UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2005

SAMPLE COSTS TO PRODUCE
CHERRY
TOMATOES

SAN JOAQUIN VALLEY – SOUTH
Small Farm

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San Joaquin Valley - South 2005

STUDY CONTENTS

INTRODUCTION

Sample costs to produce cherry tomatoes 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.

ASSUMPTIONS

The assumptions refer to Tables 1 to 7 and pertain to sample costs to produce cherry tomatoes in the San Joaquin Valley. The cultural practices described represent production operations and materials considered typical for a small farm in the region. Costs, materials, and practices in this study will not apply to all farms. Timing of and types of cultural practices will vary among growers within the region and from season to season due to variables such as weather, soil, and insect and disease pressure. The study is intended as a 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 planted to Asian vegetables. Two acres are planted to cherry tomatoes under plastic tunnels for frost protection and warming, 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 January, a custom operator plows the land one time, discs two times and lists the beds. After listing, the bed peaks are flattened using the grower's tractor and a nine-foot pipe (3 rows) towed behind the tractor. Black plastic mulch is then laid by hand (4 hrs x 2 persons) on alternate beds.

Plant. The grower contracts with the packing company and purchases the seedlings from a nursery that grows the tomato plants for the packing company. In February, the grower hand transplants 1,200 plants per acre on 36-inch beds, alternate rows, at a six-foot in-row spacing. Holes for the plants are burned or punched in the plastic as the planting person plants. Rows are usually 250 to 300 feet long. Two people (16 man hours) plant one acre per day (8 hrs). The grower may plant a second planting in May to extend the harvest season.

Irrigation. Irrigation includes the water costs per irrigation and irrigation labor. Lay flat vinyl pipe is laid at the end of the rows and the water is run down the furrows. Irrigation begins in March two to three days 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 provided from the growers pumping charges for the summer months. Data on total water use in acre-inches was not available. A typical water cost in the area is $4.83 per acre-inch. Irrigation labor is calculated as one-half hour per acre per irrigation.

Fertilization. The crop is fertilized at planting with soluble 20-20-20 fertilizer dissolved in water at three ounces of liquid fertilizer per plant or one 25-pound bag per two to three acres. (10 pounds per acre in this study). The fertilizer is placed in the planting hole at planting. Labor costs for applying the fertilizer are included in the planting labor.

Crop Protection. The grower builds tunnels over the new transplants. Reusable wire hoops are spaced down the row every six-feet. Three-foot wide plastic is laid over each side of the hoop and attached to each other at the top with a clothespin. They are opened as needed to allow the plants to grow through and to vent on warm days. It takes one person per day per acre to set out the hoops and two persons per day per acre to stretch the plastic over the hoops. The tunnels are removed in mid-May and it takes two-hours per acre with two persons. In most years, planting after March 15, eliminates the need for tunnels, therefore the cost should be subtracted from the cultural costs to establish later planting or second planting costs.

Trellis System. Five-foot stakes (reusable) are pounded in the ground at ten-foot down-the-row spacing; nylon twine is attached to the stakes to form a trellis that the plants will grow up. It takes two persons one day (8 hours) per acre to pound the stakes and one person two-hours per each line per acre. The twine is attached as the plants grow, with the first or low string attached in April, followed by two strings each at one-week intervals, then two more strings each at 10-day intervals. Each string is higher on the stake than the previously strung string. The trellis is removed at the end-of-the season. See Field Cleanup for removal and discard.

Pest Management. The pesticides and rates mentioned in this cost study are listed in *UC Integrated Pest Management Guidelines, Tomatoes*. For more information on pesticides available, pest identification, monitoring, and management visit the UC Integrated Pest Management website at www.imp.ucdavis.edu. If insects or diseases appear, contact your local farm advisor or pest control adviser.

Weeds. The furrows are hand sprayed using a backpack sprayer with Round Up in April or May and in August. Black plastic mulch applied to the beds prior to planting provides weed control on the planted beds.

Insects. The grower with a backpack sprayer applies Dipel insecticide once in June and once in July for worm control – hornworm and fruitworm. Tomato russet mite and stink bugs are occasionally a problem and control may be needed. Pin worms become a problem if excessive spraying is done causing the killing of many beneficial insects.

Diseases. Tobacco streak virus is widespread, but does not cause major yield losses. No effective control is available.

Pickup/Trailer. Costs for a 1/2-ton pickup are included in the study. The pickup and a trailer are used for hauling the harvested cherry tomatoes to the packing shed and is included in that cost. The pickup with trailer are used to haul the removed tunnels, mulch and netting to the landfill and the costs are included in the respective operations. In addition, the grower drives another 250 miles per acre for general farming purposes.

Field Cleanup. In September for the early planting and November for the late planting after the last harvest, the plants are chopped by hand, and the stakes, twine and mulch are removed. One person can chop the plants and remove the mulch at the rate of three 250-foot rows per day (8 hours). Non-reusable materials are hauled to the landfill in the pickup with a trailer.

Harvest. The early-planted crop is harvested mid-June through August. If a second crop is planted in May, the harvest season is extended through November. The grower picks twice a week in the early spring and fall, and three to four times per week during the summer (June – August). The tomatoes are sorted into three colors in the field and placed in baskets (12 baskets per flat). It takes one person three-quarters to one hour to harvest a row or 21.75 to 29 man-hours per acre. The grower delivers the product to the packinghouse or to a farmers market. The driver delivers 220 trays per load and takes one-hour round trip. Each acre produces 80% of the load, therefore 0.80 hours per acre is allocated to each picking.

Yields. Average crop yields are 5,000 to 9,000 boxes (flats), 12 one-pound baskets per box, per crop acre. The grower in this study picks 5,500 boxes per acre.

Returns. Assuming that 70% of the wholesale market price is the price received by the grower, average returns based on 70% of the 2004 USDA Market News Report for June through August is $5.50 per 12 basket flat. Growers that sell product from September through November (from second planting) will normally receive a price higher than $5.50 per flat. The price is used to show a range of returns over various yields in the Ranging Analysis Table.

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.

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 varies depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.69% 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 landowner also pays the property tax on the rented land. 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.

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 (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 one. 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-ERSs 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 used effectively in the agricultural sector.

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

Irrigation. The grower owns 1,732 feet of vinyl flat pipe to deliver the water to the furrows. The pipe was purchased for the farm and the cost is allocated among the various crops.

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.

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For information concerning University of California publications contact UC DANR Communications Services (1-800-994-8849), online at http://anrcatalog.ucdavis.edu or your local county Cooperative Extension office.

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Table 1. COST PER ACRE TO PRODUCE CHERRY TOMATOES

SAN JOAQUIN VALLEY 2005

Operation	Operation Time (Hrs/A)	Field Labor	Cash and Labor Costs per Acre				
			Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/ Rent	Total Cost
Cultural:							
Land Prep: Plow, Disc, List	0.00	0.00	0	0	0	100	100
Land Prep: Flatten Bed Tops	0.33	0.00	5	1	0	0	6
Land Prep: Lay Black Plastic on Beds. Alternate Rows	0.00	8.00	75	0	116	0	191
Plant: Transplants. Fertilize: (20-20-20)	0.00	16.00	149	0	186	0	335
Crop Protection: Install Tunnels	0.00	24.00	224	0	458	0	681
Irrigate: (water & labor)	0.00	20.00	186	0	100	0	286
Trellis: Install	0.00	26.00	242	0	935	0	1,178
Weed: Hand Spray Furrow (Roundup) 2X	0.00	3.00	28	0	16	0	44
Crop Protection: Remove Tunnels	0.50	4.00	45	6	0	5	56
Insects: Worms (Dipel) 2X	0.00	3.00	28	0	27	0	55
Field Cleanup: Chop Plants. Remove Mulch, Trellis	0.50	80.00	753	6	0	7	766
Miscellaneous Pickup Use	5.00	0.00	75	59	0	0	134
TOTAL CULTURAL COSTS	6.33	184.00	1,809	73	1,837	111	3,831
Harvest:							
Harvest: Hand Pick	0.00	1,160.00	10,811	0	2,420	0	13,231
Haul	1.80	0.00	429	362	0	0	791
TOTAL HARVEST COSTS	1.80	1,160.00	11,240	362	2,420	0	14,022
Interest on operating capital							268
TOTAL OPERATING COSTS/ACRE	7.63	1,344.00	13,050	435	4,257	111	18,120
CASH OVERHEAD:							
Liability Insurance							43
Office Expense							10
Land Rent							300
Property Taxes							13
Property Insurance							10
Investment Repairs							3
TOTAL CASH OVERHEAD COSTS							379
TOTAL CASH COSTS/ACRE							18,499
Non-Cash Overhead (Capital Recovery)			Per Producing Acre		Annual Cost Capital Recovery		
Flat Irrigation Pipe			46		25		25
Miscellaneous Field Tools			100		24		24
Equipment			2,006		278		278
TOTAL NON-CASH OVERHEAD COSTS			2,152		326		326
TOTAL COSTS/ACRE							18,826

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Table 2. COSTS AND RETURNS PER ACRE TO PRODUCE CHERRY TOMATOES

SAN JOAQUIN VALLEY - 2005

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Cherry Tomatoes	5,500.00	box	5.50	30,250	
OPERATING COSTS					
Carton:					
Boxes/Flats (12 lb)	5,500.00	each	0.20	1,100	
Baskets (1 lb)	66,000.00	each	0.02	1,320	
Seed:					
Seedlings (transplants)	1,200.00	each	0.15	180	
Custom:					
Land Preparation	1.00	acre	100.00	100	
Landfill Fees (dump mulch & twine)	555.00	lb	0.02	11	
Crop Protection:					
Plastic Black 3 ft x 2000 ft/roll. 1mil	7,250.00	foot	0.02	116	
Plastic Clear 3 ft x 2000 ft/roll	14,500.00	foot	0.02	218	
Wire Hoops (reusable)	1,200.00	each	0.20	240	
Stakes - 5 ft (reusable)	725.00	each	0.99	718	
Twine 350 size roll (10 lb, 3,500 ft) $0.003/ft	72,500.00	foot	0.00	218	
Fertilizer:					
20-20-20	10.00	lb	0.57	6	
Irrigation:					
Water	40.00	each	2.50	100	
Herbicide:					
Roundup Ultra Max	32.00	floz	0.49	16	
Insecticide:					
Dipel DF	2.00	lb	13.55	27	
Labor (machine)	42.16	hrs	12.42	524	
Labor (non-machine)	1,344.00	hrs	9.32	12,526	
Fuel - Gas	144.94	gal	2.05	297	
Fuel - Diesel	0.63	gal	1.51	1	
Lube				45	
Machinery repair				92	
Interest on operating capital @ 7.65%				268	
TOTAL OPERATING COSTS/ACRE				18,120	
NET RETURNS ABOVE OPERATING COSTS				12,130	
CASH OVERHEAD COSTS:					
Liability Insurance				43	
Office Expense				10	
Land Rent				300	
Property Taxes				13	
Property Insurance				10	
Investment Repairs				3	
TOTAL CASH OVERHEAD COSTS/ACRE				379	
TOTAL CASH COSTS/ACRE				18,499	
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Flat Irrigation Pipe				0	
Miscellaneous Field Tools				25	
Equipment				24	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				278	
TOTAL COSTS/ACRE				326	
NET RETURNS ABOVE TOTAL COSTS				18,826	

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Table 3. MONTHLY CASH COST PER ACRE TO PRODUCE CHERRY TOMATOES

SAN JOAQUIN VALLEY - 2005

Beginning JAN 05 Ending DEC 05	JAN 05	FEB 05	MAR 05	APR 05	MAY 05	JUN 05	JUL 05	AUG 05	SEP 05	OCT 05	NOV 05	DEC 05	TOTAL
Cultural:													
Land Prep: Plow, Disc, List	100												100
Land Prep: Flatten Bed Tops		6											6
Land Prep: Lay Black Plastic on Beds. Alternate Rows		191											191
Plant: Transplants. Fertilize: (20-20-20)		335											335
Crop Protection: Install Tunnels		681											681
Irrigate: (water & labor)			14	29	29	72	72	72					286
Trellis: Install (add twine)			929	186	62								1,178
Weed: Hand Spray Furrow (Roundup) 2X				22				22					44
Crop Protection: Remove Tunnels					56								56
Insects: Worms (Dipel) 2X						28	28						55
Field Cleanup: Chop Plants. Remove Mulch, Trellis									766				766
Miscellaneous Pickup Use	11	11	11	11	11	11	11	11	11	11	11	11	134
TOTAL CULTURAL COSTS	111	1,224	955	248	158	110	110	105	777	11	11	11	3,831
Harvest:													
Harvest: Hand Pick						2,646	5,292	5,292					13,231
Haul						88	351	351					791
TOTAL HARVEST COSTS	0	0	0	0	0	2,734	5,644	5,644	0	0	0	0	14,022
Interest on operating capital	1	9	15	16	17	35	72	109	-5	0	0	0	268
TOTAL OPERATING COSTS/ACRE	112	1,233	969	264	175	2,880	5,826	5,857	772	11	11	11	18,120
OVERHEAD:													
Liability Insurance			43										43
Office Expense	1	1	1	1	1	1	1	1	1				10
Land Rent									300				300
Property Taxes	13												13
Property Insurance	10												10
Investment Repairs	0	0	0	0	0	0	0	0	0	0	0	0	3
TOTAL CASH OVERHEAD COSTS	24	1	44	1	1	1	1	1	301	0	0	0	379
TOTAL CASH COSTS/ACRE	136	1,234	1,013	266	176	2,881	5,828	5,858	1,073	11	11	11	18,499

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Table 4. RANGING ANALYSIS FOR CHERRY TOMATO

SAN JOAQUIN VALLEY - 2005

COSTS PER ACRE AT VARYING YIELD TO PRODUCE CHERRY TOMATO

	YIELD (12 lb boxes/acre)						
	3,500	4,500	5,500	6,500	7,500	8,500	9,500
OPERATING COSTS/ACRE:							
Cultural Cost	3,831	3,831	3,831	3,831	3,831	3,831	3,831
Harvest Cost (Pick & Haul)	8,923	11,473	14,022	16,572	19,121	21,670	24,220
Interest on operating capital	209	238	268	297	326	355	384
TOTAL OPERATING COSTS/ACRE	12,963	15,542	18,121	20,700	23,278	25,856	28,435
TOTAL OPERATING COSTS/cwt	3.70	3.45	3.29	3.18	3.10	3.04	2.99
CASH OVERHEAD COSTS/ACRE	373	376	379	382	384	386	389
TOTAL CASH COSTS/ACRE	13,336	15,918	18,500	21,082	23,662	26,242	28,824
TOTAL CASH COSTS/cwt	3.81	3.54	3.36	3.24	3.15	3.09	3.03
NON-CASH OVERHEAD COSTS/ACRE	254	292	326	359	389	418	446
TOTAL COSTS/ACRE	13,590	16,210	18,826	21,441	24,051	26,660	29,270
TOTAL COSTS/cwt	3.88	3.60	3.42	3.30	3.21	3.14	3.08

NET RETURNS PER ACRE ABOVE OPERATING COSTS

PRICE	YIELD (12 lb boxes/acre)						
$/box	3,500	4,500	5,500	6,500	7,500	8,500	9,500
4.00	1,037	2,458	3,879	5,300	6,722	8,144	9,565
4.50	2,787	4,708	6,629	8,550	10,472	12,394	14,315
5.00	4,537	6,958	9,379	11,800	14,222	16,644	19,065
5.50	6,287	9,208	12,129	15,050	17,972	20,894	23,815
6.00	8,037	11,458	14,879	18,300	21,722	25,144	28,565
6.50	9,787	13,708	17,629	21,550	25,472	29,394	33,315
7.00	11,537	15,958	20,379	24,800	29,222	33,644	38,065

NET RETURNS PER ACRE ABOVE CASH COSTS

PRICE	YIELD (12 lb/box)						
$/box	3,500	4,500	5,500	6,500	7,500	8,500	9,500
4.00	664	2,082	3,500	4,918	6,338	7,758	9,176
4.50	2,414	4,332	6,250	8,168	10,088	12,008	13,926
5.00	4,164	6,582	9,000	11,418	13,838	16,258	18,676
5.50	5,914	8,832	11,750	14,668	17,588	20,508	23,426
6.00	7,664	11,082	14,500	17,918	21,338	24,758	28,176
6.50	9,414	13,332	17,250	21,168	25,088	29,008	32,926
7.00	11,164	15,582	20,000	24,418	28,838	33,258	37,676

NET RETURNS PER ACRE ABOVE TOTAL COSTS

PRICE	YIELD (12 lb/box)						
$/box	3,500	4,500	5,500	6,500	7,500	8,500	9,500
4.00	410	1,790	3,174	4,559	5,949	7,340	8,730
4.50	2,160	4,040	5,924	7,809	9,699	11,590	13,480
5.00	3,910	6,290	8,674	11,059	13,449	15,840	18,230
5.50	5,660	8,540	11,424	14,309	17,199	20,090	22,980
6.00	7,410	10,790	14,174	17,559	20,949	24,340	27,730
6.50	9,160	13,040	16,924	20,809	24,699	28,590	32,480
7.00	10,910	15,290	19,674	24,059	28,449	32,840	37,230

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Table 5. WHOLE FARM ANNUAL EQUPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS

SAN JOAQUIN VALLEY - 2005

ANNUAL EQUIPMENT COSTS

						Cash Overhead		
Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Insur-ance	Taxes	Total
05	35HP 2WD Tractor	15,265	20	1,959	1,279	59	86	1,424
05	Bed Shaper Pipe 9'	150	10	27	18	1	1	20
05	Pickup 1/2 Ton	28,000	5	12,549	4,423	140	203	4,766
05	Trailer 12x16	4,500	20	235	386	16	24	426
	TOTAL	47,915		14,770	6,107	216	313	6,636
	60% of New Cost *	28,749		8,862	3,664	130	188	3,982

*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
Irrigation Flat Pipe	455	2		248	0	0	9	257
Miscellaneous Field Tools	1,000	5		237	3	0	20	261
TOTAL INVESTMENT	1,455		0	486	3	0	29	518

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Land Rent	10	acre	300.00	3,000
Liability Insurance	10	acre	42.90	429
Office Expense	10	acre	10.00	100

UC COOPERATIVE EXTENSION

Table 6. HOURLY EQUIPMENT COSTS

SAN JOAQUIN VALLEY - 2005

		Actual		Cash Overhead		Operating			
Yr	Description	Hours Used	Capital Recovery	Insur-ance	Taxes	Repairs	Fuel & Lube	Total Oper.	Total Costs/Hr.
05	35HP 2WD Tractor	600	1.28	0.06	0.09	0.62	2.98	3.60	5.03
05	Bed Shaper Pipe 9'	100	0.11	0.00	0.01	0.01	0.00	0.01	0.13
05	Pickup 1/2 Ton	400	6.64	0.21	0.30	2.08	9.82	11.90	19.05
05	Trailer 12x16	150	1.55	0.07	0.09	0.66	0.00	0.66	2.37

UC COOPERATIVE EXTENSION

Table 7. OPERATIONS WITH EQUIPMENT

SAN JOAQUIN VALLEY - 2005

Operation	Operation Month	Equipment		Non-Machine Labor (hr/ac)	Material	Broadcast Rate/acre	Unit	Material Cost $/acre
		Tractor	Implement					
Cultural:								
Land Prep: Plow, Disc, List	Jan	Custom						
Land Prep: Flatten Bed Tops	Jan	35HP 2WD	Bed Shaper					
Land Prep: Lay Black Plastic on Beds. Alt Rows	Feb			8.00	Black Plastic	7,250.00	feet	116.00
Plant: Transplants. Fertilize: (20-20-20)	Feb			16.00	Transplants	1,200.00	each	180.00
					20-20-20	10.00	lb	5.70
Crop Protection: Install Tunnels	Feb			24.00	Hoops	1,200.00	each	240.00
					Clear Plastic	14,500.00	feet	217.50
Irrigate: (water & labor)	Mar			1.00	Water	2.00	irrig	5.00
	Apr			2.00	Water	4.00	irrig	10.00
	May			2.00	Water	4.00	irrig	10.00
	June			5.00	Water	10.00	irrig	25.00
	July			5.00	Water	10.00	irrig	25.00
	Aug			5.00	Water	10.00	irrig	25.00
Trellis: Install	Mar			18.00	Stakes	725.00	each	717.75
					Twine	14,500.00	feet	43.50
	Apr			6.00	Twine	43,500.00	feet	130.50
	May			2.00	Twine	14,500.00	feet	43.50
Weed: Hand Spray Furrow (Roundup) 2X	Apr			1.50	Roundup	16.00	floz	7.81
	Aug			1.50	Roundup	16.00	floz	7.81
Crop Protection: Remove Tunnels	May	Pickup	Trailer	4.00	Landfill	230.00	lb	4.60
Insects: Worms (Dipel) 2X	June			1.50	Dipel	1.00	lb	13.55
	July			1.50	Dipel	1.00	lb	13.55
Field Cleanup: Chop Plants. Remove Mulch, Trellis	Sept	Pickup	Trailer	80.00	Landfill	325.00	lb	6.50
Harvest	June			232.00	Box	1,100.00	each	220.00
					Baskets	13,200.00	each	264.00
	July			464.00	Box	2,200.00	each	440.00
					Baskets	26,400.00	each	528.00
	Aug			464.00	Box	2,200.00	each	440.00
					Baskets	26,400.00	each	528.00
Haul	June	Pickup	Trailer					
	July	Pickup	Trailer					
	Aug	Pickup	Trailer					