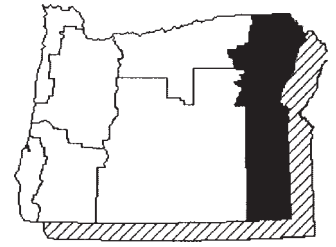


# Enterprise Budget

## Native Hay, Eastern Oregon Region



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**EM 8608, July 1995**

This enterprise budget estimates the typical costs and returns of producing native hay in Baker, Wallowa, and Union counties of northeastern Oregon. It should be used as a guide to estimate actual costs and is not representative of any particular ranch. 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 300 acres of hay harvested annually. The hay stand is entirely native grass, with no establishment required. The hay typically is harvested once per year, with a yield of 3 tons per acre. In addition, there normally is some regrowth on the meadows, which is leased as pasture for grazing livestock.

### Labor

Almost all the labor is provided by the owner/operator and is included as a noncash cost of \$10 per hour. Labor hired to drive equipment during harvest is included as a cash cost of \$7 per hour, which includes social security, FICA, and other payroll expenses.

### Capital

Costs of capital are charged at a rate of 8 percent for current and intermediate capital provided by the owner. This rate represents a real interest rate calculated by subtracting the inflation rate from the current borrowing rate.

### Machinery and Equipment

Three tractors are used in the operation, with a 75-hp and a 95-hp tractor equipped with farmhand loaders. The 75-hp tractor is used to drag meadows, clean ditches, cut hay, and haul hay. The 95-hp tractor is used to bale hay and haul hay. A 40-hp tractor is used to rake hay. Cutting is done with a 12' pull-type swather. A big round baler is used for baling.

A detailed breakdown of machinery values used in this budget is shown in Table 1. April 1994 replacement values for machinery are used. To represent the mix of new and used equipment on individual farms, this budget assumes all the machinery is half depreciated in the production year. Estimated machinery costs are shown in Table 2.

### Operations

The meadows are harrowed/dragged in April. Irrigation ditches are checked, cleaned, and maintained at this time. A custom cost of \$500 per year, or \$1.67 per acre, has been included for ditch maintenance. The meadows are fertilized in May with 60 lb of nitrogen per acre by a custom applicator at a cost of \$3.50 per acre. Irrigation water costs \$5 per acre.

### Other

The economic costs and returns of native hay production are summarized for each operation. Harvest-related variable costs account for \$28.64 per acre, or \$9.56 per ton.

The cash fixed costs of \$53.58 per acre include machinery and equipment insurance and land lease. Noncash fixed costs include depreciation and interest on machinery and equipment, totalling \$47.30 per acre. The net projected return over all listed costs is \$27.30 per acre.

To calculate break-even prices, or the hay price that will exactly cover costs, the aftermath income is included as a negative cost. The resulting break-even price over total variable cost is \$18.94 per ton, and the break-even price over total cost (fixed and variable) is \$52.57 per ton.



**OREGON STATE UNIVERSITY EXTENSION SERVICE**

## EM 8608 Enterprise Budget

### ECONOMIC COSTS and RETURNS

Eastern Oregon Region

Native Hay, 300 acres (\$/acre)

<u>GROSS INCOME Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Total</u>	<u>Your Returns</u>
Aftermath Pasture	1.33	aum	15.00	20.00	_____
Native Hay	3.00	ton	60.00	180.00	_____
Total GROSS Income				<u>200.00</u>	_____
<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
Farm Pickup	1.71	0.79	0.00	2.50	_____
Drag Meadows	1.21	1.28	0.00	2.49	_____
Custom Ditch Maintenance	0.00	0.00	1.67	1.67	_____
Clean Ditches	2.81	3.16	0.00	5.97	_____
Fertilize	0.00	0.00	21.50	21.50	_____
Nitrogen					
60 lb x 0.30 = 18.00					
Custom Application					
1 ac x 3.50 = 3.50					
Flood Irrigate	1.07	0.00	5.00	6.07	_____
Water					
1 ac x 5.00 = 5.00					
Total				<u>37.70</u>	_____
<b>HARVEST</b>					
Swath	2.12	5.04	0.00	7.16	_____
Rake	1.41	1.35	0.00	2.76	_____
Bale	3.03	5.57	4.75	13.35	_____
Twine					
0.25 box x 19.00 = 4.75					
Haul & Stack	2.12	3.30	0.00	5.42	_____
Total HARVEST				<u>28.69</u>	_____
Operating Capital Interest	0.00	0.00	2.93	2.93	_____
Total VARIABLE COST				71.82	_____
GROSS INCOME minus VARIABLE COST				128.18	_____
<u>FIXED COST Description</u>		<u>Unit</u>		<u>Total</u>	<u>Your Cost</u>
<b>CASH Cost</b>					
Machinery & Equipment Insurance		acre		3.58	_____
Land Lease		acre		50.00	_____
Total CASH Cost				<u>53.58</u>	_____
<b>NONCASH Cost</b>					
Machinery & Equipment Interest & Depreciation		acre		47.30	_____
Total NONCASH Cost				<u>47.30</u>	_____
Total FIXED Cost				100.88	_____
Total of ALL Cost				172.70	_____
<b>NET PROJECTED RETURNS</b>				27.30	_____
Break-even Price, Total Variable Cost				\$18.94 per ton	_____
Break-even Price, Total Cost				\$52.57 per ton	_____

## EM 8608 Enterprise Budget

Table 1. Machinery Cost Assumptions

Machine	Size	List Price	Current		Useful Life	Remaining Life	Annual Use
			Market Value	Salvage Value			
Old Tractor	40 hp	\$18,500	\$12,025	\$5,550	10,000 hr	5,000 hr	55 hr
Loader Tractor	75 hp	47,000	30,550	14,100	10,000 hr	5,000 hr	275 hr
Loader Tractor	95 hp	52,000	33,800	15,600	10,000 hr	5,000 hr	83 hr
Pull Swather	12 ft	18,000	10,800	3,600	2,000 hr	1,000 hr	75 hr
Ditcher		3,500	2,100	700	2,000 hr	1,000 hr	70 hr
Drags/Harrow	20 ft	1,500	900	300	2,000 hr	1,000 hr	30 hr
Hay Wagon		2,500	1,500	500	3,000 hr	1,500 hr	75 hr
Round Baler		18,000	10,800	5,400	2,000 hr	1,000 hr	75 hr
Side Deliver Rake		4,500	2,700	900	2,000 hr	1,000 hr	50 hr
Pickup	3/4 ton	20,000	13,000	6,000	100,000 mi	50,000 mi	2,100 mi

Table 2. Machinery Cost Calculations

Machine	Size	Costs per Hour or Mile					Total Cost	Hours or Miles per Acre	Costs per Acre		
		Variable		Fixed		Total			Variable	Fixed	Total
		Fuel & Lube	Repair & Maint.	Depr. & Interest	Insurance						
Old Tractor	40 hp	\$2.00	\$2.23	\$25.99	\$2.00	\$32.22	0.18 hr	\$0.78	\$5.13	\$5.91	
Loader Tractor	75 hp	3.75	5.81	13.21	1.02	23.78	0.92 hr	8.75	13.03	21.78	
Loader Tractor	95 hp	4.74	6.29	51.57	3.98	66.58	0.28 hr	3.04	15.27	18.31	
Pull Swather	12 ft	0.00	7.67	22.89	1.44	32.00	0.25 hr	1.92	6.08	8.00	
Ditcher		0.00	1.10	4.59	0.30	5.99	0.23 hr	0.26	1.14	1.39	
Drags/Harrow	20 ft	0.00	0.31	4.59	0.30	5.21	0.10 hr	0.03	0.49	0.52	
Hay Wagon		0.00	0.71	1.53	0.10	2.34	0.25 hr	0.18	0.41	0.58	
Round Baler		0.00	7.67	22.89	1.44	32.00	0.25 hr	1.92	6.08	8.00	
Side Delivery Rake		0.00	2.42	7.96	0.54	10.92	0.17 hr	0.40	1.42	1.82	
Pickup	3/4 ton	0.09	0.03	0.23	0.04	0.38	7.00 mi	0.79	1.83	2.63	
Total								\$18.05	\$50.88	\$68.94	



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