UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2011

SAMPLE COSTS TO PRODUCE

SAFFLOWER

SACRAMENTO VALLEY

Irrigated-Bed Planted and Dryland-Flat Planted

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Sacramento Valley - 2011

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CONTENTS

INTRODUCTION

Sample costs to produce irrigated safflower planted on beds and dryland safflower planted flat in the Sacramento Valley 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 Cost*", 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 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) 752-3589 or obtained from the local county UC Cooperative Extension offices. Some archived studies are also available on the website.

ASSUMPTIONS

The following assumptions pertain to sample costs to produce irrigated safflower planted on beds and dryland safflower planted flat in the Sacramento Valley. Practices described should not be considered recommendations by the University of California, but represent 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 and Share Rent. This report is based on a 2,900-acre field and row crop farm. Safflower is planted on noncontiguous fields totaling 200 acres; therefore farming practices can vary among fields. The other 2,700 acres, planted in rotation with the safflower, may be processing tomatoes, alfalfa hay, wheat, sunflower, dry beans, rice and/or corn. The land rented includes developed wells and an irrigation system. All costs associated with the land and the irrigation systems are incurred by the landowner. The grower also owns land, a shop, and an equipment yard.

Land in this study is leased on a share-rent basis with the landowner receiving 20% of the gross returns from safflower. Based on the yield and price assumed in this study, land rent is $72.60 per acre.

Labor. Basic hourly wages for workers are $11.35 and $9.20 per hour for machine operators and non-machine workers (irrigators) respectively. Adding 37% for SDI, FICA, insurance and other benefits raises the total labor costs to $15.55 per hour for machine operators and $12.60 per hour for non-machine labor. The labor for operations involving machinery are 20% higher than the operation time to account for the additional time involved in equipment set up, moving, maintenance and repair. Any returns above total costs are considered returns to investment.

CULTURAL PRACTICES AND MATERIAL INPUTS

Land Preparation. Primary tillage and planting groundwork operations which include discing and listing beds (bed planted only) are done from August through October in the year preceding planting. Operations are done on all of the acreage unless noted.

Bed Planted and Irrigated. Stubble discing is done after harvest or is the first operation for the new crop. Additional preplant discing is needed to prepare seedbeds following high residue crops. The 200 acres are stubble disced in October followed by one pass with a finish disc. Sixty-inch beds are then made with a three-row lister.

Flat Planted and Dryland. Stubble discing is done on the 200 acres in October followed by two passes with a finish disc. No beds are pulled.

Stand Establishment. Safflower is planted from March through May. In this study, 22 pounds of seed per acre are planted in April (recommended seeding rate for bed planted). If fields are flat planted with a grain drill, the seeding rate is 35 to 50 pounds per acre. Adjust your costs for higher seeding rate in the "your cost column" in the tables.

Pest Management. The pesticides and rates mentioned in this cost study are commonly used for safflower production in the Sacramento Valley. For more information on pest management and growing safflower in California refer to ANR publication 21565, *Safflower Production in California*. Written recommendations are required for many pesticides and are made by licensed pest control advisers. 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 (N) as aqua ammonia (20-0-0) at 100 pounds of N per acre is injected into the beds in March prior to planting. Phosphorus and potassium applications should be based on soil test needs for these nutrients, especially in fields following rice. Early plantings may benefit from starter fertilizers such as around 100 pounds per acre of 8-20-8 or something similar with about one-half pound of zinc.

Irrigation (Bed Planted Only). In this study, water is calculated to cost $21.12 per acre-foot ($1.76 per acre inch) 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, fields are planted to moisture with one later crop irrigation. In this study six-acre inches of water are applied in a single May irrigation. All of the acres are irrigated during the irrigation. Growers should time their irrigation based on actual plant needs. The operations for safflower that is flat planted and grown dryland are not shown in the tables.

Harvest. It is assumed that the farm owns combines and bankout wagons to harvest the 200 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.

Costs for harvest operations are shown in Tables 1 and 3, and the equipment is listed in Tables 5 and 6. 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 5. A custom harvest charge should be added to harvest costs in Tables 1 and 3.

Table A. Average 2005-2009 Production & Returns by County

County	Harvested Acres	Yield tons/acre	Returns $/ton	Yield cwt/acre	Returns $/cwt
Glenn	441	1.11	341	22.15	17.06
Butte	216	1.10	328	21.96	16.41
Colusa	5,414	1.09	331	21.80	16.55
Sutter	6,264	1.17	314	23.32	15.72
Yolo	10,848	1.07	320	21.40	16.00
Solano	4,231	1.09	337	21.80	16.87
Average	4,569	1.10	329	22.07	16.44

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 the Sacramento Valley for the last five years range from 16.80 to 26.00 hundredweight (cwt) per acre or 0.61 to 1.50 tons per acre. The 2005 to 2009 average yields and returns by county are shown in Table A. Irrigated safflower yields tend to be higher than dryland yields. An average yield of 22.00 cwt (1.10 tons) per acre is used in this study. This study does not include prices for safflower grown for seed production.

Returns. Growers will usually produce safflower under contract with a processor. Based on the Agricultural Commissioner's Crop Reports, prices to Sacramento Valley growers from 2005 to 2009 ranged from $11.61 to $24.50 per cwt ($232.16 to $490.00 per ton). A five year average for each county is shown in Table A. The price used in this study is $16.50 per cwt or $329 per ton, an average based on the current market and the five year average.

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 5.75% per year. A nominal interest rate is the typical market cost of borrowed funds.

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 the Sacramento Valley.

CASH OVERHEAD COSTS

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.

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 0.775% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs $1,508 for the entire farm or $0.52 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.

Share Rent. Rental contracts and rates for land suitable for safflower production can range widely in Sacramento Valley. Land in this study is leased on a share-rent basis with the landowner receiving 20% 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. The supervisor's salary allocated to safflower is $5,000 per year or $25.00 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 $2,117 annually or $0.73 per acre. The cost includes delivery and regular servicing of the units.

Equipment Operating Costs. Equipment costs are composed of three parts: operating costs, cash overhead, and non-cash overhead. Both of the overhead factors are discussed in later 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 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.

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 $2.60 and $3.10 per gallon, respectively. Fuel costs are derived from the Energy Information Administration (EIA) 2010 monthly data. 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 are 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.

NON-CASH OVERHEAD COSTS

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 Table 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). 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

((Purchase Price – Salvage Value) x Capital Recovery Factor) + (Salvage Value x 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 (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 4.75% is used to calculate capital recovery cost is the effective long term interest rate in January 2011. The interest rate is provided by a local farm lending agency and will vary according to risk and amount of loan.

*Equipment***.** Other equipment is listed as investments and is used on the entire farm. The cost of these investments shows up as non-cash cost in tables 1 and 2. Each investment's current purchase price, assumed years of life, and other costs are listed in table 5.

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

Acknowledgment. Assistance provided by local producers and supplier was greatly appreciated.

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For information concerning the above mentioned University of California publications contact UC DANR Communications Services (1-800-994-8849) or your local county UC Cooperative Extension office.

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Table 1 COSTS PER ACRE to PRODUCE SAFFLOWER

SACRAMENTO VALLEY - 2011

Operation	Operation Time (Hrs/A)	Cash and Labor Cost per acre: Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/ Rent	Total Cost	Your Cost
Cultural:							
Land Prep: Stubble Disc	0.15	3	7	0	0	10	
Land Prep: Finish Disc	0.13	2	6	0	0	8	
Land Prep: List Beds	0.06	1	3	0	0	4	
Weed: (Roundup)	0.07	1	0	10	0	12	
Fertilize: Preplant N (20-0-0)	0.15	3	3	58	3	66	
Weed: (Treflan)	0.14	3	3	9	0	15	
Plant: (seed)	0.12	2	3	13	0	19	
Irrigate: Make Drain	0.01	0	0	0	0	1	
Irrigate: (water & labor)	0.30	4	0	11	0	14	
Irrigate: Close Drain	0.01	0	0	0	0	0	
Weed: Cultivate	0.14	3	3	0	0	5	
Land Prep: Chop (mow) Stubble	0.14	3	3	0	0	6	
Pickup Use	0.10	4	2	0	0	6	
ATV Use	0.10	2	0	0	0	2	
TOTAL CULTURAL COSTS	1.62	30	34	102	3	168	
Harvest:							
Harvest	0.20	7	18	0	0	26	
Bank Out Grain	0.20	4	4	0	0	8	
TOTAL HARVEST COSTS	0.40	11	22	0	0	33	
Interest on operating capital @ 5.75%						5	
TOTAL OPERATING COSTS/ACRE		41	56	102	3	206	
CASH OVERHEAD:							
Liability Insurance						1	
Office Expense						15	
Field Sanitation						1	
Share Rent @ 20%						73	
Supervisor Salary						25	
Property Taxes						2	
Property Insurance						1	
Investment Repairs						1	
TOTAL CASH OVERHEAD COSTS						117	
TOTAL CASH COSTS/ACRE						324	

NON-CASH OVERHEAD Investment	Per producing Acre	Annual Cost Capital Recovery	
Fuel Tanks & Pumps	6	0	0
Fuel Wagon	1	0	0
Shop Buildings	24	2	2
Shop Tools	5	0	0
Siphon Tubes	4	0	0
Tool Carrier	5	0	0
Equipment	239	24	24
TOTAL NON-CASH OVERHEAD COSTS	283	27	27
TOTAL COSTS/ACRE			350

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Table 2 COSTS AND RETURNS PER ACRE to PRODUCE SAFFLOWER

SACRAMENTO VALLEY - 2011

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
SAFFLOWER	22.00	cwt	16.50	363	
OPERATING COSTS					
Fertilizer:					
20-0-0 (Aqua)	100.00	lb N	0.58	58	
Rent:					
Aqua Injector	1.00	acre	2.75	3	
Herbicide:					
Roundup WeatherMax	22.00	floz	0.46	10	
Treflan HFP	2.00	pint	4.74	9	
Seed:					
Safflower	22.00	lb	0.61	13	
Irrigation:					
Water	6.00	acin	1.76	11	
Labor (machine)	2.38	hrs	15.55	37	
Labor (non-machine)	0.30	hrs	12.60	4	
Fuel - Gas	0.74	gal	3.10	2	
Fuel - Diesel	13.91	gal	2.60	36	
Lube				6	
Machinery Repair				11	
Interest on operating capital @ 5.75%				5	
TOTAL OPERATING COSTS/ACRE				206	
NET RETURNS ABOVE OPERATING COSTS				157	
CASH OVERHEAD COSTS:					
Liability Insurance				1	
Office Expense				15	
Field Sanitation				1	
Share Rent @ 20%				73	
Supervisor Salary				25	
Property Taxes				2	
Property Insurance				1	
Investment Repairs				1	
TOTAL CASH OVERHEAD COSTS/ACRE				117	
TOTAL CASH COSTS/ACRE				323	
NON-CASH OVERHEAD COSTS (CAPITAL RECOVERY)					
Investment				0	
Fuel Tanks & Pumps				0	
Fuel Wagon				2	
Shop Tools				0	
Siphon Tubes				0	
Tool Carrier				0	
Equipment				24	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				27	
TOTAL COSTS/ACRE				350	
NET RETURNS ABOVE TOTAL COSTS				13	

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Table 3 MONTHLY CASH COSTS PER ACRE to PRODUCE SAFFLOWER

SACRAMENTO VALLEY - 2011

Beginning OCT 10 Ending SEP 11	OCT 10	NOV 10	DEC 10	JAN 11	FEB 11	MAR 11	APR 11	MAY 11	JUN 11	JUL 11	AUG 11	SEP 11	TOTAL
Cultural:													
Land Prep: Stubble Disc	10												10
Land Prep: Finish Disc	8												8
Land Prep: List Beds	4												4
Weed: (Roundup)					12								12
Fertilize: Preplant N (20-0-0)						66							66
Weed: (Treflan)						15							15
Plant: (seed)							19						19
Irrigate: Make Drain								1					1
Irrigate: (water & labor)								14					14
Irrigate: Close Drain								0					0
Weed: Cultivate								5					5
Land Prep: Chop (mow) Stubble												6	6
Pickup Use	0	0	0	0	0	0	0	0	0	0	0	0	6
ATV Use	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL CULTURAL COSTS	23	1	1	1	12	82	19	21	1	1	1	6	168
Harvest:													
Harvest: Combine											26		26
Bank Out Grain											8		8
TOTAL HARVEST COSTS											33		33
Interest on operating capital @ 5.75%	0	0	0	0	0	1	1	1	1	1	1	0	5
TOTAL OPERATING COSTS/ACRE	23	1	1	1	13	82	20	22	1	1	35	6	206
CASH OVERHEAD:													
Liability Insurance				1									1
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
Share Rent @ 20%												73	73
Supervisor Salary	2	2	2	2	2	2	2	2	2	2	2	2	25
Property Taxes				1						1			2
Property Insurance				1						1			1
Investment Repairs	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL CASH OVERHEAD COSTS	3	3	3	5	3	3	3	3	3	5	3	76	117
TOTAL CASH COSTS/ACRE	26	4	4	6	16	86	23	25	5	6	38	82	323

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Table 4 RANGING ANALYSIS
SACRAMENTO VALLEY - 2011

COSTS PER ACRE AT VARYING YIELD TO PRODUCE SAFFLOWER

	YIELD in cwt/acre						
	14.50	17.00	19.50	22.00	24.50	27.00	29.50
OPERATING COSTS/ACRE:							
Cultural Cost	168	168	168	168	168	168	168
Harvest Cost	22	26	29	33	37	41	44
Interest on operating capital @ 5.75%	5	5	5	5	5	5	5
TOTAL OPERATING COSTS/ACRE	195	199	202	206	210	214	217
TOTAL OPERATING COSTS/CWT	13.44	11.70	10.36	9.36	8.57	7.92	7.35
CASH OVERHEAD COSTS/ACRE	117	117	117	117	118	118	118
TOTAL CASH COSTS/ACRE	312	316	319	323	328	332	335
TOTAL CASH COSTS/CWT	21.51	18.59	16.36	14.68	13.39	12.29	11.35
NON-CASH OVERHEAD COSTS/ACRE	24	25	26	27	28	29	30
TOTAL COSTS/ACRE	336	341	345	350	356	361	365
TOTAL COSTS/CWT	23.17	20.06	17.69	15.91	14.53	13.37	12.37

NET RETURNS PER ACRE ABOVE OPERATING COSTS

PRICE	YIELD (cwt/acre)						
$/cwt	14.50	17.00	19.50	22.00	24.50	27.00	29.50
13.50	1	31	61	91	121	151	181
14.50	15	48	81	113	145	178	211
15.50	30	65	100	135	170	205	240
16.50	44	82	120	157	194	232	270
17.50	59	99	139	179	219	259	299
18.50	73	116	159	201	243	286	329
19.50	88	133	178	223	268	313	358

NET RETURNS PER ACRE ABOVE CASH COSTS

PRICE	YIELD (cwt/acre)						
$/cwt	14.50	17.00	19.50	22.00	24.50	27.00	29.50
13.50	-116	-86	-56	-26	3	33	63
14.50	-102	-69	-36	-4	27	60	93
15.50	-87	-52	-17	18	52	87	122
16.50	-73	-35	3	40	76	114	152
17.50	-58	-18	22	62	101	141	181
18.50	-44	-1	42	84	125	168	211
19.50	-29	16	61	106	150	195	240

NET RETURNS PER ACRE ABOVE TOTAL COSTS

PRICE	YIELD (cwt/acre)						
$/cwt	14.50	17.00	19.50	22.00	24.50	27.00	29.50
13.50	-140	-111	-82	-53	-25	4	33
14.50	-126	-94	-62	-31	-1	31	63
15.50	-111	-77	-43	-9	24	58	92
16.50	-97	-60	-23	13	48	85	122
17.50	-82	-43	-4	35	73	112	151
18.50	-68	-26	16	57	97	139	181
19.50	-53	-9	35	79	122	166	210

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Table 5 WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, and BUSINESS OVERHEAD COSTS

SACRAMENTO VALLEY - 2011

ANNUAL EQUIPMENT COSTS

						Cash Overhead		
Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Insur-ance	Taxes	Total
11	200 HP Crawler	168,891	10	49,888	17,595	848	1,094	19,536
11	90 HP 2WD Tractor	64,227	110	18,972	6,692	322	416	7,430
11	ATV	5,700	7	2,162	709	30	39	778
11	Bankout Wagon 30 T	17,072	10	3,019	1,941	77	100	2,119
11	Combine-No Header	162,890	15	16,681	14,641	696	898	16,235
11	Cult-Rolling 3 Row	3,536	110	625	402	16	21	439
11	Cultivator - 3 Row	9,075	12	1,257	929	40	52	1,021
11	Disc - Finish 18'	24,300	110	4,297	2,763	111	143	3,017
11	Disc - Stubble 16'	18,686	10	3,304	2,125	85	110	2,320
11	Ditcher - V	7,997	12	1,108	819	35	46	900
11	Grain Drill 20'	24,480	10	4,329	2,784	112	144	3,039
11	Grain Platform 20'	15,383	20	855	1,182	63	81	1,326
11	Lister - 3 Row	7,452	10	1,318	847	34	44	925
11	Mower - Flail 15'	12,107	10	2,141	1,377	55	71	1,503
11	Pickup 1/2 Ton	21,825	5	9,781	3,227	122	158	3,508
11	Pickup 3/4 Ton	26,357	5	11,813	3,897	148	191	4,236
11	Rear Blade - 8'	2,595	20	135	200	11	14	224
11	Saddle Tank 300Gal	3,417	10	604	389	16	20	424
11	Sprayer Pull Tank	3,473	10	614	395	16	20	431
TOTAL		599,463	506	132,903	62,914	2,837	3,662	69,412
60% of New Cost*		359,678	304	79,742	37,748	1,702	2,197	41,647

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

ANNUAL INVESTMENT COSTS

					Cash Overhead			
Description	Price	Yrs Life	Salvage Value	Capital Recovery	Insur-ance	Taxes	Repairs	Total
INVESTMENT								
Fuel Tanks & Pumps	17,196	20	1,720	1,297	73	95	232	1,697
Fuel Wagon	2,085	10	209	250	9	11	41	311
Shop Building	69,694	25	6,969	4,671	297	383	940	6,291
Shop Tools	13,333	20	1,333	1,006	57	73	135	1,271
Siphon Tubes	10,404	20	1,040	785	44	57	100	987
Tool Carrier	15,420	15	15,420	732	120	154	365	1,371
TOTAL INVESTMENT	128,132	110	26,691	8,741	600	774	1,813	11,928

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Field Sanitation	2,900	acre	0.73	2,117
Liability Insurance	2,900	acre	0.52	1,508
Office Expense	2,900	acre	15.00	43,500
Share Rent @ 20%	200	acre	72.60	14,520
Supervisor Salary	200	acre	25.00	5,000

UC COOPERATIVE EXTENSION

Table 6 HOURLY EQUIPMENT COSTS

SACRAMENTO VALLEY - 2011

			COSTS PER HOUR						
				Cash Overhead		Operating			
Yr	Description	Actual Hours Used	Capital Recovery	Insur-ance	Taxes	Repairs	Fuel & Lube	Total Oper.	Total Costs/Hr.
11	200 HP Crawler	1,600	6.60	0.32	0.41	4.49	34.71	39.20	46.53
11	90 HP 2WD Tractor	1,198	3.35	0.16	0.21	2.99	13.21	16.20	19.92
11	ATV	285	1.49	0.06	0.08	0.42	4.28	4.70	6.33
11	Bankout Wagon 30 T	199	5.85	0.23	0.30	2.35	0.00	2.35	8.73
11	Combine-No Header	200	43.90	2.09	2.69	11.5	37.31	48.81	97.49
11	Cult-Rolling 3 Row	200	1.21	0.05	0.06	0.76	0.00	0.76	2.08
11	Cultivator - 3 Row	166	3.35	0.14	0.19	1.9	0.00	1.90	5.58
11	Disc - Finish 18'	99	16.68	0.67	0.86	4.01	0.00	4.01	22.22
11	Disc - Stubble 16'	200	6.36	0.26	0.33	3.08	0.00	3.08	10.03
11	Ditcher - V	166	2.96	0.13	0.16	2.23	0.00	2.23	5.48
11	Grain Drill 20'	150	11.16	0.45	0.58	6.74	0.00	6.74	18.93
11	Grain Platform 20'	150	4.72	0.25	0.32	1.04	34.71	35.75	41.04
11	Lister - 3 Row	199	2.55	0.10	0.13	1.6	0.00	1.60	4.38
11	Mower - Flail 15'	200	4.14	0.17	0.21	5.11	0.00	5.11	9.63
11	Pickup 1/2 Ton	285	6.80	0.26	0.33	1.42	8.91	10.33	17.72
11	Pickup 3/4 Ton	285	8.21	0.31	0.40	1.72	10.70	12.42	21.34
11	Rear Blade - 8'	150	0.80	0.04	0.05	0.38	0.00	0.38	1.27
11	Saddle Tank 300Gal	150	1.56	0.06	0.08	0.92	0.00	0.92	2.62
11	Sprayer Pull Tank	150	1.58	0.06	0.08	0.94	0.00	0.94	2.66

UC COOPERATIVE EXTENSION

Table 7 OPERATIONS WITH EQUIPMENT AND MATERIALS

SACRAMENTO VALLEY - 2011

		Equipment			Broadcast	
Operation	Month	Tractor	Implement	Material	Rate/Acre	Unit
Land Prep: Stubble Disc	October	200HP Crawler	Stubble Disc			
Land Prep: Finish Disc	October	200HP Crawler	Finish Disc			
Land Prep: List Beds	October	200HP Crawler	Lister			
Weed: Spray (Roundup)	February	ATV	ATV Sprayer	Roundup	22.00	floz
Fertilize: Inject	March	90HP 2WD	Cultivator	20-0-0	100.00	lbs N
			Fert. Injector	Rented		
Weed: Spray (Treflan)	March	90HP 2WD	Cultivator-Rolling			
			Saddle Tank			
Plant	April	90HP 2WD	Grain Drill	Seed	22.00	lbs
Irrigate: Make Drain	May	200HP Crawler	Ditcher			
Irrigate: Water & Labor	May			Water	6.00	acin
Irrigate: Close Drain	May	90HP 2WD	Blade			
Weed: Cultivate	May	90HP 2WD	Cultivator-Rolling			
Harvest: Combine	August	Combine	Grain Platform			
Harvest: Bank Out Grain	August	90HP 2WD	Bank Out Wagon			
Chop Stubble	Sept	90HP 2WD	Mower-Flail			