold.

### Other

A general overhead charge of \$20.00 per acre is included to cover general insurance, tools, shop, utilities, accounting fees, office supplies, and other miscellaneous expenses. The Wheat Commission assessment is \$0.02 per bushel. A pickup is included for monitoring the irrigation system, scouting for pests, and general farm work. The farm truck is used to haul seed and supplies. Note that this budget assumes no participation in government programs, and it does not include storage or other marketing costs.



OREGON STATE UNIVERSITY EXTENSION SERVICE

## EM 8456 Enterprise Budget

### ECONOMIC COSTS and RETURNS NORTH CENTRAL REGION Wheat, Irrigated (\$/Acre)

<u>GROSS INCOME Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$ / Unit</u>	<u>Total</u>	<u>Your Returns</u>
Wheat	120	bu	3.75	450.00	_____
Total GROSS Income				450.00	_____
<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
<b>PRE PLANT</b>					
Fertilize incorporated	0.00	0.00	14.35	14.35	_____
Materials					
Application	1 acre x 9.60 =		9.60		
Application	1 acre x 4.75 =		4.75		
Disc & pack	1.21	5.42	0.00	6.63	_____
Plant	1.69	6.66	13.20	21.55	_____
Wheat seed	110 lb x 0.12 =		13.20		
Total PRE PLANT				42.53	_____
<b>GROWING SEASON</b>					
Fertilize, Top-Dress	0.00	0.00	33.20	33.20	_____
Materials					
Application	1 acre x 28.45 =		28.45		
Application	1 acre x 4.75 =		4.75		
Weed Control	0.00	0.00	15.45	15.45	_____
Herbicide					
Application	1 acre x 10.70 =		10.70		
Application	1 acre x 4.75 =		4.75		
Insect Control (.33x)	0.00	0.00	2.47	2.47	_____
Insecticide					
Aerial Application	.33 acre x 3.50 =		1.15		
Aerial Application	.33 acre x 4.00 =		1.32		
Irrigation (18 inches)	5.25	0.00	50.50	55.75	_____
Water-Run N					
Electricity	1 acre x 12.50 =		12.50		
Electricity	1 acre x 36.00 =		36.00		
Repairs	1 acre x 2.00 =		2.00		
Total GROWING SEASON			106.87	_____	_____
<b>HARVEST</b>					
Combine Grain	1.71	8.25	0.00	9.96	_____
Load Grain	0.98	2.37	0.00	3.35	_____
Haul grain	0.00	0.00	8.40	8.40	_____
Custom Hauling	120 bu x 0.07 =		8.40		
Wheat Commission Assessment	0.00	0.00	2.40	2.40	_____
Total HARVEST				24.11	_____
<b>MISCELLANEOUS</b>					
General Overhead	0.00	0.00	20.00	20.00	_____
Farm Truck	3.08	3.26	0.00	6.34	_____
Pickup	14.00	7.68	0.00	21.68	_____
Operating Capital Interest	0.00	0.00	29.33	29.33	_____
Total MISCELLANEOUS				77.35	_____
Total VARIABLE COST				250.86	_____
GROSS INCOME minus VARIABLE COST				199.14	_____

**EM 8456 Enterprise Budget**

**ECONOMIC COSTS and RETURNS  
NORTH CENTRAL REGION**

Wheat, Irrigated (\$/Acre) (Continued)

<u>FIXED COST Description</u>	<u>Unit</u>	<u>Total</u>	<u>Your Cost</u>
CASH Cost			
Machinery & Equipment Insurance	acre	2.12	_____
Land Lease	acre	150.00	_____
Total CASH Cost		152.12	_____
NON-CASH Cost			
Irrigation System - Depreciation & Interest	acre	44.00	_____
Machinery & Equipment - Depreciation & Interest	acre	33.63	_____
Total NON-CASH Cost		77.63	_____
Total FIXED Cost		229.75	_____
Total of ALL Cost		480.61	_____
<b>NET PROJECTED RETURNS</b>		-30.61	_____
Break-Even Price, Total Variable Cost		\$ 2.09 per bu	_____
Break-Even Price, Total Cost		\$ 4.00 per bu	_____

## EM 8456 Enterprise Budget

**Table 1. Machinery Cost Assumptions**

Machine	Size	List Price	Current Market Value	Salvage Value	Useful Life	Remaining Life	Annual Use
Tractor	165 hp	\$ 85,000	\$55,250	\$25,500	8,000 hr	4,000 hr	87 hr
Tractor	250 hp	123,000	79,950	36,900	8,000 hr	4,000 hr	39 hr
Combine	20 ft	100,000	71,500	33,000	2,000 hr	1,000 hr	56 hr
Bank-Out Wagon	700 bu	15,000	9,000	3,000	2,000 hr	1,000 hr	29 hr
Grain Drill	30 ft	25,000	15,000	5,000	1,200 hr	600 hr	50 hr
Offset disc	36 ft	20,000	12,000	4,000	2,000 hr	1,000 hr	36 hr
Packer	36 ft	8,000	4,800	1,600	2,000 hr	1,000 hr	25 hr
Farm Truck	2-ton	30,000	18,750	7,500	100,000 mi	50,000 mi	2,500 mi
Pickup	3/4-ton	15,000	8,250	1,500	200,000 mi	100,000 mi	12,500 mi

**Table 2. Machinery and Equipment Cost Calculations**

Machine	Size	Costs per Hour or Mile				Total Cost	Hours or Miles per acre	Costs per Acre		
		Fuel & Lube	Repair & Maint.	Depr. & Interest	Insurance			Variable	Fixed	Total
Tractor	165 hp	\$ 8.92	\$ 8.67	\$16.20	\$1.11	\$34.89	0.35	\$6.12	\$6.02	\$12.14
Tractor	250 hp	13.51	10.46	23.44	1.60	49.00	0.16	3.76	3.93	7.70
Combine	20 ft	6.25	30.87	39.85	2.17	79.13	0.22	8.25	9.34	17.58
Bank-Out Wagon	700 bu	0.00	3.86	5.06	0.30	9.22	0.12	0.45	0.62	1.07
Grain Drill	36 ft	0.00	17.55	25.29	1.50	44.34	0.20	3.51	5.36	8.87
Offset disc	36 ft	0.00	6.54	10.11	0.60	17.25	0.14	0.93	1.53	2.47
Packer	36 ft	0.00	3.89	4.05	0.24	8.18	0.10	0.39	0.43	0.82
Farm Truck	2-ton	0.21	0.12	0.36	0.02	0.71	10.00	3.26	3.85	7.11
Pickup	3/4-ton	0.13	0.03	0.09	0.01	0.25	50.00	7.70	4.65	12.35
Total								\$34.37	\$35.73	\$70.10



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