

U.C. COOPERATIVE EXTENSION

SAMPLE COSTS TO PRODUCE

GARLIC

Processing
IN SHASTA AND LASSEN COUNTIES - 1992

by

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The detailed costs for processing garlic production in the Fall River Valley and Big Valley of Shasta and Lassen Counties are presented in this study. The hypothetical farm used in this report consists of 500 acres of which 15 acres are in garlic production. The remainder of the farm is planted to different row and field crops.

Practices described are based on those production procedures considered typical for this crop and area. Sample costs given for labor, materials, equipment and contract services are based on current figures. Some costs and practices detailed in this study may not be applicable to your situation. This study is only intended as a guide and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans. A blank Your Costs column is provided to enter your actual costs on Tables 1 and 2, Costs Per Acre To Produce Garlic and Costs And Returns Per Acre To Produce Garlic.

This study consists of General Assumptions for Producing Garlic, Processing and seven tables.

Table 1.	Costs Per Acre To Produce Garlic
Table 2.	Costs And Returns Per Acre To Produce Garlic
Table 3.	Monthly Cash Costs Per Acre To Produce Garlic
Table 4.	Annual Equipment, Investment And Business Overhead
Table 5.	Hourly Equipment Costs
Table 6.	Ranging Analysis
Table 7.	Costs And Returns / Breakeven Analysis

For an explanation of calculations used for the study refer to the attached General Assumptions, call the Department of Agricultural Economics, Cooperative Extension, University of California, Davis, California, (916) 752-3589 or call the Farm Advisor in the county of interest.

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GENERAL ASSUMPTIONS FOR PRODUCING GARLIC

Processing
Shasta and Lassen Counties - 1992
U.C. Cooperative Extension

The following is a description of assumptions pertaining to sample costs of garlic production in Shasta and Lassen Counties. The costs are based on typical cultural practices used by growers in this region, some of which may not be used during every production year. Costs are presented as annual costs per acre. The use of trade names in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products.

1. LAND:

This cost of production study is based on a 500 acre field and row crop operation of which 15 acres dedicated to growing garlic. Other crops grown on the same acreage in rotation with garlic might include small grains, alfalfa hay, wild rice, and strawberries.

2. RENT AGREEMENT:

The 15 acres used for garlic production is rented on a cash basis with the landowner receiving \$200 per acre. The tenant pays all cash costs to produce the crop. Interest cost for land and interest and maintenance costs for the irrigation system are incurred by the landowner.

3. CULTURAL PRACTICES AND PRODUCTION INPUTS:

The cultural practices and production inputs for growing garlic vary considerably from grower to grower and field to field. The practices and inputs used in this cost study serve only as a sample or a guide. Primary tillage operations which include subsoiling, chiseling, discing and land planing are done using a 175 HP (horsepower) rental tractor with the farm's tillage implements. All of these operations are finished in September. All of the remaining cultural and harvest operations are accomplished using the 100 and 54 HP tractors and implements, or by custom operators.

Nitrogen is first applied just prior to planting when the beds are prepared in October. Zinc is also worked into the field at this time. This first application of nitrogen is in the form of 16-20-0 and is spread at a rate of 96 pounds of actual N per acre while 13 pounds of actual zinc per acre is spread at the same time. Ninety two pounds of N per acre is applied in the form of urea during the early spring. In the summer, the last application of nitrogen is made using ammonium nitrate at a rate of 68 pounds of nitrogen per acre. A total of 256 pounds of nitrogen per acre is applied during the year.

Weed management for growing garlic begins in the fall after planting. Prowl is used. Spring weed control occurs in February and May with an application of Buctril. No other weed or pest control is assumed in this cost study.

Planting occurs in April at a rate of 1,800 lbs. of seed per acre. It is assumed in this study that the grower saves some of their seed for the following years planting. The cost to the grower to save this seed is assumed to be \$0.47 per pound. Purchased seed for certified growers may be more expensive; up to \$1.00 per pound. Since the grower uses seed that is saved, a fee for cracking the garlic of \$0.10 per pound is charged. Planting operation time shown in Table 1 indicates 0.43 hours per acre needed to plant, but an additional 4 man-hours of non-machine labor is required to plant each acre.

Garlic is furrow irrigated 12 times from March through July. A total of 32 acre inches of water is applied to the crop during the year at a cost of \$30.84 per acre foot.

The practices and inputs used in this cost study serve only as a typical guide. Variations in cultural inputs can vary due to seasonal pest pressures, water availability and government regulations. For information and pesticide use permits contact the Shasta and Lassen County Agricultural Commissioners Offices. Written recommendations are required for many pesticides and are written by licensed pest control advisors. Contact the Shasta-Lassen County farm advisor for additional information source.

4. HARVEST:

Harvest operations begin with topping which is done twice prior to digging with the 100 HP tractor and chopper. After topping is finished, the garlic is dug using a modified potato digger and left on top of the beds. A sacking crew follows the digger and puts the garlic into sacks and leaves them in the field to dry. Custom sacking the garlic costs \$0.03 per pound. After the garlic has dried it is custom bulked into bins at a cost of \$450 per acre. The garlic is hauled from the field to a shed by truck for \$5.00 per ton. If a grower contracts his harvest operation, all harvesting equipment should be removed from investment costs in Table 4, its appropriate cost should be subtracted from harvest costs in Table 1 and a contract charge would then be added.

5. YIELDS & RETURNS:

The crop yield used in this study is 15,000 pounds per acre less the 1,800 pounds per acre that the grower saves as seed for the next year's planting. This leaves a 13,200 net pounds per acre for sale to the processors. Yields for garlic can vary tremendously. Low yields in the Fall River Valley and Big Valley can be 8,000 pounds per acre or less. High yields can be over 15,000 pounds per acre. Average yields will be in the 10,000 to 12,000 pound per acre range depending on clone, management and environmental conditions.

An estimated return price of a \$0.25 per pound of garlic is used in this study. Returns will vary with current market conditions. Consult contracting processors should you have interest in the price outlook for garlic.

6. RISK:

The risks associated with garlic production should not be minimized. While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent financial, agronomic and market risks which affect the profitability and economic viability of garlic production.

Growing independent garlic involves considerable effort in marketing because demand is unpredictable and often small. Small acreage tends to reduce risks, but may increase the cost of production. Production of more than an acre or two of garlic should be done only when a market is assured.

Because of the risk involved, access to a market is crucial. A grower should contract with a processor before any garlic production begins. Interested parties should contact processors for more information on contracts or prices.

7. LABOR:

Basic hourly wages for workers are \$5.60 and \$3.73 per hour for machine operators and non-machine workers respectively. Adding 34% for SDI, FICA, insurance and other benefits gives the labor rates shown of \$7.50 per hour for machine operators and \$5.00 per hour for non-machine labor. The labor for operations involving machinery are 10% higher than the machine hours to account for the extra labor involved in equipment set-up, moving, maintenance and repair. Wages for managers are not included as a cash cost. Any return above total costs are considered a return to management and investment.

8. INVESTMENT:

The investments shown in Table 3 are those that are partially allocated to garlic production. Costs for equipment such as the garlic digger is completely charged to the garlic since it cannot be used by the other crops on the farm. Investments such as fuel tanks and pumps, shop buildings, tools, etc., can be used by the whole farm so only a portion of the costs can be assigned to the garlic enterprise and the rest of the costs are distributed to the other farm enterprises. Annual investments shown in Table 1 represent the depreciation and opportunity cost for each investment on an annual per acre basis.

9. OVERHEAD:

County taxes are calculated as 1% of the average of the equipment, buildings and improvements. Insurance on assets is charged at 0.5% of the average value of the asset over its useful life. Liability insurance covers accidents on the farm and costs \$850 for the entire farm or \$0.71 per acre. Office and business costs are estimated at \$30 per acre for the ranch. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, road preparation and maintenance, etc.

10. INTEREST:

Interest on operating capital is based on cash costs and is calculated monthly until harvest at a nominal rate of 9.00% per year. Interest is also charged on investment at 4% per year to account for income foregone that could be received from an alternative investment (opportunity cost) and is based on the average value of the land, orchard, buildings and equipment. Real interest rates are used on investments, so no adjustment for inflation have been included. Nominal interest rates would contain a factor for inflation which might run 1% to 4% higher than real interest rates, to account for inflation.

11. EQUIPMENT COSTS:

Most of the equipment inventory on typical alfalfa farms in Fall River Valley and Big Valley is purchased used and has a reduced value. This study shows current purchase price for new equipment with an adjustment of 40% of new value to indicate a mix of new and used equipment.

In allocating the equipment costs per acre, the following calculations were made and shown in Table 4: (a) Original Cost of equipment is the cost of the new equipment plus sales tax. (b) Depreciation is straight line with a 10% salvage value. (c) Interest on investment is calculated as the average value per acre of the equipment during its useful life, multiplied by an interest rate of 4.00%. Average value equals new cost plus salvage value divided by 2 on a per acre basis. (d) The total investment costs of the depreciation and the interest reflect a mix of new and used equipment. These values are also used in Table 1. Hourly equipment costs are shown in Table 5. The equipment listed in Tables 4 and 5 indicate only that equipment which is used in the garlic enterprise and does not necessarily include all of the equipment that would be found on a typical farm growing garlic.

12. FUEL & REPAIR:

The fuel and repair cost per acre for each operation in Table 1, is determined by multiplying the total hourly operating cost for each piece of equipment in Table 5, by the number of hours per acre for that operation. Prices for on-farm delivery of diesel and gasoline are \$0.71 and \$0.98 per gallon respectively.

Table 1.

U.C. COOPERATIVE EXTENSION
 COSTS PER ACRE TO PRODUCE GARLIC
 Processing
 SHASTA & LASSEN COUNTIES - 1992

Labor Rate: \$7.50/hr. machine labor Interest Rate: 9.00%
 \$5.00/hr. non-machine labor Yield per Acre: 13,800 Lbs

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre					Total Cost	Your Cost
		Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/ Rent			
Cultural:								
Subsoil	0.37	3.31	0.16	4.47	12.76	20.70		
Chisel Plow 2X	0.40	3.56	0.44	4.79	12.76	21.56		
Disc Field	0.20	1.78	0.60	2.39	6.38	11.15		
Land Plane Field	0.22	1.98	0.21	2.97	6.96	12.12		
Prepare Beds And Fertilize	0.21	1.93	2.31	79.00	0.00	83.25		
Plant	0.43	23.83	7.16	846.00	180.00	1056.99		
Fall Weed Control	0.07	0.60	0.73	14.64	0.00	15.97		
Spring Weed Control	0.13	1.21	1.46	15.58	0.00	18.24		
Irrigate 12 X	12.00	60.00	0.00	82.24	13.46	155.70		
Early Spring Fertilizer	0.00	0.00	0.00	24.00	5.00	29.00		
Summer Fertilizer	0.00	0.00	0.00	20.00	5.00	25.00		
Pickup Truck Use	0.80	7.20	2.65	0.00	0.00	9.85		
TOTAL CULTURAL COSTS	14.82	105.42	15.72	1096.08	242.32	1459.53		
Harvest:								
Top Garlic 2X	1.08	9.70	11.27	0.00	0.00	20.97		
Dig Garlic	0.46	4.12	8.41	0.00	0.00	12.53		
Sack Garlic	0.00	0.00	0.00	0.00	600.00	600.00		
Bulk Into Bins	0.00	0.00	0.00	0.00	450.00	450.00		
Haul Garlic To Shed	0.00	0.00	0.00	0.00	37.50	37.50		
TOTAL HARVEST COSTS	1.54	13.82	19.68	0.00	1087.50	1121.01		
Postharvest:								
Disc Stubble 2X	0.40	3.56	1.20	4.62	12.47	21.85		
TOTAL POSTHARVEST COSTS	0.40	3.56	1.20	4.62	12.47	21.85		
Interest on operating capital @ 9.00%						118.09		
TOTAL OPERATING COSTS/ACRE		122.80	36.59	1100.70	1342.29	2720.48		
TOTAL OPERATING COSTS/LBS						0.20		
CASH OVERHEAD:								
Land Rent						200.00		
Office Expenses						30.00		
Liability Insurance						1.10		
Property Taxes						0.36		
Property Insurance						1.78		
Investment Repairs						0.95		
TOTAL CASH OVERHEAD COSTS						234.19		
TOTAL CASH COSTS/ACRE						2954.67		
TOTAL CASH COSTS/LBS						0.21		
NON-CASH OVERHEAD:								
Investment	Per producing Acre	Depreciation	Annual Cost	Interest @ 4.00%				
Shop Building	74.00	3.70		1.48		5.18		
Fuel Tanks & Pumps	16.10	0.81		0.32		1.13		
Shop Tools	14.00	0.63		0.31		0.94		
Fuel Wagon	3.00	0.27		0.07		0.34		
Gated Pipe	11.42	0.51		0.25		0.77		
Equipment	538.48	38.67		11.85		50.51		
TOTAL NON-CASH OVERHEAD COSTS	657.00	44.58		14.27		58.86		
TOTAL COSTS/ACRE						3013.53		
TOTAL COSTS/LBS						0.22		

Table 2.

U.C. COOPERATIVE EXTENSION
 COSTS AND RETURNS PER ACRE TO PRODUCE GARLIC
 Processing
 SHASTA & LASSEN COUNTIES - 1992

Use of trade names does not constitute an endorsement or recommendation
 by the University of California nor is any criticism implied by omission
 of other similar products.

Labor Rate: \$7.50/hr. machine labor Interest Rate: 9.00%
 \$5.00/hr. non-machine labor

	Quantity/Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost

GROSS RETURNS					
Garlic	13800.00	Lbs	0.25	3450.00	
TOTAL GROSS RETURNS FOR GARLIC				3450.00	

OPERATING COSTS					
Custom:					
Crack Seed	1800.00	Lb	0.10	180.00	
Fertilizer Application	2.00	Acre	5.00	10.00	
Sacks	15000.00	Lb	0.01	150.00	
Custom Bulking	1.00	Acre	450.00	450.00	
Rent:					
Gated Pipe Rental	5.00	Month	2.69	13.46	
Rent 175 HP Tractor	1.77	Hour	29.00	51.33	
Diesel:					
Fuel 175 HP Tractor	26.63	Gal	0.71	19.24	
Fertilizer:					
16-20-0	600.00	Lb	0.12	72.00	
Zinc	35.00	Lb	0.20	7.00	
Urea	200.00	Lb	0.12	24.00	
Ammonium Nitrate	200.00	Lb	0.10	20.00	
Seed:					
Seed Garlic	1800.00	Lb	0.47	846.00	
Herbicide:					
Prowl	3.00	Pint	4.88	14.64	
Buctril	2.00	Pint	7.79	15.58	
Water:					
Water	32.00	Acin	2.57	82.24	
Contract:					
Sack Garlic	15000.00	Lb	0.03	450.00	
Hauling Charge	7.50	Ton	5.00	37.50	
Labor (machine)	2.85	Hour	7.50	42.80	
Labor (non-machine)	16.00	Hour	5.00	80.00	
Fuel - Gas	1.60	Gal	0.98	1.57	
Fuel - Diesel	18.42	Gal	0.71	13.08	
Lube				2.20	
Machinery repair				19.76	
Interest on operating capital @ 9.00%				118.09	
TOTAL OPERATING COSTS/ACRE				2720.48	
TOTAL OPERATING COSTS/LBS				0.20	

NET RETURNS ABOVE OPERATING COSTS				729.52	

CASH OVERHEAD COSTS:					
Land Rent				200.00	
Office Expenses				30.00	
Liability Insurance				1.10	
Property Taxes				0.36	
Property Insurance				1.78	
Investment Repairs				0.95	
TOTAL CASH OVERHEAD COSTS/ACRE				234.19	

TOTAL CASH COSTS/ACRE				2954.67	
TOTAL CASH COSTS/LBS				0.21	

NON-CASH OVERHEAD COSTS (DEPRECIATION & INTEREST):					
Shop Building				5.18	
Fuel Tanks & Pumps				1.13	
Shop Tools				0.94	
Fuel Wagon				0.34	
Gated Pipe				0.77	
Equipment				50.51	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				58.86	

TOTAL COSTS/ACRE				3013.53	
TOTAL COSTS/LBS				0.22	

NET RETURNS ABOVE TOTAL COSTS				436.47	
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Table 3.

U.C. COOPERATIVE EXTENSION
MONTHLY CASH COSTS PER ACRE TO PRODUCE GARLIC
Processing
SHASTA & LASSEN COUNTIES - 1992

Beginning	SEP 91	SEP 91	OCT 91	NOV 91	DEC 91	JAN 92	FEB 92	MAR 92	APR 92	MAY 92	JUN 92	JUL 92	AUG 92	TOTAL
Ending	AUG 92													

Cultural:														
Subsoil		20.70												20.70
Chisel Plow 2X		21.56												21.56
Disc Field		11.15												11.15
Land Plane Field		12.12												12.12
Prepare Beds And Fertilize		83.25												83.25
Plant			1056.99											1056.99
Fall Weed Control			15.97											15.97
Spring Weed Control							9.12	9.12						18.24
Irrigate 12 X								24.97	30.11	35.25	40.40	24.97		155.70
Early Spring Fertilizer								29.00						29.00
Summer Fertilizer										25.00				25.00
Pickup Truck Use		0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	9.85
TOTAL CULTURAL COSTS		149.60	1073.78	0.82	0.82	0.82	9.94	34.91	59.93	36.07	66.22	25.79	0.82	1459.53

Harvest:														
Top Garlic 2X													20.97	20.97
Dig Garlic													12.53	12.53
Sack Garlic													600.00	600.00
Bulk Into Bins													450.00	450.00
Haul Garlic To Shed													37.50	37.50
TOTAL HARVEST COSTS													1121.01	1121.01

Postharvest:														
Disc Stubble 2X													21.85	21.85
TOTAL POSTHARVEST COSTS													21.85	21.85

Interest on oper. capital		1.12	9.18	9.18	9.19	9.19	9.27	9.53	9.98	10.25	10.75	10.94	19.52	118.09
TOTAL OPERATING COSTS/ACRE		150.72	1082.96	10.00	10.01	10.01	19.21	44.44	69.91	46.32	76.97	36.73	1163.20	2720.48
TOTAL OPERATING COSTS/LBS		0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.08	0.20

OVERHEAD:														
Land Rent		200.00												200.00
Office Expenses		2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	30.00
Liability Insurance		0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	1.10
Property Taxes						0.18							0.18	0.36
Property Insurance						0.89							0.89	1.78
Investment Repairs		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.95
TOTAL CASH OVERHEAD COSTS		202.67	2.67	2.67	2.67	3.74	2.67	2.67	2.67	2.67	2.67	3.74	2.67	234.19
TOTAL CASH COSTS/ACRE		353.39	1085.63	12.67	12.68	13.76	21.88	47.11	72.58	48.99	79.64	40.47	1165.87	2954.67
TOTAL CASH COSTS/LBS		0.03	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.08	0.21

Table 4.

U.C. COOPERATIVE EXTENSION
WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
SHASTA & LASSEN COUNTIES - 1992

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	- Non-Cash Over. -		- Cash Overhead -		Total
				Depre- ciation	Interest	Insur- ance	Taxes	
92	100 HP 2wd Tractor	50611	12	3795.83	1113.44	139.18	27.84	5076.29
92	54 HP 2wd Tractor	24717	12	1853.75	543.78	67.97	13.59	2479.09
92	Bedder - 12'	2000	15	120.00	44.00	5.50	1.10	170.60
92	Chisel Plow - 13'	5836	15	350.13	128.40	16.05	3.21	497.79
92	Chopper - 6'	1000	10	90.00	22.00	2.75	0.55	115.30
92	Disk - Offset 13'	15766	15	945.93	346.86	43.36	8.67	1344.82
92	Garlic Digger - 6'	10000	15	600.00	220.00	27.50	5.50	853.00
92	Garlic Planter	5000	10	450.00	110.00	13.75	2.75	576.50
92	Land Plane	10000	15	600.00	220.00	27.50	5.50	853.00
92	Pickup Truck - Used	8755	5	1575.80	192.62	24.08	4.82	1797.32
92	Saddle Tank W/Boom	1500	10	135.00	33.00	4.13	0.83	172.96
92	Subsoiler	2278	15	136.67	50.12	6.27	1.25	194.31
TOTAL		137463		10653.11	3024.22	378.04	75.61	14130.98
40% of New Cost *		54985		4261.24	1209.69	151.22	30.24	5652.39

* Used to reflect a mix of new and used equipment.

ANNUAL INVESTMENT COSTS

Yr	Description	Price	Yrs Life	- Non-Cash Over. -		- Cash Overhead -		Total
				Depre- ciation	Interest	Insur- ance	Taxes	
INVESTMENT								
	Fuel Tanks & Pumps	8050	20	402.50	161.00	20.13	4.03	712.66
	Fuel Wagon	1500	10	135.00	33.00	4.13	0.83	222.96
	Gated Pipe	5712	20	257.05	125.66	15.71	3.14	501.56
	Shop Building	37000	20	1850.00	740.00	92.50	18.50	2801.00
	Shop Tools	7000	20	315.00	154.00	19.25	3.85	592.10
TOTAL INVESTMENT		59262		2959.55	1213.66	151.72	30.35	4830.28

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Land Rent	15.00	acre	200.00	3000.00
Liability Insurance	500.00	acre	1.10	550.00
Office Expenses	500.00	acre	30.00	15000.00

Table 5.

HOURLY EQUIPMENT COSTS
SHASTA & LASSEN COUNTIES - 1992

Yr	Description	Actual Hours Used	COSTS PER HOUR							Total Costs/Hr.
			-Non-Cash Over- Depre- ciation	Interest	- Cash Overhead - Insur- ance	Taxes	Repairs	Operating Fuel & Lube	Total Oper.	
92	100 HP 2wd Tractor	709.2	2.14	0.63	0.08	0.02	2.89	6.53	9.42	12.29
92	54 HP 2wd Tractor	123.0	6.03	1.77	0.22	0.04	0.99	2.17	3.16	11.22
92	Bedder - 12'	165.2	0.29	0.11	0.01	0.00	0.38	0.00	0.38	0.80
92	Chisel Plow - 13'	165.9	0.84	0.31	0.04	0.01	1.12	0.00	1.12	2.32
92	Chopper - 6'	99.2	0.36	0.09	0.01	0.00	0.09	0.00	0.09	0.56
92	Disk - Offset 13'	171.9	2.20	0.81	0.10	0.02	3.02	0.00	3.02	6.15
92	Garlic Digger - 6'	6.9	34.93	12.81	1.60	0.32	8.00	0.00	8.00	57.67
92	Garlic Planter	6.4	28.17	6.89	0.86	0.17	13.33	0.00	13.33	49.42
92	Land Plane	165.3	1.45	0.53	0.07	0.01	0.97	0.00	0.97	3.03
92	Pickup Truck - Used	400.0	1.58	0.19	0.02	0.00	1.06	2.25	3.31	5.11
92	Saddle Tank W/Boom	119.0	0.45	0.11	0.01	0.00	0.50	0.00	0.50	1.08
92	Subsoiler	165.5	0.33	0.12	0.02	0.00	0.44	0.00	0.44	0.91

Table 6.

U.C. COOPERATIVE EXTENSION
RANGING ANALYSIS
SHASTA & LASSEN COUNTIES - 1992

COSTS PER ACRE AT VARYING YIELDS TO PRODUCE GARLIC

	YIELD (LBS/ACRE)						
	5000	7000	9000	11000	13000	15000	17000
OPERATING COSTS/ACRE:							
Cultural Cost	1442	1442	1442	1442	1442	1442	1442
Harvest Cost	714	807	899	992	1084	1176	1269
Postharvest Cost	18	18	18	18	18	18	18
Interest on operating capital	114	114	115	116	116	117	118
TOTAL OPERATING COSTS/ACRE	2288	2381	2474	2567	2661	2754	2847
TOTAL OPERATING COSTS/LBS	0.46	0.34	0.27	0.23	0.20	0.18	0.17
CASH OVERHEAD COSTS/ACRE							
	234	234	234	234	234	234	234
TOTAL CASH COSTS/ACRE	2522	2615	2709	2802	2895	2988	3081
TOTAL CASH COSTS/LBS	0.50	0.37	0.30	0.25	0.22	0.20	0.18
NON-CASH OVERHEAD COSTS/ACRE							
	59	59	59	59	59	59	59
TOTAL COSTS/ACRE	2581	2674	2767	2860	2954	3047	3140
TOTAL COSTS/LBS	0.52	0.38	0.31	0.26	0.23	0.20	0.18

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR GARLIC

PRICE (DOLLARS PER LBS)	YIELD (LBS/ACRE)						
	5000	7000	9000	11000	13000	15000	17000
0.10	-1788	-1681	-1574	-1467	-1361	-1254	-1147
0.15	-1538	-1331	-1124	-917	-711	-504	-297
0.20	-1288	-981	-674	-367	-61	246	553
0.25	-1038	-631	-224	183	589	996	1403
0.30	-788	-281	226	733	1239	1746	2253
0.35	-538	69	676	1283	1889	2496	3103
0.40	-288	419	1126	1833	2539	3246	3953

NET RETURNS PER ACRE ABOVE CASH COSTS FOR GARLIC

PRICE (DOLLARS PER LBS)	YIELD (LBS/ACRE)						
	5000	7000	9000	11000	13000	15000	17000
0.10	-2022	-1915	-1809	-1702	-1595	-1488	-1381
0.15	-1772	-1565	-1359	-1152	-945	-738	-531
0.20	-1522	-1215	-909	-602	-295	12	319
0.25	-1272	-865	-459	-52	355	762	1169
0.30	-1022	-515	-9	498	1005	1512	2019
0.35	-772	-165	441	1048	1655	2262	2869
0.40	-522	185	891	1598	2305	3012	3719

NET RETURNS PER ACRE ABOVE TOTAL COSTS FOR GARLIC

PRICE (DOLLARS PER LBS)	YIELD (LBS/ACRE)						
	5000	7000	9000	11000	13000	15000	17000
0.10	-2081	-1974	-1867	-1760	-1654	-1547	-1440
0.15	-1831	-1624	-1417	-1210	-1004	-797	-590
0.20	-1581	-1274	-967	-660	-354	-47	260
0.25	-1331	-924	-517	-110	296	703	1110
0.30	-1081	-574	-67	440	946	1453	1960
0.35	-831	-224	383	990	1596	2203	2810
0.40	-581	126	833	1540	2246	2953	3660

Table 7.

U.C. COOPERATIVE EXTENSION
 COSTS AND RETURNS / BREAKEVEN ANALYSIS
 SHASTA & LASSEN COUNTIES - 1992

COSTS AND RETURNS - PER ACRE BASIS

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Garlic	3450	2720	730	2955	495	3014	436

COSTS AND RETURNS - TOTAL ACREAGE

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Garlic	51750	40807	10943	44320	7430	45203	6547

BREAKEVEN PRICES PER YIELD UNIT

CROP	Base Yield (Units/Acre)	Yield Units	Breakeven Price To Cover		
			Operating Costs	Cash Costs	Total Costs
Garlic	13800.0	Lbs	0.20	0.21	0.22

BREAKEVEN YIELDS PER ACRE

CROP	Yield Units	Base Price (\$/Unit)	Breakeven Yield To Cover		
			Operating Costs	Cash Costs	Total Costs
Garlic	Lbs	0.25	10881.9	11818.7	12054.1