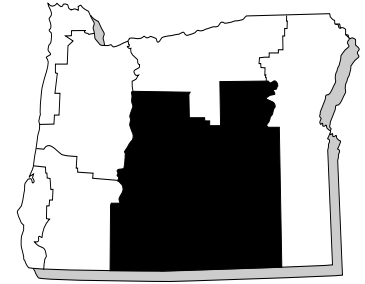


Enterprise Budget

Spring Grain Production, Klamath Basin Area

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EM 8370 Revised February 1999

This enterprise budget estimates the typical costs and returns associated with irrigated spring grain production in the Klamath and Lake County areas of south central Oregon. It should be used as a guide to estimating 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.

Land

This budget is based on 500 acres of spring grains planted and harvested annually. The land is owned and valued at \$1,000 per acre. An annual land ownership charge of \$100 is included as a noncash opportunity cost, based on a long-term interest rate of 10 percent. Property taxes are estimated to be \$15 per acre.

Wheel line irrigation systems are used to apply 20 acre inches of water annually. Irrigation equipment is valued at \$400 per acre with a 20-year useful life and no salvage value. Irrigation depreciation is estimated using the straight-line method, resulting in an annual cost of \$20 per acre. Interest is charged at 10 percent of the system's average value over its life ($\$200 \times 10\% = \20).

Labor

Hired labor typically costs approximately \$8 per hour including workman's compensation, unemployment insurance, and other payroll expenses. For this budget, all labor is assumed to be provided by the owner/operator and is included as a noncash cost of \$8 per hour. Labor hours for machinery operation are calculated by multiplying machine hours by 1.21 to allow time for machinery setup, movement, and adjustment. All repairs are estimated separately from labor hours and are included in machinery costs.

Capital

Opportunity costs of capital are charged for current, intermediate, and long-term capital at interest rates of 10 percent. Opportunity costs are treated as noncash expenses.

Machinery and Equipment

The machinery complement is sufficient to plant and cultivate the 500 acres of spring grain. Combining is performed by a custom operator, but hauling of the crop from the field to an elevator for storage and eventual sale is done with the operator's own truck. A pickup truck is driven 20,000 miles per year, of which 25 percent is charged to this enterprise. A detailed breakdown of machinery values used in this budget is shown in Table 1. February, 1999 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 in Table 1 represent the hours the machinery is used to plant and cultivate 500 acres. Costs per hour are calculated based on these hours of use.

Crop

This budget is representative for any one of three spring grains: oats, barley, or wheat. Production costs, application rates, and yield tend to occur in the same range for all three of these crops, except that wheat needs more nitrogen fertilizer than the other two grains. Please consult the appropriate OSU Fertilizer Guide for fertilizer recommendations. Other production practices also may vary somewhat throughout the region.

The determination of which specific crop to grow in any given year depends upon several factors, including crop price outlook, weather and environmental conditions, and producer risk preferences. It is important to note that the government price support payments that existed before the 1996 Farm Bill no longer are in effect, having been replaced by transitional payments that are slated to decline gradually before finally being phased out in the year 2002. The scheduled transition payments are shown in Figure 1.

The assumed yield in this budget is 2.5 tons per acre but yields have ranged from 1.5 to 3.5 tons in this region. At a price of \$110 per ton, the gross returns in this enterprise are \$275 per acre. Subtracting variable costs of \$211.04 gives a return of \$63.96 over variable costs. The break-even price needed to cover variable costs is \$84.46. Thus as long as the price received exceeds this break-even level, it is economically worthwhile to produce in the short run. When the \$187.07 of fixed costs also are deducted, however, the net return is a loss of \$123.11 per acre. The break-even price needed to cover total costs is \$159.24 per ton. This price would be enough to allow for replacement of depreciable equipment as well as to cover the opportunity costs of all capital invested in this enterprise.



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EM 8370 Enterprise Budget

ECONOMIC COSTS and RETURNS
South Central Region: Klamath Falls
 Spring Grain Production Costs (\$/acre)

<u>GROSS INCOME Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Total</u>	<u>Your Returns</u>
Spring Grain	2.50	ton	110.00	275.00	_____
Total GROSS Income				275.00	_____
<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
PREHARVEST					
Subsoil	1.38	6.04	0.00	7.42	_____
Plow	2.42	6.32	0.00	8.74	_____
Chisel Plow	1.76	5.45	0.00	7.21	_____
Disc/Cultpk	1.19	4.10	0.00	5.28	_____
Disc/Cultpk/Fert	1.19	4.10	19.20	24.48	_____
Anhydrous	80.00 lb x 0.240 = 19.20				
Plant/Fertilize	1.21	3.34	46.00	50.55	_____
16-20-0	0.10 tn x 220.00 = 22.00				
Seed	1.50 cwt X 16.00 = 24.00				
Spray	0.00	0.00	6.67	6.67	_____
Herbicide 2,4-D	1.00 pt x 1.670 = 1.67				
Custom Appl.	1.00 ac x 5.00 = 5.00				
Irrigate	6.00	0.00	30.00	36.00	_____
Irrigate-Elec.	1.00 ac x 5.00 = 5.00				
Irrigate-Water	1.00 ac x 20.00 = 20.00				
Repairs & Maint.	1.00 ac x 5.00 = 5.00				
Total PREHARVEST				146.37	_____
HARVEST					
Harvest Grain	0.00	0.00	32.50	32.50	_____
Custom Combine	2.5 tn x 13.00 = 32.50				
Haul Grain	1.07	0.82	0.00	1.88	_____
Total HARVEST				34.48	_____
OTHER					
Miscellaneous	0.00	0.00	21.00	21.00	_____
Crop Insurance	1.00 ac x 6.00 = 6.00				
Off & Prop. Serv.	1.00 ac x 5.00 = 5.00				
Market & Comm.	1.00 ac x 2.50 = 2.50				
Grain Storage	2.50 tn x 3.00 = 7.50				
Pickup-4WD	2.67	1.32	0.00	3.99	_____
Interest, operating capital	0.00	0.00	5.31	5.31	_____
Total OTHER				30.30	_____
Total VARIABLE COST				211.04	_____
GROSS INCOME minus VARIABLE COST				63.96	_____

EM 8370 Enterprise Budget

ECONOMIC COSTS and RETURNS
South Central Region: Klamath Falls
 Spring Grain Production Costs (\$/acre)

<u>FIXED COST Description</u>	<u>Unit</u>	<u>Total</u>	<u>Your Cost</u>
CASH Cost			
Machinery & Equipment Insurance	acre	2.59	_____
Property Tax	acre	15.00	_____
Total CASH Cost		<u>17.59</u>	_____
NONCASH Cost			
Irrigation Depreciation	acre	20.00	_____
Irrigation Interest	acre	20.00	_____
Machinery & Equipment - Depreciation & Interest	acre	29.48	_____
Land Interest	acre	<u>100.00</u>	_____
Total NONCASH Cost		<u>169.48</u>	_____
Total FIXED Cost		187.07	_____
Total of ALL Cost		398.11	_____
NET PROJECTED RETURNS		-123.11	_____
Break-even Price, Total Variable Cost		\$84.46 per tn	_____
Break-even Price, Total Cost		\$159.24 per tn	_____

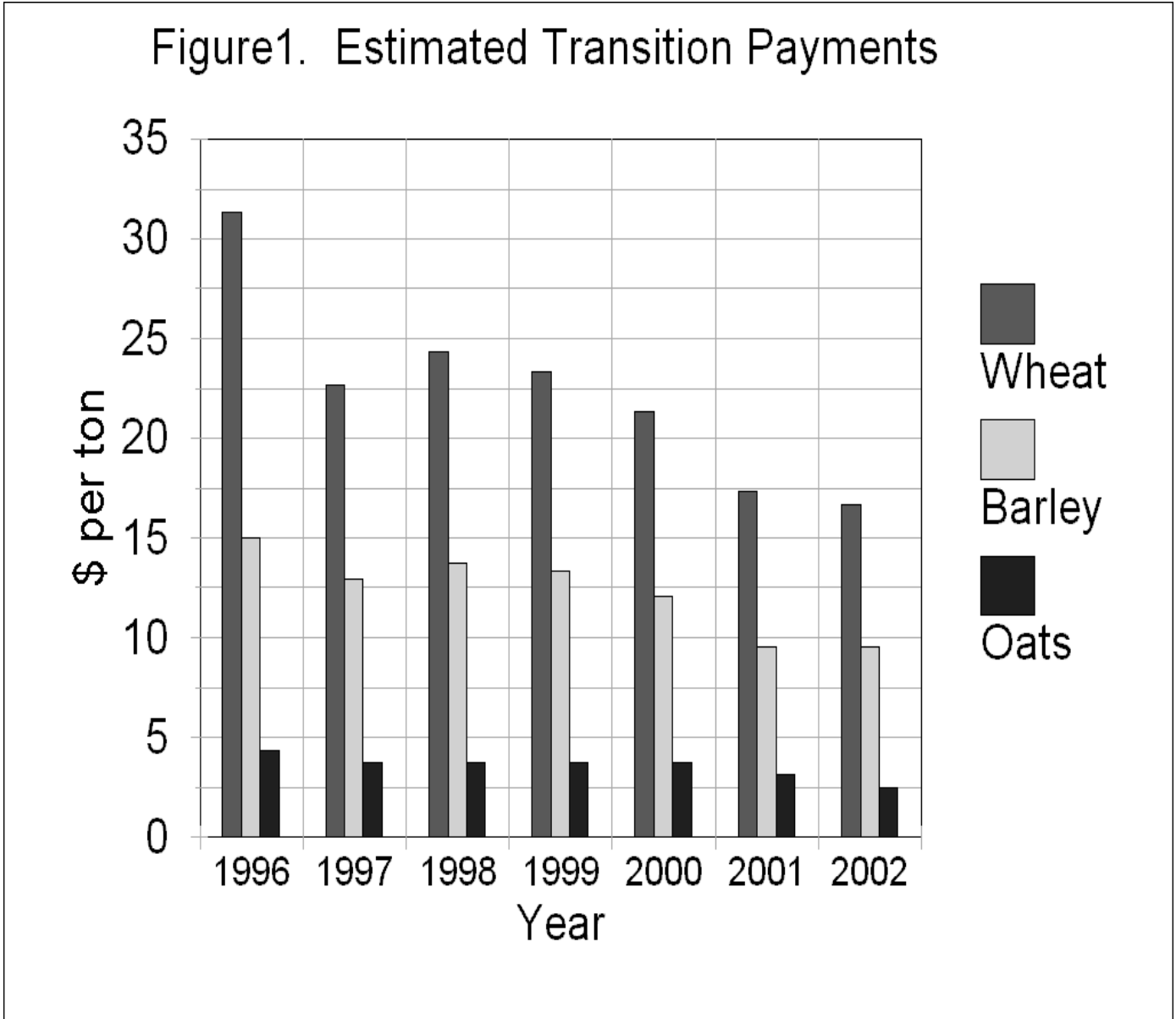


Figure 1. Projected Production Flexibility Payments

EM 8370 Enterprise Budget

Table 1. Machinery Cost Assumptions

No. Machine	Size	List Price	Current Market Value	Salvage Value	Useful Life	Remaining Life	Annual Use	
1	Tractor FWA	200 hp	\$100,000	\$60,000	\$20,000	16,000 hr	9,600 hr	520 hr
2	Chisel Plow	12 ft	30,000	18,000	6,000	5,000 hr	3,000 hr	91 hr
3	Cultipacker	14 ft	4,000	2,400	800	2,500 hr	1,500 hr	160 hr
4	Disk	18 ft	4,000	2,400	800	5,000 hr	3,000 hr	85 hr
5	Grain Drill	14 ft	15,000	9,000	3,000	3,000 hr	1,800 hr	63 hr
6	Plow	7 bott. 2 way	10,000	6,000	2,000	2,500 hr	1,500 hr	125 hr
7	Subsoiler	24"	16,000	9,600	3,200	5,000 hr	3,000 hr	71 hr
8	Grain Truck		24,000	14,400	4,800	35,000 mi	21,000 mi	2,000 mi
9	Pickup	3/4 ton	25,000	15,000	5,000	100,000 mi	60,000 mi	5,000 mi

Table 2. Cost of Machinery Operations (\$/Acre) Acres: 500

Operation	Machines	Fuel & Lube	Operator Labor Cost	Repair & Maint.	Variable Cost	Deprec. & Taxes, Lic. & Insurance	Fixed Cost	Total Mach. Cost	
Subsoil 0.5X	(1,7)	\$2.51	\$1.38	\$3.53	\$7.42	\$3.89	0.37	\$4.26	\$11.68
Plow	(1,6)	3.86	2.42	2.47	8.74	4.77	0.44	5.21	13.95
Chisel Plow	(1,2)	2.80	1.76	2.65	7.21	3.46	0.33	3.79	11.00
Disc/Cultipack	(1,3)	2.16	1.19	1.94	5.28	3.07	0.29	3.36	8.65
Disc/Cultipk/Fert	(1,3)	2.16	1.19	1.94	5.28	3.07	0.29	3.36	8.65
Plant/Fertilize	(1,5)	1.31	1.21	2.07	4.59	3.61	0.34	3.95	8.54
Haul Grain	(8)	0.34	1.07	0.48	1.88	4.96	0.42	5.38	7.27
Pickup Truck	(9)	0.84	2.67	0.48	3.99	2.65	0.10	2.75	6.74
TOTAL		\$15.97	\$12.89	\$15.56	\$44.42	\$29.48	2.58	\$32.06	\$76.48

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