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**UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION**

**2000**

**SAMPLE COSTS TO PRODUCE**  
***SAFFLOWER***



**Sacramento Valley – Yolo County**  
***Irrigated***

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INTRODUCTION

The sample costs to produce safflower in the Sacramento Valley - Yolo County are presented in this study. The study is intended as a guide only, and can be used in making production decisions, determining potential returns, preparing budgets, and evaluating production loans. The practices described are based on production procedures considered typical for this crop and area, but will not apply to every situation. Sample costs for labor, materials, equipment and custom services are based on current figures. A blank column, “*Your Costs*”, is provided to enter your actual costs on Tables 1 and 2.

The hypothetical farm operation, production practices, overhead, and calculations are described under the assumptions. For additional information or explanation of calculations used in the study call the Department of Agricultural and Resource Economics, University of California, Davis, California, (530) 752-3589 or the Yolo County UC Cooperative Extension office (530) 666-8143.

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Sample Cost of Production Studies for many commodities are available and can be requested through the Department of Agricultural and Resource Economics, UC Davis, (530) 752-1515. Current studies, those produced during the last five years, can be downloaded from the department website [www.agecon.ucdavis.edu/outreach/outreach.htm](http://www.agecon.ucdavis.edu/outreach/outreach.htm) or obtained from selected county Cooperative Extension offices.

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## ASSUMPTIONS

The following assumptions pertain to sample costs to produce irrigated safflower in the Sacramento Valley - Yolo County. Practices described should not be considered recommendations by the University of California, but represents production procedures considered typical for this crop and area. Some of the costs and practices may not be applicable to your situation or used during every production year. Other practices not indicated may be needed. Cultural practices to produce safflower will vary by grower and region, and can be significant. The practices and inputs used in this cost study serve as a sample or guide, only. The costs are presented on an annual, per acre basis. *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.*

**Farm.** This report is based on a 2,900-acre field and row crop farm. Safflower is planted on noncontiguous fields totaling 300 acres; therefore farming practices can vary among fields. The other 2,600 acres, planted in rotation with the safflower, may be processing tomatoes, alfalfa hay, wheat, sunflower, dry beans and/or corn. The land rented includes developed wells and an irrigation system. All costs associated with the land and the irrigation system are incurred by the landowner. The grower also owns land, a shop, and an equipment yard.

### Cultural Practices and Material Inputs

**Land Preparation.** Primary tillage and planting groundwork operations which include laser leveling, discing, rolling, subsoiling, land leveling, and listing beds are done from August through October in the year preceding planting. Operations are done on all of the acreage unless noted. Although, stubble discing is done as a postharvest operation, additional preplant discing is needed to prepare seedbeds following high residue crops. In this study, 50% of the 300 acres are stubble disced in October followed by two passes on all of the acres with a finish disc. Sixty-inch beds are then made with a three-row lister.

**Stand Establishment.** Safflower is planted from March through May. In this study, 22 pounds of seed per acre are planted, in two seedlines (rows) per bed, in April with a 6-row, 3-bed planter.

**Pest Management.** The pesticides and rates mentioned in this cost study are listed in UC *Integrated Pest Management Guidelines, Safflower*. For more information on pest identification, monitoring, and management visit the UC IPM website at [www.ipm.ucdavis.edu](http://www.ipm.ucdavis.edu). Written recommendations are required for many pesticides, and are made by licensed pest control advisors. For information on pesticide use permits, contact the local county Agricultural Commissioner's office.

**Weeds.** To control winter weeds, a contact herbicide (Roundup ) is sprayed on the beds in February using an ATV and pull sprayer. In March, Treflan is sprayed on and incorporated into the beds in a single operation. Mechanical cultivation is done with a rolling cultivator in May.

**Fertilization.** Preplant Nitrogen as aqua ammonia (20-00-00) at 100 pounds of N per acre is injected into the beds in March prior to planting.

**Irrigation.** In this study, water is calculated to cost \$18.83 per acre-foot and is a combination of 1/2 well water and 1/2 canal delivered surface water. The irrigation costs shown in Tables 1, 2, and 3 include water, pumping, and labor charges. Usually, the early-planted fields require one irrigation and the later planted field two irrigations. In this study six-acre inches per irrigation are applied in May. All of the acres are irrigated during the first irrigation and 50% of the acres (fields) are irrigated in the second irrigation. Growers should manage their irrigation based on actual plant needs.

**Harvest.** It is assumed that the farm owns combines and bankout wagons to harvest the 300 acres. The safflower is dumped from the combine directly into the tractor-pulled bankout wagon that delivers the safflower to bulk grain trailers for transport to the buyer. The buyer pays transportation from the field to the processor.

Costs for harvest operations are shown in Tables 1 and 3, and the equipment is listed in Tables 4 and 5. If a grower has the safflower custom harvested, related costs should be subtracted from harvest costs in Tables 1 and 3, and the equipment should be subtracted from investment costs in Table 4. A custom harvest charge should be added to harvest costs in Tables 1 and 3.

Growers may choose to own harvesting equipment, purchased either new or used, or hire a custom harvester. Many factors are important in deciding which harvesting option a grower uses. These considerations and an appropriate method of analysis are discussed in *"Acquiring Alfalfa Hay Harvest Equipment: A Financial Analysis of Alternatives"*.

**Yields.** The average (dryland plus irrigated) safflower crop yields in Yolo County for the last five years range from 16.80 to 26.00 hundredweight (cwt) per acre or 0.84 to 1.30 tons per acre. The average county yields from 1995 to 1999 are shown in Table A. Irrigated safflower yields are higher than dryland yields, therefore, based on a farm advisor survey of irrigated safflower growers the average yield is 22.50 cwt (1.125 tons) per acre, and is used in this study.

**Returns.** Growers will usually produce safflower under contract with a processor. Prices to Yolo County growers over five years ranged from \$14.59 to \$18.16 per cwt (\$291.85 to \$363.22 per ton) and are shown in Table A. The price used in this study is \$10.71 per cwt or \$215.00 per ton an average based on the current market. Prices are currently depressed because of surplus product and are expected to continue through the following year.

**Average Yield and Price for Safflower, Yolo County, 1995 - 1999<sup>1</sup>**

Year	cwt/acre	ton/acre	\$/cwt	\$/ton
1999	23.00	1.15	14.59	291.85
1998	18.20	0.91	15.27	305.44
1997	26.00	1.30	16.21	324.17
1996	18.80	0.94	18.16	363.22
1995	16.80	0.84	15.31	306.10

<sup>1</sup> Agriculture Commissioner, Yolo County Annual Crop Reports, 1995 - 1999

**Labor.** Basic hourly wages for workers are \$8.50 and \$6.25 per hour for machine operators and non-machine (irrigators and manual laborers) workers, respectively. Adding 34% for the employer's share of federal and state payroll taxes, insurance and other benefits raises the total labor costs to \$11.39 per hour for machine operators and \$8.38 per hour for non-machine labor. The labor for operations involving machinery is 20% higher than the operation time to account for the additional time involved in equipment set up, moving, maintenance and repair.

**Risk.** Risks associated with safflower production are not assigned a production cost. While this study makes an 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 safflower production. Because of the risk involved, growers should consider all of the agronomic and economic risks before committing resources to safflower production in Yolo County.

### Overhead

**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 equipment 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 the property. Average value equals new cost plus salvage value divided by 2 on a per acre basis.

*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 10.71% per year. A nominal interest rate is the typical market cost of borrowed funds.

*Insurance.* Insurance for farm investments vary depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.723% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs \$1,049 for the entire farm or \$0.36 per acre.

*Office Expense.* Office and business expenses are estimated at \$15 per acre. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, and road maintenance. Cash overhead costs are found in Tables 1, 2, 3 and 4.

*Share Rent.* Rental contracts and rates for land suitable for safflower production can range widely in Yolo County. Land in this study is leased on a share-rent basis with the landowner receiving 22% of the gross returns.

*Supervisor Salary.* Wages for supervisors are included as a cash overhead cost. Supervisor salaries, including benefits, are \$100,000 per year for two supervisors and are allocated amongst the

farm's other crops on a gross returns basis. Safflower is assumed to provide 5% of the farm's gross returns. Therefore, the supervisor's salary for safflower is \$3,630 per year or \$12.10 per acre. Any returns above total costs are considered returns to investment.

*Field Sanitation.* Sanitation services provide portable toilets and washing facilities and cost the farm \$1,885 annually or \$0.65 per acre. The cost includes delivery and regular servicing of the units.

**Non-cash Overhead.** Non-cash overhead is calculated as the capital recovery cost for equipment and other farm investments. Although farm equipment used on farms in the Sacramento Valley might be purchased new or used, this study shows the current purchase price for new equipment. The new purchase price is adjusted to 60% of new value to indicate a mix of new and used equipment. Annual ownership costs (equipment and investments) are shown in Tables 1-3, and 5. They represent the capital recovery cost for investments on an annual per acre basis.

*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). Put another way, 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. The calculation for the annual capital recovery costs is as follows.

$$\frac{\text{Purchase Price} - \text{Salvage Value}}{\text{Value}} \times \frac{\text{Capital Recovery Factor}}{\text{Factor}} + \frac{\text{Salvage Value} \times \text{Interest Rate}}{\text{Value Rate}}$$

*Salvage Value.* Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (e.g., 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 wearout 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 equal to the purchase price because land does not depreciate. The purchase price and salvage value for certain equipment and investments are shown in Table 5.

*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 7.08% used to calculate capital recovery cost is the United States Department of Agriculture-Economic Reporting Service's (USDA-ERS) 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. In other words, the next best alternative use for these resources is in another agricultural enterprise.

**Equipment Costs.** 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. 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 5 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.

*Repairs, Fuel and Lube.* Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by the American Society of Agricultural Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum PTO horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are \$1.26 and \$1.49 per gallon, respectively.

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

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Table 1  
UC COOPERATIVE EXTENSION  
COSTS PER ACRE to PRODUCE SAFFLOWER  
SACRAMENTO VALLEY - YOLO COUNTY 2000

Operation	Operation	Cash and Labor Cost per acre					Total Cost	Your Cost
	Time (Hrs/A)	Labor Cost	Fuel,Lube Repairs	Material Cost	Custom/ Rent			
Cultural:								
Stubble Disc - 1/2 Acreage	0.11	1	3	0	0	5		
Disc 2X	0.26	3	8	0	0	11		
Fertilize - Nitrogen	0.10	1	2	23	3	29		
List Beds	0.26	3	4	0	0	8		
Weed Control-Roundup	0.09	1	0	16	0	18		
Weed Control-Treflan	0.10	1	2	5	0	9		
Plant Safflower	0.25	3	3	12	0	18		
Make Drain	0.03	0	1	0	0	1		
Irrigate 100% acres	1.25	10	0	9	0	19		
Irrigate 50% acres	0.62	5	0	5	0	10		
Cultivate	0.20	2	2	0	0	5		
Close Drains	0.03	0	0	0	0	1		
Pickup Truck Use	0.10	2	1	0	0	4		
<b>TOTAL CULTURAL COSTS</b>	<b>3.40</b>	<b>35</b>	<b>26</b>	<b>72</b>	<b>3</b>	<b>136</b>		
Harvest:								
Harvest	0.25	3	8	0	0	11		
Bank Out Grain	0.25	3	4	0	0	8		
<b>TOTAL HARVEST COSTS</b>	<b>0.50</b>	<b>6</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>19</b>		
Postharvest:								
Chop Stubble	0.25	3	5	0	0	8		
Stubble Disc	0.22	3	6	0	0	9		
<b>TOTAL POSTHARVEST COSTS</b>	<b>0.47</b>	<b>6</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>18</b>		
Interest on operating capital @ 10.71%						12		
<b>TOTAL OPERATING COSTS/ACRE</b>		<b>47</b>	<b>51</b>	<b>72</b>	<b>3</b>	<b>185</b>		
CASH OVERHEAD:								
Liability Insurance						0		
Office Expense						15		
Field Sanitation						1		
Supervisor Salary						12		
Share Rent @ 22%						53		
Property Taxes						2		
Property Insurance						2		
Investment Repairs						2		
<b>TOTAL CASH OVERHEAD COSTS</b>						<b>87</b>		
<b>TOTAL CASH COSTS/ACRE</b>						<b>272</b>		
NON-CASH OVERHEAD								
Investment		Per producing Acre		Annual Cost		Capital Recovery		
Pipe 1/4 mile Main Line 10"		5		1		1		
Fuel Tanks & Pumps		7		1		1		
Fuel Wagon		1		0		0		
Truck Tractor		15		2		2		
Trailer - Lowbed		3		0		0		
Tool Carrier		5		1		1		
Siphon Tubes		3		0		0		
Portable Pump		7		1		1		
Shop Building		22		2		2		
Shop Tools		5		0		0		
Storage Building		9		1		1		
Closed Mix System		1		0		0		
Equipment		326		38		38		
<b>TOTAL NON-CASH OVERHEAD COSTS</b>						<b>47</b>		
<b>TOTAL COSTS/ACRE</b>						<b>318</b>		



UC COOPERATIVE EXTENSION  
 Table 2 COSTS AND RETURNS PER ACRE to PRODUCE SAFFLOWER  
 SACRAMENTO VALLEY - YOLO COUNTY 2000

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>GROSS RETURNS</b>					
SAFFLOWER	22.50	cwt	10.75	242	
<b>OPERATING COSTS</b>					
Fertilizer:					
20-0-0 (Aqua)	100.00	lb N	0.24	23	
Rent:					
Aqua Injector	1.00	acre	2.50	3	
Herbicide:					
Roundup Ultra	0.38	gal	43.18	16	
Treflan HP	0.19	gal	27.80	5	
Seed:					
Safflower	22.00	lb	0.56	12	
Irrigation:					
Water	9.00	acin	1.57	14	
Labor (machine)	3.12	hrs	10.39	32	
Labor (non-machine)	1.87	hrs	8.04	15	
Fuel - Gas	0.63	gal	1.49	1	
Fuel - Diesel	23.87	gal	1.26	30	
Lube				5	
Machinery repair				15	
Interest on operating capital @ 10.71%				12	
<b>TOTAL OPERATING COSTS/ACRE</b>				<b>185</b>	
<b>NET RETURNS ABOVE OPERATING COSTS</b>				<b>57</b>	
<b>CASH OVERHEAD COSTS:</b>					
Liability Insurance				0	
Office Expense				15	
Field Sanitation				1	
Supervisor Salary				12	
Share Rent @ 22%				53	
Property Taxes				2	
Property Insurance				2	
Investment Repairs				2	
<b>TOTAL CASH OVERHEAD COSTS/ACRE</b>				<b>87</b>	
<b>TOTAL CASH COSTS/ACRE</b>				<b>272</b>	
<b>NON-CASH OVERHEAD COSTS (CAPITAL RECOVERY)</b>					
Pipe 1/4 mile Main Line 10"				1	
Fuel Tanks & Pumps				1	
Fuel Wagon				0	
Truck Tractor				2	
Trailer - Lowbed				0	
Tool Carrier				1	
Siphon Tubes				0	
Portable Pump				1	
Shop Building				2	
Shop Tools				0	
Storage Building				1	
Closed Mix System				0	
Equipment				38	
<b>TOTAL NON-CASH OVERHEAD COSTS/ACRE</b>				<b>47</b>	
<b>TOTAL COSTS/ACRE</b>				<b>318</b>	
<b>NET RETURNS ABOVE TOTAL COSTS</b>				<b>-77</b>	

Table 3 UC COOPERATIVE EXTENSION  
MONTHLY CASH COSTS PER ACRE to PRODUCE SAFFLOWER  
SACRAMENTO VALLEY - YOLO COUNTY 2000

Beginning OCT 99	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Ending SEP 00	99	99	99	00	00	00	00	00	00	00	00	00	
Cultural:													
Stubble Disc - 1/2 Acres	5												5
Disc 2X	11												11
Fertilize - Nitrogen						29							29
List Beds	8												8
Weed Control-Roundup					18								18
Weed Control-Treflan						9							9
Plant Safflower							18						18
Make Drain								1					1
Irrigate 100% acres								19					19
Irrigate 50% acres								10					10
Cultivate								5					5
Close Drains										1			1
Pickup Truck Use	0	0	0	0	0	0	0	0	0	0	0	0	4
<b>TOTAL CULTURAL COSTS</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>38</b>	<b>18</b>	<b>35</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>136</b>
Harvest:													
Harvest												11	11
Bank Out Grain												8	8
<b>TOTAL HARVEST COSTS</b>												<b>19</b>	<b>19</b>
Postharvest:													
Chop Stubble	8												8
Stubble Disc	9												9
<b>TOTAL POSTHARVEST COSTS</b>	<b>18</b>												<b>18</b>
Interest on operating capital	1	1	1	1	1	1	1	1	1	1	1	1	12
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>42</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>19</b>	<b>39</b>	<b>20</b>	<b>36</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>21</b>	<b>185</b>
OVERHEAD:													
Liability Insurance				0									0
Office Expense	1	1	1	1	1	1	1	1	1	1	1	1	15
Field Sanitation	0	0	0	0	0	0	0	0	0	0	0	0	1
Supervisor Salary	1	1	1	1	1	1	1	1	1	1	1	1	12
Share Rent @ 22%											53		53
Property Taxes				1						1			2
Property Insurance				1						1			2
Investment Repairs	0	0	0	0	0	0	0	0	0	0	0	0	2
<b>TOTAL CASH OVERHEAD COSTS</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>56</b>	<b>2</b>	<b>87</b>
<b>TOTAL CASH COSTS/ACRE</b>	<b>44</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>21</b>	<b>41</b>	<b>22</b>	<b>39</b>	<b>4</b>	<b>7</b>	<b>57</b>	<b>23</b>	<b>272</b>

Table 4 UC COOPERATIVE EXTENSION  
WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT,  
and BUSINESS OVERHEAD COSTS  
SACRAMENTO VALLEY - YOLO COUNTY 2000

## ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead		
						Insur- ance	Taxes	Total
00	135HP 2WD Tractor	77,422	10	22,869	9,415	363	501	10,279
00	250 HP Crawler	166,238	10	49,104	20,216	778	1,077	22,071
00	92 HP 2WD Tractor	39,775	10	11,749	4,837	186	258	5,281
00	ATV	3,861	5	1,730	643	20	28	692
00	Bankout Wagon 30 T	11,127	10	1,968	1,448	47	65	1,561
00	Combine-No Header	157,336	15	16,112	16,725	627	867	18,219
00	Cult-Rolling 3 Row	5,231	12	725	621	22	30	672
00	Disc - Offset 26'	25,071	12	3,472	2,977	103	143	3,223
00	Disc - Stubble 16'	12,944	12	1,793	1,537	53	74	1,664
00	Ditcher - V	7,800	12	1,080	926	32	44	1,003
00	Grain Platform 20'	13,943	10	2,630	1,803	60	83	1,946
00	Lister - 3 Row	3,336	12	462	396	14	19	429
00	Mower - Flail 15'	12,749	10	2,255	1,659	54	75	1,789
00	Pickup 1/2 Ton	20,565	5	9,217	3,426	108	149	3,683
00	Pickup 3/4 Ton	24,500	5	10,980	4,082	128	177	4,388
00	Planter JD71 6R 3B	6,679	10	1,181	869	28	39	937
00	Rear Blade - 8'	2,050	18	136	201	8	11	220
00	Saddle Tank 300Gal	2,145	10	379	279	9	13	301
00	Sprayer Pull Tank	1,263	10	223	164	5	7	177
TOTAL		594,035		138,065	72,225	2,647	3,661	78,532
60% of New Cost*		356,421		82,839	43,335	1,588	2,196	47,119

## ANNUAL INVESTMENT COSTS

Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead			
					Insur- ance	Taxes	Repairs	Total
Closed Mix System	3,987	10	399	541	16	22	200	779
Fuel Tanks & Pumps	19,835	20	1,984	1,836	79	109	397	2,421
Fuel Wagon	1,808	10	181	245	7	10	52	314
PipeMnLine10" 1/4 mile	13,446	10	5,700	1,511	69	96	358	2,033
Portable Pump	19,554	10	1,955	2,653	78	108	978	3,817
Shop Building	65,216	25	6,522	5,535	259	359	652	6,805
Shop Tools	13,072	20	1,307	1,210	52	72	131	1,465
Siphon Tubes	10,000	15	250	1,094	37	51	283	1,465
Storage Building	26,308	20	2,631	2,435	105	145	526	3,210
Tool Carrier	15,118	15	1,512	1,608	60	83	756	2,508
Trailer - Lowbed	7,695	15	769	819	31	42	103	995
Truck Tractor	44,704	15	4,470	4,756	178	246	309	5,489
TOTAL INVESTMENT	240,743		27,680	24,243	970	1,342	4,745	31,300

## ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Field Sanitation	2,900	acre	0.65	1,885
Liability Insurance	2,900	acre	0.30	870
Office Expense	2,900	acre	15.00	43,500
Share Rent @ 22%	300	acre	53.21	15,963
Supervisor Salary	300	acre	12.10	3,630

Table 5 UC COOPERATIVE EXTENSION  
HOURLY EQUIPMENT COSTS  
SACRAMENTO VALLEY - YOLO COUNTY 2000

		COSTS PER HOUR							
Yr	Description	Actual Hours Used	Cash Overhead			Operating			Total Costs/Hr.
			Capital Recovery	Insur- ance	Taxes	Repairs	Fuel & Lube	Total Oper.	
00	135HP 2WD Tractor	1,176.60	4.80	0.18	0.26	3.47	11.35	14.82	20.06
00	250 HP Crawler	1,199.70	10.11	0.39	0.54	3.19	21.02	24.21	35.24
00	92 HP 2WD Tractor	1,173.50	2.47	0.10	0.13	1.78	6.55	8.33	11.03
00	ATV	285.30	1.35	0.04	0.06	0.25	1.71	1.96	3.42
00	Bankout Wagon 30 T	200.00	4.34	0.14	0.20	1.49	0.00	1.49	6.18
00	Combine-No Header	199.50	50.30	1.89	2.61	10.4	18.08	28.48	83.27
00	Cult-Rolling 3 Row	166.00	2.24	0.08	0.11	1.04	0.00	1.04	3.47
00	Disc - Offset 26'	166.00	10.76	0.37	0.52	3.92	0.00	3.92	15.57
00	Disc - Stubble 16'	166.00	5.55	0.19	0.27	2.03	0.00	2.03	8.04
00	Ditcher - V	166.00	3.35	0.12	0.16	2.08	0.00	2.08	5.71
00	Grain Platform 20'	200.00	5.41	0.18	0.25	2.15	0.00	2.15	7.98
00	Lister - 3 Row	166.00	1.43	0.05	0.07	0.66	0.00	0.66	2.21
00	Mower - Flail 15'	200.00	4.98	0.16	0.23	5.21	0.00	5.21	10.58
00	Pickup 1/2 Ton	281.50	7.30	0.23	0.32	1.33	4.28	5.61	13.46
00	Pickup 3/4 Ton	281.50	8.70	0.27	0.38	1.58	5.14	6.72	16.08
00	Planter JD71 6R 3B	150.00	3.48	0.11	0.16	1.76	0.00	1.76	5.51
00	Rear Blade - 8'	164.00	0.74	0.03	0.04	0.30	0.00	0.30	1.10
00	Saddle Tank 300Gal	150.00	1.12	0.04	0.05	0.57	0.00	0.57	1.77
00	Sprayer Pull Tank	120.30	0.82	0.03	0.04	0.31	0.00	0.31	1.20

Table 6

UC COOPERATIVE EXTENSION  
RANGING ANALYSIS  
SACRAMENTO VALLEY - YOLO COUNTY 2000

COSTS PER ACRE AT VARYING YIELD TO PRODUCE SAFFLOWER

	YIELD in cwt/acre						
	15.75	18.00	20.25	22.50	24.75	27.00	29.25
<b>OPERATING COSTS/ACRE:</b>							
Cultural Cost	136	136	136	136	136	136	136
Harvest Cost	13	15	17	19	21	23	25
Postharvest Cost	18	18	18	18	18	18	18
Interest on operating capital	12	12	12	12	12	12	12
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>179</b>	<b>181</b>	<b>183</b>	<b>185</b>	<b>187</b>	<b>189</b>	<b>190</b>
<b>TOTAL OPERATING COSTS/CWT</b>	<b>11.36</b>	<b>10.05</b>	<b>9.03</b>	<b>8.21</b>	<b>7.54</b>	<b>6.98</b>	<b>6.51</b>
<b>CASH OVERHEAD COSTS/ACRE</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>
<b>TOTAL CASH COSTS/ACRE</b>	<b>266</b>	<b>268</b>	<b>270</b>	<b>272</b>	<b>274</b>	<b>276</b>	<b>278</b>
<b>TOTAL CASH COSTS/CWT</b>	<b>16.87</b>	<b>14.87</b>	<b>13.32</b>	<b>12.08</b>	<b>11.06</b>	<b>10.21</b>	<b>9.50</b>
<b>NON-CASH OVERHEAD COSTS/ACRE</b>	<b>43</b>	<b>44</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
<b>TOTAL COSTS/ACRE</b>	<b>309</b>	<b>312</b>	<b>315</b>	<b>318</b>	<b>321</b>	<b>324</b>	<b>327</b>
<b>TOTAL COSTS/CWT</b>	<b>19.61</b>	<b>17.34</b>	<b>15.57</b>	<b>14.15</b>	<b>12.99</b>	<b>12.02</b>	<b>11.19</b>

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR SAFFLOWER

PRICE \$/cwt	YIELD (cwt/acre)						
	15.75	18.00	20.25	22.50	24.75	27.00	29.25
7.53	-60	-45	-30	-15	0	15	30
8.60	-44	-26	-9	9	26	44	61
9.68	-26	-7	13	33	53	73	93
10.75	-10	13	35	57	79	102	124
11.82	7	32	57	81	106	131	155
12.90	24	51	78	106	133	160	187
13.97	41	71	100	130	159	189	218

NET RETURNS PER ACRE ABOVE CASH COST FOR SAFFLOWER

PRICE \$/cwt	YIELD (cwt/acre)						
	15.75	18.00	20.25	22.50	24.75	27.00	29.25
7.53	-147	-132	-117	-102	-87	-72	-58
8.60	-130	-113	-96	-78	-61	-44	-26
9.68	-113	-93	-74	-54	-34	-14	5
10.75	-96	-74	-52	-30	-8	14	37
11.82	-80	-55	-30	-6	19	43	68
12.90	-62	-36	-9	19	46	73	100
13.97	-46	-16	13	43	72	101	131

NET RETURNS PER ACRE ABOVE TOTAL COST FOR SAFFLOWER

PRICE \$/cwt	YIELD (cwt/acre)						
	15.75	18.00	20.25	22.50	24.75	27.00	29.25
7.53	-190	-177	-163	-149	-135	-121	-107
8.60	-173	-157	-141	-125	-109	-92	-76
9.68	-156	-138	-119	-101	-82	-63	-44
10.75	-140	-119	-98	-77	-55	-34	-13
11.82	-123	-99	-76	-53	-29	-5	18
12.90	-106	-80	-54	-28	-2	24	50
13.97	-89	-61	-32	-4	24	53	81