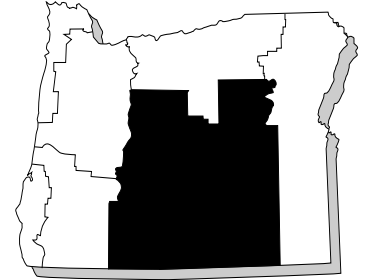




Enterprise Budget

Garlic Seed, South Central Region



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This enterprise budget estimates the typical costs and returns of producing garlic seed in the Madras area of South Central Oregon. While efforts were made to reflect common practices, it is not representative of any particular farm and should be used only as a guide to estimating actual costs. 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 500-acre farm with 40 acres in production of garlic seed following wheat. The budget includes production costs for 1 acre with a yield of 17,000 lbs per acre.

All garlic seed production in Central Oregon is grown under contracts. Average prices in this region have ranged from \$0.13 to \$0.18/lb over the past 5 years, and yield has varied up to 18,000 lbs per acre over the same period.

Land and Irrigation

A land lease charge of \$100 per acre based on a long-term lease is included to represent the cost of leasing or owning land. This charge is based on the cost of leasing good quality, irrigated land and includes ditch maintenance costs. A water cost of \$0.96 per acre inch covers the cost of irrigation water. This is calculated based on the North Unit Irrigation District rates and the total water use by the 500-acre farm. A charge of \$1.72 per acre inch covers electricity, repair, and maintenance for the wheel line sprinkler system. Irrigation system depreciation and interest is estimated to be \$54 per acre annually.

Labor

Labor is hired at a rate of \$7 per hour, which includes worker's compensation, unemployment insurance, social security taxes, and other labor overhead expenses. Owner/operator compensation is considered to be a cash expense of \$15 per hour. Labor hours for machinery operation are calculated by multiplying 1.21 times machine hours to allow for machinery setup, movement, and adjustments.

Capital

Opportunity costs of capital are charged at a rate of 8 percent for current, intermediate, and long-term capital provided by the owner/operator.

Machinery and Equipment

The machinery complement is sufficient to farm 500 production acres. A detailed breakdown of machinery values used in this budget is shown in Table 1. December 1993 replacement costs are used. Estimated machinery costs are shown in Table 2 assuming the machinery is half depreciated. The machinery costs per hour are estimated based on the total farm use of the machinery. The costs per acre are then estimated based on the hours of annual use in garlic seed production.

Operations

The cultural operations are listed in the budget in the approximate order in which they are typically performed. Prior to planting, the wheat stubble is burned, the field is irrigated, and a custom lime application is applied. Following the first of three fertilizer applications and two tillage operations, the field is bedded up.

It is assumed the contracting company plants the garlic. Although some companies require the producers to provide some labor or machinery for planting, this budget assumes all costs associated with planting are covered by the contracting company. These assumptions are reflected in the price per pound received by the grower.

Five inches of water and two herbicide applications are applied after planting. The production year cultural practices include several chemical applications, hoeing, and irrigation.

Preparation for harvest includes propane burning and flailing. Garlic is hand harvested at \$0.02/lb which includes all labor and machinery costs associated with harvest.

Other

A general overhead charge of \$10 per acre is included to cover general insurance, tools, office supplies, and other miscellaneous expenses.

The total of all variable costs is \$956, and the total fixed cost is \$237. The break-even price over total cost is \$0.07 per lb. Net projected returns, assuming a yield of 17,000 lbs, are \$1,188.



OREGON STATE UNIVERSITY EXTENSION SERVICE

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ECONOMIC COSTS AND RETURNS SOUTH CENTRAL REGION Garlic Seed, \$/acre (40 acres)

<u>GROSS INCOME Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Total</u>	<u>Your Income</u>
Garlic	17,000.00	lb	0.14	2,380.00	_____
Total GROSS Income				2,380.00	_____
<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
PREPLANT					
Burn Wheat	0.70	0.00	1.00	1.70	_____
Burn Permit	1 ac x 1.00 = 1.00				_____
Irrigate	3.50	0.00	5.36	8.86	_____
Water	2 in x 0.96 = 1.92				
Irrigation Electricity, Repair, and Maint.	2 in x 1.72 = 3.44				
Lime	0.00	0.00	49.50	49.50	_____
Lime & Custom Appl.	1 ton x 49.50 = 49.50				
Disk	4.54	4.24	0.00	8.78	_____
Fertilize	0.00	0.00	72.10	72.10	_____
16-16-16	600 lb x 0.111 = 66.60				
Custom Application	1 ac x 5.50 = 5.50				
Chisel/Harrow (2X)	9.08	10.32	0.00	19.40	_____
Bed Up	4.84	2.54	0.00	7.38	_____
Total PREPLANT				167.72	_____
POSTPLANT					
Irrigate	7.00	0.00	13.40	20.40	_____
Water	5 in x 0.96 = 4.80				
Irrigation Electricity, Repair, and Maint.	5 in x 1.72 = 8.60				
Weed Control	0.00	0.00	15.50	15.50	_____
Herbicide	1.5 pint x 6.00 = 9.00				
Custom Air Appl.	1 ac x 6.50 = 6.50				
Broadleaf and Annual Grass Control	0.00	0.00	16.13	16.13	_____
Herbicide	2 pint x 4.81 = 9.62				
Custom Air Appl.	1.0 ac x 6.50 = 6.50				
Total POSTPLANT				52.03	_____
PRODUCTION YEAR					
Fertilize	16.50	8.61	39.98	65.09	_____
30-0-0-6	333 lb x 0.097 = 32.47				
Sidedress Rental	1 ac x 7.50 = 7.50				
Fertilize	16.50	8.61	23.70	48.81	_____
30-0-0-6	166 lb x 0.097 = 16.20				
Sidedress Rental	1 ac x 7.50 = 7.50				
Irrigate	24.50	0.00	46.90	71.40	_____
Water	17.5 in x 0.96 = 16.80				
Irrigation Electricity, Repair, and Maint.	17.5 in x 1.72 = 30.10				
Broadleaf Weed Control	3.63	2.57	18.42	24.62	_____
Herbicide	2.25 pint x 7.81 = 17.57				
Sticker	6.4 oz x 0.13 = 0.85				
Botrytis Control	3.63	2.57	18.81	25.01	_____
Sticker	4 oz x 0.21 = 0.84				
Fungicide	2.5 pint x 7.18 = 17.96				
Hoeing	42.00	0.00	0.00	42.00	_____
Irrigate	3.50	0.00	2.68	6.18	_____
Water	1 in x 0.96 = 0.96				
Irrigation Electricity, Repair, and Maint	1 in x 1.72 = 1.72				
Propane Burn Garlic	4.54	3.63	15.20	23.37	_____
Propane	20 gal x 0.76 = 15.20				
Flail	12.10	13.09	0.00	25.19	_____

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ECONOMIC COSTS AND RETURNS SOUTH CENTRAL REGION Garlic Seed, \$/acre (40 acres)

<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
Harvest	0.00	0.00	340.00	340.00	_____
Harvest Garlic 17,000 lb x 0.02 = 340.00					_____
Total PRODUCTION YEAR				671.67	_____
MISCELLANEOUS					
Operating Capital Interest	0.00	0.00	33.10	33.10	_____
General Overhead	0.00	0.00	10.00	10.00	_____
Pickup	10.71	3.10	0.00	13.81	_____
ATV	7.50	0.13	0.00	7.63	_____
Total MISCELLANEOUS				64.54	_____
Total VARIABLE COST				955.96	_____
GROSS INCOME minus VARIABLE COST				1,424.04	_____
<u>FIXED COST Description</u>		<u>Unit</u>		<u>Total</u>	<u>Your Cost</u>
CASH Cost					
Machinery & Equipment Insurance		acre		6.51	_____
Land		acre		100.00	_____
Total CASH Cost				106.51	_____
NONCASH Cost					
Irrigation System - Interest & Depreciation		acre		54.00	_____
Machinery & Equipment - Interest & Depreciation		acre		75.99	_____
Total NONCASH Cost				129.99	_____
Total FIXED Cost				236.50	_____
Total of ALL Cost				1,192.46	_____
NET PROJECTED RETURNS				1,187.54	_____
Break-even Price, Total Variable Cost				\$0.06 per lb	_____
Break-even Price, Total Cost				\$0.07 per lb	_____

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Table 1. Machinery Cost Assumptions

Item	Size	List Price	Current Market Value	Salvage Value	Useful Life	Remaining Life	Annual Use
Tractor	80 hp	\$34,000	\$22,100	\$10,200	10,000 hr	5,000 hr	150 hr
Tractor	125 hp	65,000	42,250	19,500	10,000 hr	5,000 hr	33 hr
Chisel Plow	12 ft	8,000	4,800	1,600	2,000 hr	1,000 hr	20 hr
Disk	12 ft	9,500	5,700	1,900	2,000 hr	1,000 hr	10 hr
Flail	12 ft	10,000	6,000	2,000	2,000 hr	1,000 hr	27 hr
Dixon Harrow	12 ft	800	480	160	2,000 hr	1,000 hr	20 hr
Propane Burner	30 ft	8,660	5,197	1,734	2,000 hr	1,000 hr	10 hr
Sprayer	200 gal	5,686	3,412	1,138	1,500 hr	750 hr	16 hr
Tool Bar	12 ft	800	480	160	1,500 hr	750 hr	11 hr
ATV		3,500	2,100	700	1,500 mi	750 mi	20 mi
Pickup	1/2 ton	15,000	9,000	3,000	100,000 mi	50,000 mi	1,000 mi

Table 2. Machinery & Equipment Cost Calculations

Machine	Size	Costs per Hour or Mile					Costs per Acre			
		Variable		Fixed			Hours or Miles per Acre	Variable	Fixed	Total
		Fuel & Repair & Lube	Maint.	Depr. & Interest	Insurance	Total Cost				
Tractor	80 hp	\$4.32	\$4.28	\$5.73	\$0.44	\$14.78	3.74	\$32.21	\$23.10	\$55.31
Tractor	125 hp	6.76	8.19	10.96	0.85	26.75	0.83	12.33	9.74	22.07
Chisel Plow	12 ft	0.00	4.32	10.50	0.69	15.50	0.50	2.16	5.59	7.75
Disk	12 ft	0.00	1.99	17.46	1.14	20.59	0.25	0.50	4.65	5.15
Flail	12 ft	0.00	7.89	32.75	2.22	42.86	0.67	5.26	23.31	28.58
Dixon Harrow	12 ft	0.00	0.43	1.05	0.07	1.55	0.50	0.22	0.56	0.78
Propane Burner	30 ft	0.00	2.81	22.74	1.49	27.03	0.25	0.70	6.06	6.76
Sprayer	200 gal	0.00	1.11	5.23	0.34	6.67	0.40	0.44	2.23	2.67
Tool Bar	12 ft	0.00	0.16	0.46	0.03	0.65	0.27	0.04	0.13	0.17
ATV		0.06	0.20	1.48	0.08	1.82	0.50	0.13	0.78	0.91
Pickup	1/2 ton	0.08	0.04	0.20	0.06	0.38	25.00	3.10	6.33	9.43
Total								\$57.09	\$82.47	\$139.56



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