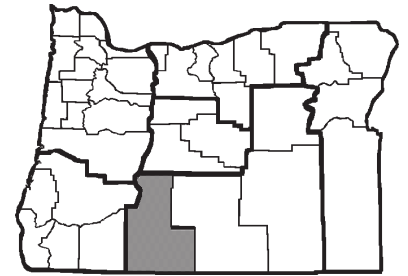


Enterprise Budget

Alfalfa Establishment, Klamath Basin Area



EM 8431, Revised July 1998

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This enterprise budget estimates the typical costs and returns of establishing alfalfa in the Klamath Basin area of south central Oregon. It should be used as a guide to estimating costs and returns 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.

Alfalfa establishment takes 1 year. Following the establishment year are 7 years of production. The costs and returns of alfalfa production may be found in *Alfalfa Production, Klamath Basin Area, EM 8430*.

Land and Irrigation

This budget is based on establishment of 40 acres of alfalfa, which together with the producing areas amount to a total acreage of 320 acres. A land charge of \$100 per acre is included to represent the annual cost of renting land.

Irrigation system costs are based upon a side-roll irrigation system valued at \$400 per acre including pump, wheel line, and main line costs. The irrigation system has a 20-year life and no salvage value. Using straight-line depreciation results in a \$15 per acre annual irrigation depreciation charge. Interest on the average investment is calculated to be 10 percent of \$200 per acre, or another \$20 per acre. Irrigation repairs are \$5 per acre including replacement of nozzles and seals as needed. A hay shed valued at \$60,000 provides storage for almost 1,300 tons of hay.

Labor

Hired labor typically costs approximately \$8 per hour including social security, FICA, and other payroll expenses. For this study, all labor is treated as owner/operator labor valued at \$8 per hour and therefore assumed to be a noncash cost.

Capital

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

Machinery and Equipment

The machinery complement is sufficient to establish and harvest the 320 acres of alfalfa on the farm in a timely manner. A detailed breakdown of machinery values used in these budgets is shown in Table 1. February 1998 replacement costs are used, assuming the machinery is half depreciated. Estimated machinery costs are shown in *Alfalfa Production, Klamath Basin Area, EM 8430*.

Operations

Cultural operations are listed in the budget in the order they are performed, beginning in the fall of the year. The land is assumed to be coming out of a grain crop at the beginning of this establishment year. Consult your Extension agent for recommendations on specific practices.

Ground preparation includes ripping and rototilling in the fall, followed by disking, floating, and rototilling in the spring. A preplant herbicide is incorporated during the spring rototilling. Next, 20 pounds of seed are applied per acre using a grain drill. During the growing season, 20 acre-inches of water is applied. Two hundred pounds of sulfur is applied. Custom fertilizer application costs \$5.00 per acre.

Harvest consists of two cuttings of hay yielding 3 tons. A 14-foot self-propelled swather is used to cut the hay. The hay is raked once prior to baling. A bale-wagon is used to stack the hay at the shed, and a squeeze is custom hired to load trucks as the hay is sold.

A pickup is driven 15,000 miles annually, and half of these miles are charged to the alfalfa crop. An ATV is used to monitor the crop and irrigation system. General overhead is included to account for bookkeeping expenses, subscriptions, seminars, and other miscellaneous items related to alfalfa production.

Establishment Cost

The budget shows that variable cost for alfalfa establishment is \$347.02 per acre, and fixed cost is \$288.13 per acre. Subtracting total cost from gross income of \$330 per acre leaves a net establishment cost of \$305.15 per acre. This amount is amortized over 7 years at 10 percent interest to allocate establishment costs over the life of the alfalfa stand, resulting in an annual establishment cost of \$62.68 per acre.



OREGON STATE UNIVERSITY EXTENSION SERVICE



EM 8431 Enterprise Budget

ECONOMIC COSTS and RETURNS South Central Region: Klamath Basin Area Alfalfa Establishment Costs (\$/acre)

<u>GROSS INCOME Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Total</u>	<u>Your Cost</u>
Alfalfa Hay	3.0	ton	110.00	330.00	_____
Total GROSS Income				330.00	_____
<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
Rip/Plow	4.84	7.30	0.00	12.14	_____
Disk	3.87	5.70	0.00	9.57	_____
Float	1.61	2.25	0.00	3.86	_____
Rototill Incorporate	6.45	14.37	14.00	34.82	_____
Herbicide	1.0 ac x 14.00 = 14.00				
Drill	1.94	3.12	45.00	50.06	_____
Alfalfa Seed	20.0 lb x 2.25 = 45.00				
Irrigate	20.00	0.00	37.00	57.00	_____
Water	1.0 ac x 27.00 = 27.00				
Electricity	1.0 ac x 5.00 = 5.00				
Repairs	1.0 ac x 5.00 = 5.00				
Fertilize	0.00	0.00	43.00	43.00	_____
Sulfur	0.1 tn x 150.00 = 15.00				
11-52-0	120.0 lb x 0.187 = 22.50				
Appl. Fertilizer	1.0 ac x 5.50 = 5.50				
HARVEST					
Swath (2x)	2.93	12.58	0.00	15.51	_____
Rake (2x)	1.61	1.70	0.00	3.31	_____
Bale (2x)	4.84	13.74	10.00	28.58	_____
Baling Wire	2.0 ac x 5.00 = 10.00				
Stack-Field to Shed (2x)	2.93	33.79	0.00	36.72	_____
Load Hay	0.00	0.00	9.00	9.00	_____
Load Hay	3.0 tn x 3.00 = 9.00				
Total HARVEST				93.13	_____
General Overhead	0.00	0.00	15.00	15.00	_____
Pickup-4WD	6.25	3.09	0.00	9.34	_____
ATV	8.33	1.69	0.00	10.03	_____
Operating Capital Interest	0.00	0.00	9.07	9.07	_____
Total VARIABLE COST				347.02	_____
GROSS INCOME minus VARIABLE COST				-17.02	_____

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ECONOMIC COSTS and RETURNS
South Central Region: Klamath Basin Area
Alfalfa Establishment Costs (\$/acre)

<u>FIXED COST Description</u>	<u>Unit</u>	<u>Total</u>	<u>Your Cost</u>
CASH Cost			
Machinery & Equipment Insurance	acre	14.53	_____
Land Lease	acre	100.00	_____
Total CASH Cost		<u>114.53</u>	_____
NONCASH Cost			
Irrigation Depreciation & Interest	acre	35.00	_____
Machinery & Equipment Depreciation & Interest	acre	<u>138.61</u>	_____
Total NONCASH Cost		173.61	_____
Total FIXED Cost		288.13	_____
Total of ALL Cost		635.15	_____
NET PROJECTED RETURNS		-305.15	_____

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Table 1. Machinery Cost Assumptions

No. Machine	Size	List Price	Current Market Value	Salvage Value	Useful Life	Remaining Life	Annual Use	Total Use	
1	Tractor	120 hp	\$75,000	\$45,000	\$15,000	12,000 hr	7,200 hr	400 hr	107 hr
2	Tractor	50 hp	22,000	13,200	4,400	6,000 hr	3,600 hr	125 hr	7 hr
3	Bale Wagon		90,000	54,000	18,000	2,000 hr	1,200 hr	160 hr	13 hr
4	Swather	14 ft	60,000	36,000	12,000	4,000 hr	2,400 hr	160 hr	13 hr
5	Baler	3-tie	40,000	24,000	8,000	2,000 hr	1,200 hr	230 hr	20 hr
6	Chisel Plow/Ripper	10 ft	3,000	1,800	600	2,500 hr	1,500 hr	25 hr	20 hr
7	Disk	12 ft	4,000	2,400	800	2,500 hr	1,500 hr	25 hr	16 hr
8	Land Plane	16 ft	2,000	1,200	400	2,500 hr	1,500 hr	25 hr	7 hr
9	Rake		10,000	6,000	2,000	3,000 hr	1,800 hr	80 hr	7 hr
10	Rototiller	12 ft	12,000	7,200	2,400	2,000 hr	1,200 hr	30 hr	27 hr
11	Seed Drill	12 ft	9,000	5,400	1,800	1,500 hr	900 hr	25 hr	8 hr
12	Sprayer		2,500	1,500	500	2,000 hr	1,200 hr	25 hr	4 hr
13	ATV		5,000	3,000	1,000	25,000 mi	15,000 mi	5,000 mi	625 mi
14	Pickup	3/4 ton	20,000	12,000	4,000	100,000 mi	60,000 mi	15,000 mi	938 mi
15	Hay Shed	12,000 sq ft	60,000			30 yr	15 yr		

Table 2. Cost of Machinery Operations (\$/Acre) Acres: 40

Operation	Machines	Fuel & Lube	Operator Labor Cost	Repair & Maint.	Variable Cost	Deprec. & Taxes, Lic. & Interest	Insurance	Fixed Cost	Total Mach. Cost
Rip/Plow	(1,6)	\$3.62	\$4.84	\$3.68	\$12.14	\$10.28	0.98	\$11.26	\$23.40
Disk (2x)	(1,7)	2.90	3.87	2.80	9.57	8.79	0.88	9.67	19.24
Float	(1,8)	1.21	1.61	1.04	3.86	10.06	1.01	11.07	14.93
Rototiller/Incorp	(1,10,12)	5.71	6.45	8.67	20.83	25.21	2.49	27.70	48.53
Drill	(1,11)	1.26	1.94	1.86	5.06	6.80	0.68	7.47	12.53
Swath (2x)	(4)	2.50	2.93	10.08	15.51	7.97	0.75	8.72	24.23
Rake (2x)	(2,9)	0.99	1.61	0.71	3.31	3.19	0.32	3.50	6.82
Bale (2x)	(1,5)	3.15	4.84	10.60	18.58	13.02	1.14	14.16	32.74
Stack (2x)	(3)	1.67	2.93	32.12	36.72	11.25	1.12	12.37	49.10
Pickup	(14)	1.97	6.26	0.94	9.16	8.16	0.33	8.48	17.65
ATV	(13)	0.78	8.33	0.78	9.89	3.31	0.47	3.78	13.67
Hay Shed	(11)	0.00	0.00	0.00	0.00	30.63	4.38	35.00	35.00
TOTAL		\$25.75	\$45.62	\$73.28	\$144.64	\$138.66	14.53	\$153.19	\$297.83



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