
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2005

**SAMPLE COSTS TO PRODUCE
LEMONGRASS**

ASIAN VEGETABLE



SAN JOAQUIN VALLEY - SOUTH

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San Joaquin Valley - South 2005

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INTRODUCTION

Sample costs to produce lemongrass in the San Joaquin Valley are shown in this study. The study is intended as a guide only, and can be used to make production decisions, determine potential returns, prepare budgets and evaluate production loans. The practices described are based on production operations considered typical for this crop and region, but will not apply to every farm. Sample costs for labor, materials, equipment and custom services are based on current figures. “Your Costs” columns in Tables 1 and 2 are provided for entering your farm costs.

The hypothetical farm operations, production practices, overhead, and calculations are described under the assumptions. For additional information or an explanation of the calculations used in the study call the Department of Agricultural and Resource Economics, University of California, Davis, California, (530) 752-3589 or the local UC Cooperative Extension office.

Sample Cost of Production Studies for many commodities can be downloaded at <http://coststudies.ucdavis.edu>, requested through the Department of Agricultural and Resource Economics, UC Davis, (530) 752-4424 or obtained from the local county UC Cooperative Extension offices. Some archived studies are also available on the website.

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ASSUMPTIONS

The assumptions refer to Tables 1 through 7 and pertain to sample costs to produce lemongrass in the San Joaquin Valley. The cultural practices described and materials used are considered typical for a well-managed field in the region. The costs, materials, and practices will not apply to all situations every production year. Cultural practices vary among growers within the region and can be significant. The study is intended as a cost of production guide only. **The use of trade names and cultural practices 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 or cultural practices.**

Farm. This report is based on a hypothetical 10 contiguous acre farm. The land is rented and farmed by the grower. Two acres are planted to lemongrass and the remaining acres to other Asian vegetables. The grower and family do the majority of the labor for the operations, but a labor cost (opportunity cost) is shown for each operation.

Production Operating Costs

Land Preparation. In February or March, a custom operator plows the land one time, discs two times and lists the beds.

Plant. Lemongrass is a perennial crop grown usually as an annual. The crop is planted in March and is propagated from stems saved from the previous year; therefore no cost is shown for planting materials. The grower plants 4,030 stems per acre on the 36-inch listed beds, three-feet apart in-row. The stems are placed at a 45-degree angle, two to three inches in the soil. Every sixth row is left unplanted to allow for room to install the crop protection houses that cover the crop during the winter months. Rows are usually 250 to 300 feet long. Two people (16 man hours) plant one acre per day.

Irrigation. Irrigation includes the water costs and irrigation labor. Lay flat vinyl pipe is laid at the end of the rows or furrows where the water is run down the furrows. Irrigation begins in March after planting. The field is irrigated every five days during March and April, every three days during July, August, and September and once a week during October and November. Water at \$2.50 per irrigation is assumed to be a typical cost. Water costs were calculated from the growers pumping charges for the summer months. Assuming the crop uses 30 acres-inches per season, this equates to a cost of \$4.83 per acre-inch. Irrigation labor is calculated as one-half hour per acre per irrigation.

Fertilization. The crop is fertilized with 15-15-15 at 225 pounds per acre in April and again in June. Some growers may apply a third application in July. The fertilizer is dissolved in water for dripping into the irrigation water as it runs down the furrow. Labor costs for applying the fertilizer are included in the irrigation labor.

Crop Protection. The grower builds 9 to 10 (9.6) crop protection houses (tunnels) per acre in November to protect the plants from the cold weather. Each house is 250 feet long and equivalent to 6 rows wide. The row length varies from farm to farm as do the number of rows planted (usually either 5 or 6) between skips or unplanted rows. In this study, five rows are planted; the sixth is unplanted and is used to secure the house. Seven-foot stakes, 2-inch x 2-inch, are spaced 6-feet apart in the center of each house. Foam covers are taped over the top of each stake. Twine is then strung across the posts to hold and secure the house. The plastic, 28 feet x 100 feet and 4-6 mil thick, is laid over the twine and posts sometime in November-December. About 24 rolls of plastic are used per acre. In March after harvest, the houses are dismantled, and the plastic and string are hauled to the landfill.

Pest Management. Pesticides for insects and diseases are not currently available for lemongrass. If diseases or insects appear, contact your local farm advisor or pest control adviser.

Weeds. The field is hand weeded in April and takes about 24 man-hours per acre (3 people).

Insects. None

Diseases. A rust fungus is a minor problem, but is not controlled in this study.

Vertebrates. Field mice can be a potential problem, but are not controlled in this study.

Pickup/ATV. Costs for a 1/2-ton pickup are included in the study. The pickup and a trailer are used for hauling the harvested lemongrass to the packing shed and is included in that cost. In addition, the grower drives another 250 miles per acre for farming purposes.

Harvest. The crop is usually harvested during January to March depending upon the price, or may be harvested year-round if the price is low. Shovels are used to dig the plants and a machete is used for cutting the plant into pieces. The plant pieces are packed in 40-pound boxes and hauled to a packinghouse. One house (tunnel) can be harvested per day with three people. This study assumes everything is harvested all at once; but in reality, the grower harvests some of the house each week so as not to flood the market. The grower uses a pickup with a trailer to haul a harvested load to the packinghouse each day. The number of deliveries will vary by picking schedule and yield.

Food Use: The stems are added to many dishes for lemon flavoring or used to make a tea drink.

Yields. The crop yield used in this study is 1,411 forty-pound boxes per acre averaging 147 boxes per house.

Returns. According to the growers the average return is \$8.00 to \$10.00 per 40-pound box. To calculate returns over a range of yields, a return of \$8.00 per box is used in this study. The packinghouse pays the grower approximately 30 days after delivery.

Labor. Labor rates of \$12.42 per hour for machine operators and \$9.32 for general labor includes payroll overhead of 38%. The basic hourly wages are \$9.00 for machine operators and \$6.75 for general labor. The overhead includes the employers' share of federal and California state payroll taxes, workers' compensation insurance for truck crops (code 0172), and a percentage for other possible benefits. Workers' compensation costs will vary among growers, but for this study the cost is based upon the average industry final rate as of January 1, 2005 (California Department of Insurance). Labor for operations involving machinery are 20% higher than the operation time given in Table 1 to account for the extra labor involved in equipment set up, moving, maintenance, work breaks, and field repair.

Equipment Operating Costs. Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by American Society of Agricultural Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum Power Take Off (PTO) horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are \$1.51 and \$2.05 per gallon, respectively. The cost includes a 2% local sales tax on diesel fuel and 8% sales tax on gasoline. Gasoline also includes federal and state excise tax, which are refundable for on-farm use when filing your income tax. The fuel, lube, and repair cost per acre for each operation in Table 1 is determined by multiplying the total hourly

operating cost in Table 6 for each piece of equipment used for the selected operation by the hours per acre. Tractor time is 10% higher than implement time for a given operation to account for setup, travel and down time.

Interest On Operating Capital. Interest on operating capital is based on cash operating costs and is calculated monthly until harvest at a nominal rate of 7.65% per year. A nominal interest rate is the typical market cost of borrowed funds. The interest cost of post harvest operations is discounted back to the last harvest month using a negative interest charge.

Risk. Production risks 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.

Cash Overhead

Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm and not to a particular operation. These costs include property taxes, interest on operating capital, office expense, liability and property insurance, and investment repairs.

Property Taxes. Counties charge a base property tax rate of 1% on the assessed value of the property. In some counties special assessment districts exist and charge additional taxes on property including equipment, buildings, and improvements. For this study, county taxes are calculated as 1% of the average value of all property. Average value equals new cost plus salvage value divided by 2 on a per acre basis.

Insurance. Insurance for farm investments varies depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.690% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs \$429 for the entire farm.

Office Expense. Office and business expenses are estimated at \$10 per acre. These expenses include office supplies, telephones, bookkeeping, accounting, and legal fees. The cost is a general estimate and not based on any actual data.

Land Rent. The 10 acres are rented for cash at \$300 per acre. The rented land includes the irrigation system that is maintained by the landlord. The owner also pays the land property taxes. Land rents range from \$250 to \$350 per acre.

Investment Repairs. Annual maintenance is calculated as two percent of the purchase price.

Non-cash Overhead

Non-cash overhead is calculated as the capital recovery cost for equipment and other farm investments for the entire ranch. The investments are allocated to the various crops.

Capital Recovery Costs. Capital recovery cost is the annual depreciation and interest costs for a capital investment. It is the amount of money required each year to recover the difference between the purchase price and salvage value (unrecovered capital). It is equivalent to the annual payment on a loan for the investment with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but more accurately represents the annual

costs of ownership because it takes the time value of money into account (Boehlje and Eidman). The formula for the calculation of the annual capital recovery costs is $((\text{Purchase Price} - \text{Salvage Value}) \times \text{Capital Recovery Factor}) + (\text{Salvage Value} \times \text{Interest Rate})$.

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (tractors and implements) the remaining value is a percentage of the new cost of the investment (Boehlje and Eidman). The percent remaining value is calculated from equations developed by the American Society of Agricultural Engineers (ASAE) based on equipment type and years of life. The life in years is estimated by dividing the wear out life, as given by ASAE by the annual hours of use in this operation. For other investments including irrigation systems, buildings, and miscellaneous equipment, the value at the end of its useful life is zero. The salvage value for land is the purchase price because land does not depreciate. The purchase price and salvage value for equipment and investments are shown in the tables.

Capital Recovery Factor. Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 1. The amortization factor is a table value that corresponds to the interest rate used and the life of the machine.

Interest Rate. The interest rate of 6.01% used to calculate capital recovery cost is the USDA-ERS's ten-year average of California's agricultural sector long-run rate of return to production assets from current income. It is used to reflect the long-term realized rate of return to these specialized resources that can only be used effectively in the agricultural sector.

Tools. This includes shop tools, hand tools, and miscellaneous field tools such as shovels, hoes, and machete. The tools are an estimated value and not taken from any specific data.

Irrigation. The grower purchases 1,742 feet of 8-inch lay flat vinyl pipe for the ten acres. The pipe is used to deliver the water to the furrows. The cost is allocated between the lemongrass and the other crops on the farm.

Equipment. Farm equipment is purchased new or used, but the study shows the current purchase price for new equipment. The new purchase price is adjusted to 60% to indicate a mix of new and used equipment. Annual ownership costs for equipment and other investments are shown in the Whole Farm Annual Equipment, Investment, and Business Overhead Costs table. Equipment costs are composed of three parts: non-cash overhead, cash overhead, and operating costs. Both of the overhead factors have been discussed in previous sections. The operating costs consist of repairs, fuel, and lubrication and are discussed under operating costs.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

REFERENCES

- American Society of Agricultural Engineers. 1994. *American Society of Agricultural Engineers Standards Yearbook*. Russell H. Hahn and Evelyn E. Rosentreter (ed.) St. Joseph, Missouri. 41st edition.
- Barker, Doug. 2005. *California Workers' Compensation Rating Data for Selected Agricultural Classifications as of January 1, 2005*. California Department of Insurance, Rate Regulation Branch.
- Boelje, Michael D., and Vernon R. Eidman. 1984. *Farm Management*. John Wiley and Sons. New York, New York
- California State Automobile Association. 2005. *Gas Price Survey 2004*. AAA Public Affairs, San Francisco,
- USDA-ERS. 2005. *Farm Sector: Farm Financial Ratios*. Agriculture and Rural Economics Division, ERS. USDA. Washington, DC <http://www.ers.usda.gov/data/farmbalancesheet/fbsdmu.htm>; Internet accessed January 5, 2005.
- Valencia, Jesus, Claudia Myers. 1991. *Lemongrass*. <http://www.island.wsu.edu/crops/lemongra.htm>; Internet accessed October 21, 2004.

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UC COOPERATIVE EXTENSION
Table 1. COST PER ACRE TO PRODUCE LEMONGRASS
 SAN JOAQUIN VALLEY 2005

Operation	Operation Time	Field Labor (Hrs/A)	Cash and Labor Costs per Acre				Total Cost	Your Cost
			Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/ Rent		
Cultural:								
Land Prep: Plow, Disc, List (Custom)	0.00		0	0	0	100	100	
Plant (labor only)	0.00	16.00	149	0	0	0	149	
Irrigate	0.00	29.00	270	0	145	0	415	
Fertilize: In irrigation water (15-15-15) 2X	0.00		0	0	89	0	89	
Weed: Hand	0.00	24.00	224	0	0	0	224	
Crop Protection: Install Plastic Houses	0.00	170.00	1,584	0	1,559	0	3,143	
Crop Protection: Dismantle Houses	0.00	19.20	179	0	0	25	203	
Miscellaneous Pickup Use	5.00		75	58	0	0	133	
TOTAL CULTURAL COSTS	5.00	258.20	2,481	58	1,793	125	4,457	
Harvest:								
Harvest-Hand	0.00	230.00	2,144	0	1,551	0	3,695	
Haul	10.00		149	123	0	0	272	
TOTAL HARVEST COSTS	10.00	230.00	2,293	123	1,551	0	3,967	
Interest on Operating Capital							232	
TOTAL OPERATING COSTS/ACRE			4,774	181	3,344	125	8,656	
Cash Overhead:								
Liability Insurance							43	
Office Expense							10	
Land Rent							300	
Property Taxes							7	
Property Insurance							5	
Investment Repairs							3	
TOTAL CASH OVERHEAD COSTS							368	
TOTAL CASH COSTS/ACRE							9,023	
Non-Cash Overhead (Capital Recovery)								
			Per Producing Acre		Annual Cost Capital Recovery			
Miscellaneous Shop/Field Tools			100		24		24	
Irrigation Flat Pipe			46		25		25	
Equipment			1,064		155		155	
TOTAL NON-CASH OVERHEAD COSTS			1,210		204		204	
TOTAL COSTS/ACRE							9,227	

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Table 2. COST PER ACRE TO PRODUCE LEMONGRASS
 SAN JOAQUIN VALLEY - 2005

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Lemongrass	1,410.00	box	8.00	11,280	
OPERATING COSTS					
Custom:					
Land Preparation (Plow, Disc, List)	1.00	acre	100.00	100	
Irrigation:					
Water Pumped	58.00	irrigation	2.50	145	
Fertilizer:					
15-15-15	450.00	lb	0.20	89	
Crop Protection:					
Plastic Clear 28 'x100' 4 mil (approx. 50 lbs/roll)	24.00	roll	37.00	888	
Stakes Regular PT 7'	400.00	each	1.39	556	
Twine 350' roll	9.60	roll	12.00	115	
Discard Plastic	1225.00	lb	0.02	25	
Carton:					
Boxes 40 lb	1,410.00	each	1.10	1,551	
Labor (machine)	18.00	hrs	12.42	224	
Labor (non-machine)	488.20	hrs	9.32	4,550	
Fuel - Gas	62.47	gal	2.05	128	
Lube				19	
Machinery repair				34	
Interest on operating capital @ 7.65%				232	
TOTAL OPERATING COSTS/ACRE				8,656	
NET RETURNS ABOVE OPERATING COSTS				2,624	
CASH OVERHEAD COSTS:					
Liability Insurance				43	
Office Expense				10	
Land Rent				300	
Property Taxes				7	
Property Insurance				5	
Investment Repairs				3	
TOTAL CASH OVERHEAD COSTS/ACRE				368	
TOTAL CASH COSTS/ACRE				9,023	
NON-CASH OVERHEAD COSTS (Capital Recovery):					
Miscellaneous Field/Shop Tools				24	
Irrigation Flat Pipe				25	
Equipment				155	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				204	
TOTAL COSTS/ACRE				9,227	
NET RETURNS ABOVE TOTAL COSTS				2,053	

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Table 3. COST PER ACRE TO PRODUCE LEMONGRASS
 SAN JOAQUIN VALLEY - 2005

	FEB 04	MAR 04	APR 04	MAY 04	JUN 04	JUL 04	AUG 04	SEP 04	OCT 04	NOV 04	DEC 04	JAN 05	FEB 05	MAR 05	TOTAL
Beginning FEB 04															
Ending MAR 05	100														100
Cultural:															
Land Prep: Plow, Disc, List (Custom)		149													149
Plant (no seed cost)		14	29	29	72	72	72	72	29	29					415
Irrigate			45	45											89
Fertilize: In irrigation water (15-15-15) 2X				224											224
Weed: Hand										3,144					3,144
Crop Protection: Install Plastic Houses														203	203
Crop Protection: Dismantle Houses															
Miscellaneous Pickup Use		9	9	9	9	9	9	9	9	9	9	9	9	9	133
TOTAL CULTURAL COSTS	109	173	306	38	126	81	81	81	38	3,182	9	9	9	213	4,457
Harvest:															
Hand Harvest												1,542	1,542	612	3,695
Haul to packingshed												109	109	54	272
TOTAL HARVEST COSTS	0	0	0	0	0	0	0	0	0	0	0	1,650	1,650	666	3,967
Interest on operating capital @ 7.65%	1	2	4	4	5	5	6	6	7	27	27	38	48	54	232
TOTAL OPERATING COSTS/ACRE	110	175	310	42	130	86	87	87	45	3,209	36	1,697	1,708	933	8,656
OVERHEAD:															
Liability Insurance		42													42
Office Expense	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
Land Rent										300					300
Property Taxes												7			7
Property Insurance												5			5
Investment Repairs															3
TOTAL CASH OVERHEAD COSTS	1	43	1	1	1	1	1	1	1	1	301	14	1	1	368
TOTAL CASH COSTS/ACRE	111	218	311	43	131	87	88	88	46	3,210	337	1,711	1,709	933	9,023

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Table 4. RANGING ANALYSIS FOR LEMONGRASS
 SAN JOAQUIN VALLEY - 2005

COSTS PER ACRE AT VARYING YIELD TO PRODUCE LEMONGRASS

	YIELD (40 lb boxes/acre)						
	1,010	1,110	1,210	1,310	1,410	1,510	1,610
OPERATING COSTS/ACRE:							
Cultural Cost	4,457	4,457	4,457	4,457	4,457	4,457	4,457
Harvest Cost-Pick	2,646	2,909	3,171	3,433	3,695	3,957	4,219
Harvest Cost-Haul	195	214	233	253	272	291	311
Interest on operating capital	216	220	224	228	232	236	240
<i>TOTAL OPERATING COSTS/ACRE</i>	7,514	7,800	8,085	8,371	8,656	8,941	9,227
<i>TOTAL OPERATING COSTS/cwt</i>	7.44	7.03	6.68	6.39	6.14	5.92	5.73
CASH OVERHEAD COSTS/ACRE							
CASH OVERHEAD COSTS/ACRE	365	366	366	367	368	368	369
<i>TOTAL CASH COSTS/ACRE</i>	7,879	8,166	8,451	8,738	9,024	9,309	9,596
<i>TOTAL CASH COSTS/cwt</i>	7.80	7.36	6.98	6.67	6.40	6.16	5.96
NON-CASH OVERHEAD COSTS/ACRE							
NON-CASH OVERHEAD COSTS/ACRE	176	183	190	197	204	211	217
<i>TOTAL COSTS/ACRE</i>	8,055	8,349	8,641	8,935	9,228	9,520	9,813
<i>TOTAL COSTS/cwt</i>	7.98	7.52	7.14	6.82	6.54	6.30	6.10

NET RETURNS PER ACRE ABOVE OPERATING COSTS

PRICE \$/box	YIELD (40 lb boxes/acre)						
	1,010	1,110	1,210	1,310	1,410	1,510	1,610
4.00	-3,474	-3,360	-3,245	-3,131	-3,016	-2,901	-2,787
6.00	-1,454	-1,140	-825	-511	-196	119	433
8.00	566	1,080	1,595	2,109	2,624	3,139	3,653
10.00	2,586	3,300	4,015	4,729	5,444	6,159	6,873
12.00	4,606	5,520	6,435	7,349	8,264	9,179	10,093
14.00	6,626	7,740	8,855	9,969	11,084	12,199	13,313
16.00	8,646	9,960	11,275	12,589	13,904	15,219	16,533

NET RETURNS PER ACRE ABOVE CASH COSTS

PRICE \$/box	YIELD (40 lb boxes/acre)						
	1,010	1,110	1,210	1,310	1,410	1,510	1,610
4.00	-3,839	-3,726	-3,611	-3,498	-3,384	-3,269	-3,156
6.00	-1,819	-1,506	-1,191	-878	-564	-249	64
8.00	201	714	1,229	1,742	2,256	2,771	3,284
10.00	2,221	2,934	3,649	4,362	5,076	5,791	6,504
12.00	4,241	5,154	6,069	6,982	7,896	8,811	9,724
14.00	6,261	7,374	8,489	9,602	10,716	11,831	12,944
16.00	8,281	9,594	10,909	12,222	13,536	14,851	16,164

NET RETURNS PER ACRE ABOVE TOTAL COSTS

PRICE \$/box	YIELD (40 lb boxes/acre)						
	1,010	1,110	1,210	1,310	1,410	1,510	1,610
4.00	-4,015	-3,909	-3,801	-3,695	-3,588	-3,480	-3,373
6.00	-1,995	-1,689	-1,381	-1,075	-768	-460	-153
8.00	25	531	1,039	1,545	2,052	2,560	3,067
10.00	2,045	2,751	3,459	4,165	4,872	5,580	6,287
12.00	4,065	4,971	5,879	6,785	7,692	8,600	9,507
14.00	6,085	7,191	8,299	9,405	10,512	11,620	12,727
16.00	8,105	9,411	10,719	12,025	13,332	14,640	15,947

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Table 5. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
SAN JOAQUIN VALLEY - 2005

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead		Total
						Insur- ance	Taxes	
05	Pickup 1/2 ton	28,000	5	12,549	4,423	140	203	4,766
05	Trailer 12' x 16'	4,500	20	235	386	16	24	426
	TOTAL	32,500		12,784	4,809	156	226	5,192
	60% of New Cost *	19,500		7,670	2,886	94	136	3,115

*Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS

Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead			Total
					Insur- ance	Taxes	Repairs	
Irrigation Flat Vinyl Pipe	455	2		249	0	0	9	257
Miscellaneous Tools	1,000	5		239	3	0	20	262
TOTAL INVESTMENT	1,455		0	488	3	0	29	519

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm Unit		Price/ Unit	Total Cost
	Land Rent	10		
Liability Insurance	10	acre	42.90	429
Office Expense	10	acre	10.00	100

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Table 6. HOURLY EQUIPMENT COSTS
SAN JOAQUIN VALLEY - 2005

Yr	Description	Actual Hours Used	Cash Overhead	Operating	Total	Total			
							Capital Recovery	Insur- ance	Taxes
05	Pickup 1/2 ton	285	9.31	0.29	0.43	1.81	9.82	11.63	21.67
05	Trailer 12' x 16'	150	1.55	0.07	0.09	0.66	0.00	0.66	2.37

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Table 7. OPERATIONS WITH EQUIPMENT
 SAN JOAQUIN VALLEY - 2005

Operation	Operation		Implement	Non-Machine	Material	Broadcast Rate/acre	Unit
	Month	Tractor		Labor Hrs/Ac			
Cultural:							
Land Preparation (plow, disc, list)	February	Custom					
Plant:	March			16.00			
Irrigate 2X	March			1.00			
Irrigate 4X	April			2.00			
Irrigate 4X	May			2.00			
Irrigate 10X	June			5.00			
Irrigate 10X	July			5.00			
Irrigate 10X	August			5.00			
Irrigate 10X	September			5.00			
Irrigate 4X	October			2.00			
Irrigate 4X	November			2.00			
Fertilize	April				15-15-15	225.00	lb
	June				15-15-15	225.00	lb
Weed: Hand	April			24.00			
Crop Protection: Install Tunnels	November			72.00	See Table 2,		
Crop Protection: Dismantle Tunnels	March				Crop Protection		
Harvest & Haul	January	Pickup	Trailer	96.00	Boxes	588.00	boxes
	February	Pickup	Trailer	96.00	Boxes	588.00	boxes
	March	Pickup	Trailer	38.00	Boxes	234.00	boxes