
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2011

**SAMPLE COSTS TO PRODUCE
STRAWBERRIES**



**SOUTH COAST REGION
Santa Barbara and San Luis Obispo Counties
Santa Maria Valley**

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South Coast Region – Santa Barbara and San Luis Obispo Counties 2011

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INTRODUCTION

The sample costs to produce strawberries in the South Coast Region – Santa Barbara and San Luis Obispo Counties are presented 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 procedures considered typical for this crop and area, and 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 assumptions. For additional information or explanation of calculations used in the study, call the Department of Agricultural and Resource Economics, University of California, Davis, (530) 752-3589 or the UC Cooperative Extension office in your county.

Current and archived “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 office.

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ASSUMPTIONS

The following assumptions refer to tables 1 to 7 and pertain to sample costs to produce strawberries in the South Coast Region – Santa Barbara and San Luis Obispo Counties. The cultural practices described and materials used are considered typical for a well-managed strawberry field in the region. The costs, materials and practices will not apply to all situations every production year. Cultural practices for the production of strawberries vary by grower and region, resulting in significant cost differences. **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. The farm consists of 90 contiguous acres – 85 rented acres and five acres owned by the grower. Strawberries are being planted on 80 acres and five acres are field roads, and irrigation system. The land is divided into 4-20 acre blocks/fields 250 feet long. The grower owned five acres includes a shop and equipment yard.

Production Operating Costs

Land Preparation and Bed-Up. The grower does a series of operations: disc and ringroll 2X (X equals number of passes over the land), subsoil 2X, disc and ringroll 1X, plow 1X, disc and ringroll 2X, triplane 2X, and chisel 1X. The field is disced a total of 5 times and subsoiled or ripped 30 to 36 inches deep. The field is smoothed and leveled with a triplane. Three beds 64 inches wide and 14 inches high are listed and shaped in one operation, pre-plant fertilizer incorporated, drip tape buried in bed, and plastic mulch layed on bed. Farmers with this acreage will own a large tractor for land preparation. Smaller growers usually rent a large tractor for land preparation or will have the work done by a custom operator.

Plant Establishment. Several varieties are available for planting in the area, but no specific variety is assumed in this study. Plants in the area are planted on 60 to 68 inch beds. In this study, the grower plants on 64-inch beds, 12 to 14-inch bed height, 4 rows per bed and a 16-inch plant spacing for a total of 25,000 plants per acre. Five percent of the plants will be replanted and are included in the plant population. The beds are made the entire length of the field. After fumigation, roads, using a tracklayer tractor with blade, are made to divide the field into smaller blocks 200 to 300 feet long. Holes are punched in the plastic mulch that was laid on the beds, using a mechanical punch machine. Plants are delivered to the edge of the blocks where the planting crew gathers the plants in buckets or bags and places the strawberry plants in the punched holes.

Fertilization. A slow release NPK fertilizer, 17-17-17 or any other similar fertilizer, at 500 pounds per acre is drilled preplant in the bed using a fertilizer drill with bed shaper. Growers may also apply multiple liquid fertilizers during the season through the drip lines or as a foliar spray. Some fertilizers that may be applied are Thiocal for calcium and sulfur, CAN 17 (17-0-0-8Ca) and CN9 for nitrogen and calcium, potassium nitrate for potassium and nitrogen, and minor nutrient fertilizers such as iron, zinc, and boron. Thiocal and CAN 17 are used during the growing season in this study. Besides a slow release fertilizer application, potassium sulfate is broadcast preplant.

Irrigation. The grower rents sprinkler pipe for the preplant and establishment sprinkler irrigations. Prior to listing, the field is sprinkler irrigated for 12 hours. Two men plus the tractor driver lay and pickup the pipe. Two drip-lines per bed, using a tape layer machine are buried in the beds prior to fumigation. After the field is divided into blocks/small fields, the lateral lines are buried at the edge of the block and the drip lines connected and tested for leaks. The field is preirrigated using the drip system. Following planting, sprinkler pipe is laid out and the field is sprinkled two-hours per day for 15 days. Two irrigators manage the sprinkler

and drip irrigation. From December through February, the field is drip irrigated as necessary, and during the harvest season, February through July, every three to four days. Effective rainfall is not taken into account; therefore a total of 28 acre inches including the preplant irrigations are applied.

Water. Pumping costs for the water is estimated from grower budgets at approximately \$17.86 per acre inch. Costs will vary depending upon pump size and well characteristics.

Pest Management. The pesticides and rates mentioned in this cost study are listed in the *UC IPM Pest Management Guidelines, Strawberries*. For more information on other pesticides available, pest identification, monitoring, and management visit the UC IPM website at www.ipm.ucdavis.edu. Pesticide applications, timing, and materials vary according to pest pressure. The pesticide program shown in Table A represents a typical program for the region. Written recommendations are required for many commercially applied pesticides and are made by licensed pest control advisers. For information and pesticide use permits, contact the local county Agricultural Commissioner's office. Adjuvants are recommended for many pesticides for effective control and are an added cost. The adjuvants in this study are not included as a cost in the applications. Pesticide costs may vary by location and grower volume. **Pesticide costs** in this study are taken from a single dealer and **shown as full retail**.

Fumigation. Arthropods, soilborne fungi/diseases, nematodes, and weeds are controlled with preplant fumigation. The field is bed fumigated through the drip lines with Inline Fungicide/Nematicide by a custom applicator. Limited supplies of Methyl Bromide are available and used in bed or flat fumigation at approximately \$2,900 per acre. Check with your agricultural commissioner and farm advisor for current regulations.

Weeds. In addition to preplant fumigation, weeds are controlled by hand weeding from December through July. Weeding times vary by grower and month; the study assumes a total of 76 hours per acre distributed over the 8 months.

Diseases. Powdery mildew (*Sphaerotheca macularis*) and Botrytis fruit rot (*Botrytis cinerea*) are the two diseases treated in this study. Treatments are combined with the insecticide applications. Fungicide treatments are made every 12 to 16 days through mid April and every 20 to 25 days thereafter until mid June. The treatments are shown in Table A and all treatments are grower applied.

Insects. Two-spotted mite (*Tetranychus urticae*), beet armyworm (*Spodoptera exigua*) and lygus (*Lygus spp.*) are the main insects controlled. Mites are controlled early in the season with the predatory insect persimilis (*Phytoseiulus persimilis*) followed by miticide applications. Treatments for insects are combined with the fungicide treatments. The treatments are shown in Table A.

Table A. DISEASE and INSECT MATERIAL APPLICATIONS

DATE	DISEASE		INSECTS		
	Botrytis	Mildew	Mites	Worms	Lygus
Dec				Xentari	
Jan	Captan + Elevate				
Jan	Captan				
Jan			Persimilis		
Feb	Captan	Pristine			
Feb	Switch	Quadris			
Feb			Persimilis		
Mar		Rally	Savey		
Mar		Microthiol			
Apr	Elevate	Microthiol	Oberon		
May	Captan		Acramite		Danitol
Jun		Microthiol	AgriMek		Dibrom
RATES PER ACRE in study: (Not Recommendations - See label or PCA)					
	Captan	4.0 lb	Oberon	14.0 floz	
	Elevate	1.5 lb	Xentari	1.0 lb	
	Pristine	23.0 oz	Microthiol	5.0 lb	
	Rally	5.0 oz	Quadris	12.0 floz	
	Switch	14.0 oz	Acramite	1.0 lb	
	AgriMek	16.0 oz			

Harvest. The crop is harvested from March through mid-August with peak harvest in May and June. The early harvested strawberries go to fresh market, and as other growing areas such as the Central Coast region come in to production, the growers shift to the freezer market. In this study the percent by weight of the crop harvested each month is shown in Table B. During harvest, the grower runs three 30 man crews with a general foreman for crew supervision, one field checker to check field for proper picking, and one picking card puncher per crew to count the boxes picked by each picker. For fresh market the picker pushes a picking cart that holds a fiberboard tray and eight one-pound containers. The picker picks the ripe strawberries by hand and places them in the container/trays. Depending upon the market other container sizes and types may be used, but are not included in this study. Picking rate per picker ranges from 3 trays per hour early and late in the season and 5 to 8 trays per hour during the peak harvest. For the freezer market, the picker places an 18-pound plastic tray on the picking cart. The growers purchase the fresh market trays, and the freezer furnishes the plastic freezer trays. (See Labor for picking costs). The grower uses two 2-ton flatbed trucks that hold 16 pallets of 110 fresh market trays per pallet or 1,760 fresh trays per load or 960 freezer trays per load. One truck driver delivers the strawberries to the cooler and/or freezer; one truck loader stacks the boxes on the truck. The truck driver takes about an hour per load to deliver the filled trays. For the freezer market, the driver picks up the empty freezer trays. In addition, the grower will have at least one tractor, trailer, and toilet in the field.

Yields. Strawberry yields are measured in trays per acre for the fresh and freezer market. Various tray weights are used to convert the yields to weight per acre. The standard consumer tray holds 8 x 1-pound containers and ranges from 9.5 to 10.5 pounds per tray. There are other tray arrangements with different size containers as well as the former standard tray containing 12 1-pint containers, which ranged from 10.5 to 12 pounds per tray. The weight used in this study is 10 pounds per tray for fresh market and 18 pounds per tray for freezer strawberries. Freezer trays delivered to the cooler usually weigh 18 to 20 pounds. Total per acre yield in this study is 65,000 pounds with 68% or 44,200 pounds (4,420 trays) delivered to fresh market and 32% or 20,800 pounds (1,156 trays) delivered to the freezer. The yield in this study is based on the 2009-2010 average yields for the Santa Maria area (Ag Commissioner Crop Report and grower input).

	March	April	May	June	July	August
Fresh 68%	5	14	32	9	8	
Freezer 32%			5	14	8	5

Source: Processing Strawberry Advisory Board Crop Trend Report, 2001-03

Returns. Based on grower information, the current USDA Shipping Point fresh market reports and the 2009 and 2010 Ag Commissioner crop reports, the estimated average returns are \$8.25 per 10-pound tray (8 x 1 lb clamshell). Based on grower information, freezer returns to the grower are \$5.40 per 18-pound tray (\$0.30 per lb). Strawberry prices are based on trays and not weight, therefore the \$8.25 tray price is used in this study to provide a basis for a range of yields and prices shown in Table 4. Fresh market and processor prices vary during the harvest season.

Cooling. Cooling costs for fresh market strawberries varies by cooler and grower volume. Also, the grower may have the option to negotiate the price with the cooler. The cost used in this study is \$0.50 per tray.

Selling Costs. Selling costs for fresh market strawberries are calculated at 8% of selling price (\$8.25) or \$0.66 per tray.

Assessments. The grower pays \$0.0175 per tray to the Strawberry Commission for research and marketing. Fresh market assessment is per tray (10.0 lbs in this study) and the freezer assessment on a 14-pound tray.

Year-end Cleanup. The plants are mowed, the plastic mulch and drip tape are pulled and rolled by hand and hauled to the dump. The field is then disced one time.

Labor, Equipment, and Operating Interest

Labor. Labor rates of \$13.86 per hour for machine operators and \$11.22 for general labor includes payroll overhead of 32%. The basic hourly wages are \$10.25 for machine operators and \$8.50 for general labor. Pickers are often paid a base pay plus piecework, or straight piecework depending on the time of harvest and if machine or non-machine harvest. In this study, picker pay is calculated using the field labor rate. The overhead includes the employers' share of federal and California state payroll taxes, workers' compensation insurance for strawberry crops (code 0079), 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, 2011 (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 the American Society of Agriculture Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum power takeoff (PTO) horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are \$3.44 and \$3.85 per gallon, respectively. The cost includes a 2.50% sales tax on diesel fuel and 7.50% sales tax on gasoline. Gasoline also includes federal and state excise tax, which can be refunded for on-farm use when filing your income tax. Prices are based on January to June, 2011 Department of Energy monthly data. The fuel, lube, and repair cost per acre for each operation in Table 1 are determined by multiplying the hours per acre for the selected operation by the total hourly operating cost in Table 6 for each piece of equipment used in that operation. 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 5.75% 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. The rate will vary depending upon various factors, but the rate in this study is considered a typical lending rate by a farm lending agency as of January 2011.

Risk. 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 that affect the profitability and economic viability of strawberry production. The risks associated with producing and marketing strawberries should not be minimized.

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, sanitation services, and equipment repairs. Employee benefits, insurance, and payroll taxes are included in labor costs and not in overhead (see Labor).

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 0.775% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs \$587 for the entire farm.

Office Expense. Office and business expenses are estimated at \$500 per acre. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, utilities, and miscellaneous expenses.

Sprinkler Pipe. Sprinklers are rented for approximately three months during land preparation and plant establishment. Reporting growers showed a typical cost of \$215 per acre.

Land Rent. The land is rented for approximately 16 months (July through August). The annual rent for 85 acres is \$2,200 per acre or \$2,338 per producing acre (80 acres) plus \$733 per acre for the additional crop time. The rented land includes the irrigation system that is maintained by the owner.

Sanitation Services. Sanitation services provide portable toilets with washing equipment and cost the farm \$9,600 annually or \$120 per producing acre. The cost is derived from grower budgets/actuals.

Supervisor/Management Salaries. Based on grower information, wages for a farm manager/supervisor have a large range based on the various duties. For this study \$840 per acre is used.

Investment Repairs. Investment Repairs or Annual maintenance for farm investments (non-cash overhead) is calculated as two percent of the purchase price, but will vary among investments.

Non-Cash Overhead

Non-cash overhead, shown on an annual per acre basis 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 $((\text{Purchase Price} - \text{Salvage Value}) \times \text{Capital Recovery Factor}) + (\text{Salvage Value} \times \text{Interest Rate})$.

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery 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 and purchase price for land are the same because land does not depreciate. The purchase price and salvage value for 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. The rate will vary depending upon size of loan and other lending agency conditions, but is a suggested rate for a basic loan by a farm lending agency in January 2011.

Land. Land values in the region for this study are approximately \$30,000 to \$60,000 plus per acre for row cropland. Land suitable for strawberries appears to be the higher price land.

Irrigation System. The system is based on one 75 horsepower electric pump lifting 28 acre-inches from a water level depth of 120 feet. The pump and 300-foot deep well already existed on the site and the irrigation system costs are charged to the landowner. Water is pumped through a filtration station into main lines. Reusable lateral lines owned by the grower are buried each year at the edge of the strawberry field and are connected to the main and drip lines. The field configuration requires 3,480 feet per block. Two drip lines are buried in each bed prior to planting. The lateral lines have a 3-year life and the drip lines are an annual expense.

Equipment. Farm equipment is purchased new or used, but the study shows the current purchase price for new equipment. Strawberry production requires much specialized equipment including modifications to commercial tractors. Many of these modifications are made in machine shops and are not necessarily included in the equipment costs shown in the tables. Some of the other specialized equipment is also built in machine or farmer shops and retail prices are not readily available. The new purchase price is adjusted to 40% 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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UC COOPERATIVE EXTENSION
Table 1. COSTS PER ACRE TO PRODUCE STRAWBERRIES
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre					Total Cost	Your Cost
		Labor Cost	Fuel	Lube & Repairs	Material Cost	Custom/ Rent		
Cultural:								
Land Prep: Disc/Roll 5X	0.50	8	26	9	0	0	44	
Land Prep: Subsoil 2X	0.90	15	47	13	0	0	76	
Land Prep: Plow 1X	0.27	4	14	5	0	0	23	
Land Prep: Level/Smooth Field 2X	0.50	8	20	5	0	0	33	
Fertilize: Custom (0-0-52)	0.00	0	0	0	184	15	199	
Land Prep: Chisel	0.30	5	16	4	0	0	25	
Irrigate: Sprinkle/Layout/Pickup	4.00	308	31	10	107	0	456	
List/Shape Beds.	0.90	15	47	18	0	0	80	
Fertilize: Preplant (17-17-17)	0.25	4	4	1	290	0	300	
Irrigate: Install Drip Tape 2 line/bed	0.14	2	2	1	327	0	332	
Weed: Bed Tops (Goal Tender)	0.00	0	0	0	26	23	49	
Land Prep: Lay Mulch	0.41	12	6	2	572	0	592	
Land Prep: Cut/Grade Roads	0.62	123	14	4	0	0	140	
Irrigate: Lay Laterals/Connect Drip	18.00	202	0	0	0	0	202	
Weed: Cultivate Furrows	0.69	11	12	3	0	0	26	
Weed: Furrows (Goal Tender)	0.00	0	0	0	9	23	32	
Irrigate: Drip	29.00	325	0	0	393	0	718	
Fumigate: Drip (custom)	0.00	0	0	0	0	1,200	1,200	
Plant: Punch Holes	0.69	11	5	1	0	0	18	
Plant: Transplant	42.00	471	0	0	2,925	0	3,396	
Weed: Hand	76.00	853	0	0	0	0	853	
Insect: Worms	0.58	10	6	2	42	0	60	
Fertilize: through drip (CAN17)	0.00	0	0	0	79	0	79	
Fertilize: through drip (Thiocal)	0.00	0	0	0	210	0	210	
Disease: Botrytis	1.17	19	12	4	157	0	192	
Insect: Mite (Persimilis)	2.40	27	0	0	120	0	147	
Disease: Botrytis/Mildew	1.17	19	12	4	265	0	300	
Disease/Insect: Mildew/Mite	0.58	10	6	2	152	0	169	
Disease: Mildew	0.58	10	6	2	10	0	27	
Disease/Insect: Botrytis/Mildew/Mite	0.58	10	6	2	157	0	175	
Disease/Insect: Botrytis/Lygus/Mite	0.58	10	6	2	138	0	156	
Disease/Insect: Mildew/Lygus/Mite	0.58	10	6	2	150	0	168	
Field Cleanup: (mow, remove mulch, disc)	1.94	245	30	10	0	23	308	
TOTAL Cultural COSTS	185.35	2,749	335	105	6,312	1,284	10,785	
Harvest:								
Harvest/Record, Fresh	699.98	7,854	0	0	7,514	0	15,368	
Haul/Load, Fresh	2.58	126	20	9	0	0	155	
Harvest/Record/Haul, Freezer	1.66	4,079	13	6	0	0	4,098	
TOTAL Harvest COSTS	704.22	12,059	33	15	7,514	0	19,621	
Other*:								
Strawberry Commission Assessment	0	0	0	0	98	0	98	
Cooler (Fresh)	0	0	0	0	0	2,210	2,210	
Selling Cost (Fresh)	0	0	0	0	0	2,917	2,917	
TOTAL OTHER COSTS	0	0	0	0	98	5,127	5,225	
Interest on Operating Capital @ 5.75%							634	
TOTAL OPERATING COSTS/ACRE	889.57	14,808	368	121	13,924	6,411	36,264	

UC COOPERATIVE EXTENSION
Table 1. COSTS PER ACRE TO PRODUCE STRAWBERRIES CONTINUED
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

Operation	Operation	Cash and Labor Costs per Acre						Total Cost	Your Cost
	Time (Hrs/A)	Labor Cost	Fuel	Lube & Repairs	Material Cost	Custom/ Rent			
CASH OVERHEAD:									
Land Rent							2,338		
Liability Insurance							7		
Office Expense							500		
Pipe Rent/Sprinkler							215		
Sanitation Fee							120		
Farm Supervisor							840		
Extended Land Rent (4 months)							779		
Property Taxes							14		
Property Insurance							11		
Investment Repairs							32		
TOTAL CASH OVERHEAD COSTS/ACRE							4,856		
TOTAL CASH COSTS/ACRE							41,120		
NON-CASH OVERHEAD:									
		Per producing Acre		Annual Cost Capital Recovery					
Buildings 2400 sqft		1,000		79			79		
Fuel Tanks/Above Ground		44		3			3		
Hand Tools		63		6			6		
Harvest Carts (90)		26		6			6		
Lateral Lines		106		39			39		
Shop Tools		188		17			17		
Equipment		1,123		112			112		
TOTAL NON-CASH OVERHEAD COSTS		2,549		261			261		
TOTAL COSTS/ACRE							41,381		

*Costs normally deducted from gross income due grower. Grower receives net.

UC COOPERATIVE EXTENSION
Table 2. COSTS AND RETURNS PER ACRE TO PRODUCE STRAWBERRIES
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Fresh (10 lb tray)	4,420.00	tray	8.25	36,465	
Freezer (18 lb tray)	1,156.00	tray	5.40	6,242	
TOTAL GROSS RETURNS	5,576.00	tray		42,707	
OPERATING COSTS					
Insecticide:					475
Xentari	2.00	lb	21.22	42	
Savey 50 DF	6.00	oz	20.69	124	
Oberon 2SC	14.00	floz	4.78	67	
Danitol 2.4 EC	16.00	floz	1.81	29	
Acramite 50WS	1.00	lb	71.25	71	
Dibrom 8 Emulsive	16.00	floz	0.98	16	
Agri-Mek 0.15 EC	16.00	floz	7.82	125	
Fungicide:					596
Captan 50W	16.00	lb	9.54	153	
Elevate 50WDG	3.00	lb	53.70	161	
Pristine	23.00	oz	3.77	87	
Switch 62.5 WG	14.00	oz	6.33	89	
Quadris	12.00	floz	4.27	51	
Rally 40W	5.00	oz	5.50	28	
Microthiol Disperss	15.00	lb	1.90	29	
Bio-Control:					120
Persimilis (Predatory Mite)	20.00	thou	6.00	120	
Herbicide:					35
Goal Tender	1.00	pint	34.50	35	
Fertilizer:					763
0-0-52 (potassium sulfate)	400.00	lb	0.46	184	
17-17-17 Slow Release	500.00	lb	0.58	290	
CAN 17 (17-0-0)	75.18	lb N	1.05	79	
Thiocal	361.90	lb	0.58	210	
Custom:					6,411
Broadcast Fertilizer	1.00	acre	15.00	15	
Herbicide Application	2.00	acre	23.00	46	
Fumigate Bed-through drip	1.00	acre	1,200.00	1,200	
Dump Fee SantaMaria	450.00	lb	0.05	23	
Cooler (Fresh)	4,420.00	tray	0.50	2,210	
Selling Costs @ 8% (Fresh)	4,420.00	tray	0.66	2,917	
Materials:					8,413
T-Tape	16,345.00	foot	0.02	327	
Mulch 1.5 mil	8,173.00	foot	0.07	572	
Crate/Basket/Wire	4,420.00	each	1.70	7,514	
Water:					500
Water Santa Maria	28.00	acin	17.86	500	
Plants:					2,925
Strawberry Plants	25.00	thou	117.00	2,925	
Assessment:					98
Strawberry Fresh (10 lb tray)	4,420.00	tray	0.02	77	
Strawberry Freezer (14 lb tray equivalent)	1,156.00	tray	0.02	20	
Labor:					14,808
Equipment Operator Labor	26.63	hrs	13.86	369	
Non-Machine Labor	1,286.87	hrs	11.22	14,439	
Machinery:					488
Fuel-Gas	10.48	gal	3.85	40	
Fuel-Diesel	95.13	gal	3.44	327	
Lube				55	
Machinery Repair				66	
Interest on Operating Capital (5.75%)				634	
TOTAL OPERATING COSTS/ACRE				36,264	
NET RETURNS ABOVE OPERATING COSTS				6,443	

UC COOPERATIVE EXTENSION
Table 2. COSTS AND RETURNS PER ACRE TO PRODUCE STRAWBERRIES CONTINUED
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
CASH OVERHEAD COSTS					
Land Rent				2,338	
Liability Insurance				7	
Office Expense				500	
Pipe/Sprinkler Rent				215	
Sanitation Fee				120	
Farm Supervisor				840	
Extended Land Rent (4 months)				779	
Property Taxes				14	
Property Insurance				11	
Investment Repairs				32	
TOTAL CASH OVERHEAD COSTS/ACRE				4,856	
TOTAL CASH COSTS/ACRE				41,120	
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Buildings 2400sqft				79	
Fuel Tanks/Above G				3	
Hand Tools				6	
Harvest Carts (90)				6	
Lateral Lines				39	
Shop Tools				17	
Equipment				112	
TOTAL NON-CASH OVERHEAD COSTS				261	
TOTAL COST/ACRE				41,381	
NET RETURNS ABOVE TOTAL COST				1,326	

UC COOPERATIVE EXTENSION
Table 3. MONTHLY CASH COSTS PER ACRE TO PRODUCE STRAWBERRIES
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Beginning 08-10															
Ending 09-11	10	10	10	10	10	11	11	11	11	11	11	11	11	11	
Cultural:															
Land Prep: Disc/Roll 5X	44														44
Land Prep: Subsoil 2X	76														76
Land Prep: Plow 1X	23														23
Land Prep: Level/Smooth Field 2X	33														33
Fertilize: Custom (0-0-52)	199														199
Land Prep: Chisel	25														25
Irrigate: Sprinkle/Layout/Pickup		259		197											456
List/Shape Beds.		80													80
Fertilize: Preplant (17-17-17)		300													300
Irrigate: Install Drip Tape 2 line/bed		332													332
Weed: Bed Tops (Goal Tender)		49													49
Land Prep: Lay Mulch		592													592
Land Prep: Cut/Grade Roads		140													140
Irrigate: Lay Laterals/Connect Drip		202													202
Weed: Cultivate Furrows		26													26
Weed: Furrows (Goal Tender)		32													32
Irrigate: Drip			69		84	29	40	78	110	128	128	53			718
Fumigate: Drip (custom)			1,200												1,200
Plant: Punch Holes			18												18
Plant: Transplant			3,396												3,396
Weed: Hand				34	157	101	146	112	112	101	90				853
Insect: Worms					60										60
Fertilize: through drip (CAN17)						11	11	11	11	11	11	11			79
Fertilize: through drip (Thiocal)						30	30	30	30	30	30	30			210
Disease: Botrytis						192									192
Insect: Mite (Persimilis)						73	73								147
Disease: Botrytis/Mildew							300								300
Disease/Insect: Mildew/Mite								169							169
Disease: Mildew								27							27
Disease/Insect: Botrytis/Mildew/Mite									175						175
Disease/Insect: Botrytis/Lygus/Mite										156					156
Disease/Insect: Mildew/Lygus/Mite											168				168
Field Cleanup: (mow, remove mulch, disc)													308		308
TOTAL Cultural COSTS	400	2,011	4,684	231	301	437	601	428	438	426	427	94	308		10,785
Harvest:															
Harvest/Record Fresh								1,515	3,343	6,615	1,984	1,910			15,368
Haul/Load Fresh								16	34	66	20	19			155
Harvest/Record/Haul Freezer										493	1,576	1,049	980		4,098
TOTAL Harvest COSTS								1,530	3,377	7,175	3,580	2,978	980		19,621

UC COOPERATIVE EXTENSION
Table 3. MONTHLY CASH COSTS PER ACRE TO PRODUCE STRAWBERRIES CONTINUED
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

Beginning 08-10	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Ending 09-11	10	10	10	10	10	11	11	11	11	11	11	11	11	11	
Other:															
Strawberry Commission													98		98
Cooler (Fresh)														2,210	2,210
Selling Cost (Fresh)														2,917	2,917
TOTAL Assessment COSTS													98	5,127	5,225
Interest on Operating Capital (5.75%)	2	12	34	35	37	39	42	51	69	106	125	140	-31	-25	634
TOTAL OPERATING COSTS/ACRE	402	2,023	4,718	266	338	476	642	2,010	3,884	7,706	4,132	3,212	1,354	5,103	36,264
CASH OVERHEAD															
Land Rent											2,338				2,338
Liability Insurance			7												7
Office Expense	36	36	36	36	36	36	36	36	36	36	36	36	36	36	500
Pipe/Sprinkler Rent			215												215
Sanitation Fee	9	9	9	9	9	9	9	9	9	9	9	9	9	9	120
Farm Supervisor	70	70	70	70	70	70	70	70	70	70	70	70	70	70	840
Extended Rent (4 months)													779		779
Property Taxes					7				7						14
Property Insurance						11									11
Investment Repairs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	32
TOTAL CASH OVERHEAD COSTS	117	117	339	117	124	128	117	117	124	117	2,454	117	895	117	4,856
TOTAL CASH COSTS/ACRE	518	2,139	5,057	383	461	603	759	2,126	4,008	7,823	6,586	3,328	2,249	5,219	41,120

UC COOPERATIVE EXTENSION
Table 4. RANGING ANALYSIS
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

COST PER ACRE AT VARYING YIELDS TO PRODUCE STRAWBERRIES

	YIELD (trays/acre)						
	3,902	4,460	5,018	5,576	6,134	6,692	7,250
OPERATING COSTS:							
Cultural	10,785	10,785	10,785	10,785	10,785	10,785	10,785
Harvest	13,946	15,938	17,929	19,621	21,913	23,904	25,896
Assessment	5,195	5,205	5,215	5,225	5,235	5,244	5,254
Interest on operating capital @ 5.75%	562	588	613	634	663	689	714
TOTAL OPERATING COSTS/ACRE	30,489	32,516	34,542	36,264	38,596	40,623	42,650
Total Operating Costs/tray	7.81	7.29	6.88	6.50	6.29	6.07	5.88
CASH OVERHEAD COSTS/ACRE							
TOTAL CASH COSTS/ACRE	35,345	37,372	39,399	41,120	43,453	45,479	47,506
Total Cash Costs/tray	9.06	8.38	7.85	7.37	7.08	6.80	6.55
NON-CASH OVERHEAD COSTS/ACRE							
TOTAL COSTS/ACRE	35,606	37,633	39,659	41,381	43,713	45,740	47,767
Total Costs/tray	9.13	8.44	7.90	7.42	7.13	6.83	6.59

NET RETURNS PER ACRE ABOVE OPERATING COSTS

PRICE(\$/tray)		YIELD (tray/acre)						
Fresh (10 lb)		3,094	3,536	3,978	4,420	4,862	5,304	5,746
Freezer (18 lb)		808	924	1,040	1,156	1,272	1,388	1,504
6.75	5.40	-5,241	-3,659	-2,075	-187	1,091	2,675	4,257
7.25	5.40	-3,694	-1,891	-86	2,023	3,522	5,327	7,130
7.75	5.40	-2,147	-123	1,903	4,233	5,953	7,979	10,003
8.25	5.40	-600	1,645	3,892	6,443	8,384	10,631	12,876
8.75	5.40	947	3,413	5,881	8,653	10,815	13,283	15,749
9.25	5.40	2,494	5,181	7,870	10,863	13,246	15,935	18,622
9.75	5.40	4,041	6,949	9,859	13,073	15,677	18,587	21,495

NET RETURNS PER ACRE ABOVE CASH COSTS

PRICE(\$/tray)		YIELD (tray/acre)						
Fresh (10 lb)		3,094	3,536	3,978	4,420	4,862	5,304	5,746
Freezer (18 lb)		808	924	1,040	1,156	1,272	1,388	1,504
6.75	5.40	-10,098	-8,515	-6,931	-5,043	-3,765	-2,181	-599
7.25	5.40	-8,551	-6,747	-4,942	-2,833	-1,334	471	2,274
7.75	5.40	-7,004	-4,979	-2,953	-623	1,097	3,123	5,147
8.25	5.40	-5,457	-3,211	-964	1,587	3,528	5,775	8,020
8.75	5.40	-3,910	-1,443	1,025	3,797	5,959	8,427	10,893
9.25	5.40	-2,363	325	3,014	6,007	8,390	11,079	13,766
9.75	5.40	-816	2,093	5,003	8,217	10,821	13,731	16,639

NET RETURNS PER ACRE ABOVE TOTAL COSTS

PRICE(\$/tray)		YIELD (tray/acre)						
Fresh (10 lb)		3,094	3,536	3,978	4,420	4,862	5,304	5,746
Freezer (18 lb)		808	924	1,040	1,156	1,272	1,388	1,504
6.75	5.40	-10,358	-8,776	-7,192	-5,304	-4,026	-2,442	-860
7.25	5.40	-8,811	-7,008	-5,203	-3,094	-1,595	210	2,013
7.75	5.40	-7,264	-5,240	-3,214	-884	836	2,862	4,886
8.25	5.40	-5,717	-3,472	-1,225	1,326	3,267	5,514	7,759
8.75	5.40	-4,170	-1,704	764	3,536	5,698	8,166	10,632
9.25	5.40	-2,623	64	2,753	5,746	8,129	10,818	13,505
9.75	5.40	-1,076	1,832	4,742	7,956	10,560	13,470	16,378

UC COOPERATIVE EXTENSION
Table 5. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead		Total
						Insur- ance	Taxes	
11	42HP 4WD Tractor	27,830	15	5,418	2,380	129	166	2,675
11	55HP 2WD Tractor	32,269	15	6,282	2,760	149	193	3,102
11	75HP 4WD Tractor	45,000	15	8,761	3,849	208	269	4,326
11	90HP 4WD Tractor	50,000	10	14,769	5,209	251	324	5,784
11	Drip Machine 3-64"R	8,500	15	816	767	36	47	849
11	Fert Drill 3-64"R16'	10,000	15	960	902	42	55	999
11	Knife-Sickle 64"	1,250	15	120	113	5	7	125
11	Lister/Shaper 3-64"R	50,000	15	4,800	4,509	212	274	4,996
11	Plow 5 bottom	25,740	15	2,471	2,321	109	141	2,572
11	Punch Machine 1-64"	5,000	15	480	451	21	27	500
11	Ringroller 20'	15,800	15	1,517	1,425	67	87	1,579
11	Ripper - 5 Shank	8,346	15	801	753	35	46	834
11	Sprayer 20' boom	4,600	3	1,913	1,073	25	33	1,131
11	Trailer-Pipe	2,150	20	120	165	9	11	185
11	Triplane 15'	18,750	15	1,800	1,691	80	103	1,873
11	Chisel Spring 14'	6,163	15	592	556	26	34	616
11	240HP Trac Tractor	272,551	15	53,061	23,311	1,262	1,628	26,201
11	Disc 18'	32,757	10	5,793	3,725	149	193	4,067
11	180HP 4WD Tractor	110,000	15	21,415	9,408	509	657	10,574
11	Mulch Machine 1-64"R	6,500	15	624	586	28	36	649
11	Blade Rear 3 pt 8'	3,380	15	346	304	14	19	337
11	Truck - 2 Ton #1	38,000	7	14,415	4,724	203	262	5,189
11	Truck - 2 Ton #2	38,000	7	14,415	4,724	203	262	5,189
11	Tool Bar w/tools5'	1,500	10	265	171	7	9	186
11	Trailer-Pipe #2	2,150	20	120	165	9	11	185
11	Trailer-Pipe #3	2,150	20	120	165	9	11	185
11	Mower 5'	3,500	15	336	316	15	19	350
TOTAL		821,886		162,529	76,521	3,815	4,922	85,258
40% of new cost*		328,754		65,012	30,609	1,526	1,969	34,103

*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	
INVESTMENT								
Buildings 2400 sqft	80,000	20	0	6,284	310	400	1,600	8,594
Fuel Tanks/Above Ground	3,500	20	651	255	16	21	70	362
Hand Tools	5,000	15	460	452	21	27	100	600
Harvest Carts (90)	2,115	5	0	485	8	11	24	528
Lateral Lines	8,468	3	0	3,095	33	42	534	3,704
Shop Tools	15,000	15	1,264	1,361	63	81	260	1,765
TOTAL INVESTMENT	114,083		2,375	11,932	451	582	2,588	15,553

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Land Rent	85	acre	2,200.00	187,000
Liability Insurance	85	acre	6.91	587
Office Expense	80	acre	500.00	40,000
Pipe/Sprinkler Rent	80	acre	215.00	17,200
Sanitation Fee	80	acre	120.00	9,600
Farm Supervisor	80	acre	840.00	67,200
Extended Land Rent (4 months)	85	acre	733.00	62,305

UC COOPERATIVE EXTENSION
Table 6. HOURLY EQUIPMENT COSTS
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

Yr	Description	Strawberry Hours Used	Total Hours Used	COSTS PER HOUR						Total Costs/Hr.
				Capital Recovery	Cash Overhead		Operating		Total Oper.	
					Insur- ance	Taxes	Lube & Repairs	Fuel		
11	42HP 4WD Tractor	437	1,242	0.77	0.04	0.05	1.47	7.10	8.57	9.43
11	55HP 2WD Tractor	513	800	1.38	0.07	0.10	2.35	9.29	11.64	13.20
11	75HP 4WD Tractor	36	800	1.92	0.10	0.13	3.24	12.67	15.91	18.07
11	90HP 4WD Tractor	178	1,697	1.23	0.06	0.08	3.12	15.20	18.32	19.68
11	Drip Machine 3-64"R	12	100	3.07	0.14	0.19	1.49	0.00	1.49	4.89
11	Fertilizer Drill 3-64"R16'	20	100	3.61	0.17	0.22	1.76	0.00	1.76	5.75
11	Knife-Sickle 64"	22	133	0.34	0.02	0.02	0.17	0.00	0.17	0.54
11	Lister/Shaper 3-64"R	72	191	9.44	0.44	0.57	4.66	0.00	4.66	15.12
11	Plow 5 bottom	22	133	6.98	0.33	0.42	4.68	0.00	4.68	12.41
11	Punch Machine 1-64"	55	133	1.36	0.06	0.08	0.38	0.00	0.38	1.88
11	Ringroller 20'	40	135	4.23	0.20	0.26	1.17	0.00	1.17	5.86
11	Ripper - 5 Shank	72	166	1.81	0.09	0.11	1.81	0.00	1.81	3.82
11	Sprayer 20' boom	467	500	0.86	0.02	0.03	0.85	0.00	0.85	1.75
11	Trailer-Pipe	320	344	0.19	0.01	0.01	0.16	0.00	0.16	0.38
11	Triplane 15'	40	214	3.16	0.15	0.19	1.77	0.00	1.77	5.27
11	Chisel Spring 14'	24	146	1.52	0.07	0.09	0.78	0.00	0.78	2.47
11	240HP Trac Tractor	283	1,168	7.98	0.43	0.56	11.41	47.91	59.33	68.30
11	Disc 18'	68	222	6.72	0.27	0.35	3.25	0.00	3.25	10.59
11	180HP 4WD Tractor	44	1,081	3.48	0.19	0.24	7.23	35.94	43.17	47.08
11	Mulch Machine 1-64"R	33	133	1.76	0.08	0.11	0.49	0.00	0.49	2.44
11	Blade Rear 3 pt 8'	42	200	0.61	0.03	0.04	0.34	0.00	0.34	1.01
11	Truck - 2 Ton #1	250	350	5.40	0.23	0.30	3.17	7.70	10.87	16.81
11	Truck - 2 Ton #2	170	270	7.00	0.30	0.39	3.77	7.70	11.47	19.16
11	Tool Bar w/tools5'	55	200	0.34	0.01	0.02	0.21	0.00	0.21	0.59
11	Trailer-Pipe #2	320	320	0.21	0.01	0.01	0.18	0.00	0.18	0.41
11	Trailer-Pipe #3	320	320	0.21	0.01	0.01	0.18	0.00	0.18	0.41
11	Mower 5'	33	133	0.95	0.04	0.06	1.09	0.00	1.09	2.14

UC COOPERATIVE EXTENSION
Table 7. OPERATIONS WITH EQUIPMENT and MATERIALS
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

Operation	Operation Month	Tractor	Implement	Labor Type	Labor Hours	Material	Rate/acre	Unit
Disc/Roll 5X	Aug	240HP Trac Tractor	Disc 18'	Equipment Operator Labor	0.60			
Subsoil 2X	Aug	240HP Trac Tractor	Ringroller 20'	Equipment Operator Labor	1.08			
Plow 1X	Aug	240HP Trac Tractor	Ripper - 5 Shank	Equipment Operator Labor	0.32			
Level/Smooth Field 2X	Aug	240HP Trac Tractor	Plow 5 bottom	Equipment Operator Labor	0.60			
Fertilize: Custom (0-0-52)	Aug	180HP 4WD Tractor	Triplane 15'	Equipment Operator Labor		0-0-52 Broadcast Fertilizer	400.00	lb
							1.00	acre
Chisel	Aug	240HP Trac Tractor	Chisel Spring 14'	Equipment Operator Labor	0.36			
Irrigate Sprinkle/Layout/Pickup	Sept	42HP 4WD Tractor	Trailer-Pipe	Non-Machine Labor	13.50	Water	3.00	acin
			Trailer-Pipe #2					
			Trailer-Pipe #3					
	Nov	42HP 4WD Tractor	Trailer-Pipe	Non-Machine Labor	8.00	Water	3.00	acin
			Trailer-Pipe #2					
			Trailer-Pipe #3					
List/Shape Beds.	Sept	240HP Trac Tractor	Lstr/Shpr 3-64"R	Equipment Operator Labor	1.08			
Fertilize-17-17-17	Sept	90HP 4WD Tractor	FertDril 3-64"R16'	Equipment Operator Labor	0.30	17-17-17 Slow Release	500.00	lb
Install Drip Tape 2 line/bed	Sept	90HP 4WD Tractor	Drip Mchne 3-64"R	Equipment Operator Labor	0.17	T-Tape	16,345.00	foot
Weed: Bed Tops (Goal Tender)	Sept					Herbicide Application Goal Tender	1.00	acre
							0.75	pint
Lay Mulch	Sept	75HP 4WD Tractor	Mulch Mchne 1-64"R	Non-Machine Labor	0.50	Mulch 1.5 mil	8,173.00	foot
Cut/Grade Roads	Sept	240HP Trac Tractor	Disc 18'	Non-Machine Labor	5.00			
	Sept	90HP 4WD Tractor	Blade Rear 3 pt 8'	Non-Machine Labor	5.00			
Lay Laterals/Connect Drip	Sept			Non-Machine Labor	18.00			
Cultivate Furrows	Sept	90HP 4WD Tractor	Tool Bar w/tools5'	Equipment Operator Labor	0.83			
Weed: Furrows (Goal Tender)	Sept					Herbicide Application Goal Tender	1.00	acre
							0.25	pint
Irrigate-Drip	Oct			Non-Machine Labor	3.00	Water	2.00	acin
	Dec			Non-Machine Labor	2.70	Water	3.00	acin
	Jan			Non-Machine Labor	1.00	Water	1.00	acin
	Feb			Non-Machine Labor	2.00	Water	1.00	acin
	Mar			Non-Machine Labor	3.80	Water	2.00	acin
	Apr			Non-Machine Labor	5.00	Water	3.00	acin
	May			Non-Machine Labor	5.00	Water	4.00	acin
	June			Non-Machine Labor	5.00	Water	4.00	acin
	July			Non-Machine Labor	1.50	Water	2.00	acin
Fumigate: Drip (custom)	Oct					Fumigate-through drip	1.00	Acre
Punch Holes	Oct	42HP 4WD Tractor	Punch Mchn 1-64"	Equipment Operator Labor	0.83			
Plant	Oct			Non-Machine Labor	42.00	Strawberry Plants	25.00	thou

UC COOPERATIVE EXTENSION
Table 7. CONTINUED
 SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

Operation	Month	Tractor	Implement	Labor Type	Labor Hours	Material	Rate/ acre	Unit
Weed	Nov			Non-Machine Labor	3.00			
	Dec			Non-Machine Labor	14.00			
	Jan			Non-Machine Labor	9.00			
	Feb			Non-Machine Labor	13.00			
	Mar			Non-Machine Labor	10.00			
	Apr			Non-Machine Labor	10.00			
	May			Non-Machine Labor	9.00			
	June			Non-Machine Labor	8.00			
Worms-Xentari Fertilize: CAN17	Dec	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Xentari	2.00	lb
	Jan					CAN 17 17-0-0	10.74	lb N
	Feb					CAN 17 17-0-0	10.74	lb N
	Mar					CAN 17 17-0-0	10.74	lb N
	Apr					CAN 17 17-0-0	10.74	lb N
	May					CAN 17 17-0-0	10.74	lb N
	June					CAN 17 17-0-0	10.74	lb N
	July					CAN 17 17-0-0	10.74	lb N
Fertilize:Thiocal	Jan			Non-Machine Labor		Thiocal	51.70	lb
	Feb			Non-Machine Labor		Thiocal	51.70	lb
	Mar			Non-Machine Labor		Thiocal	51.70	lb
	Apr			Non-Machine Labor		Thiocal	51.70	lb
	May			Non-Machine Labor		Thiocal	51.70	lb
	June			Non-Machine Labor		Thiocal	51.70	lb
	July			Non-Machine Labor		Thiocal	51.70	lb
	Botrytis	Jan	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Captan 50W	4.00
						Elevate 50WDG	1.50	lb
Jan		55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Captan 50W	4.00	lb
Mites-Persimilis	Jan			Non-Machine Labor	1.20	Persimilis (Mite)	10.00	thou
	Feb			Non-Machine Labor	1.20	Persimilis (Mite)	10.00	thou
Botrytis/Mildew	Feb	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Captan 50W	4.00	lb
						Pristine	23.00	oz
	Feb	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Switch 62.5 WG	14.00	oz
Mildew/Mite						Quadris	12.00	floz
	Mar	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Rally 40W	5.00	oz
						Savey 50 DF	6.00	oz
Mildew	Mar	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Microthiol Disperss	5.00	lb
	Botrytis/Mildew/Mite	Apr	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Microthiol Disperss	5.00
						Oberon 2SC	14.00	floz
						Elevate 50WDG	1.50	lb
Botrytis/Lygus/Mite	May	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Captan 50W	4.00	lb
						Danitol 2.4 EC	16.00	floz
						Acramite 50WS	1.00	lb
Mildew/Lygus/Mite	June	55HP 2WD Tractor	Sprayer 20' boom	Equipment Operator Labor	0.70	Microthiol Disperss	5.00	lb
						Dibrom 8 Emulsive	16.00	floz
						Agri-Mek 0.15 EC	16.00	floz

UC COOPERATIVE EXTENSION

Table 7. CONTINUED

SANTA BARBARA and SAN LUIS OBISPO COUNTIES 2011

Operation	Month	Tractor	Implement	Labor Type	Labor Hours	Material	Rate/acre	Unit
Field Cleanup	Aug	42HP 4WD Tractor	Knife-Sickle 64"	Non-Machine Labor	15.00			
	Aug	90HP 4WD Tractor	Mower 5'	Equipment Operator Labor	0.50			
Harvest/Record Fresh	Aug	240HP Trac Tractor	Truck - 2 Ton #1	Non-Machine Labor	4.00	Dump Fee Santa Maria	450.00	lb
	Aug		Disc 18'	Equipment Operator Labor	0.30			
	Mar			Non-Machine Labor	85.76	Crate/Basket/Wire	325.00	each
	Apr			Non-Machine Labor	160.09	Crate/Basket/Wire	910.00	each
	May			Non-Machine Labor	274.44	Crate/Basket/Wire	2,080.00	each
	June			Non-Machine Labor	88.21	Crate/Basket/Wire	585.00	each
	July			Non-Machine Labor	91.48	Crate/Basket/Wire	520.00	each
Haul/Load Fresh	Mar		Truck - 2 Ton #1	Non-Machine Labor	0.45			
	Mar		Truck - 2 Ton #2	Non-Machine Labor	0.45			
	Apr		Truck - 2 Ton #1	Non-Machine Labor	0.85			
	Apr		Truck - 2 Ton #2	Non-Machine Labor	0.85			
	May		Truck - 2 Ton #1	Non-Machine Labor	1.45			
	May		Truck - 2 Ton #2	Non-Machine Labor	1.45			
	June		Truck - 2 Ton #1	Non-Machine Labor	0.47			
	June		Truck - 2 Ton #2	Non-Machine Labor	0.47			
	July		Truck - 2 Ton #1	Non-Machine Labor	0.48			
	July		Truck - 2 Ton #2	Non-Machine Labor	0.48			
Harvest/Record/Haul Freezer	May		Truck - 2 Ton #1	Non-Machine Labor	42.88			
	May		Truck - 2 Ton #2	Non-Machine Labor	0.45			
	June		Truck - 2 Ton #1	Non-Machine Labor	137.22			
	June		Truck - 2 Ton #2	Non-Machine Labor	1.44			
	July		Truck - 2 Ton #1	Non-Machine Labor	91.48			
	July		Truck - 2 Ton #2	Non-Machine Labor	0.96			
	Aug		Truck - 2 Ton #1	Non-Machine Labor	85.76			
	Aug		Truck - 2 Ton #2	Non-Machine Labor	0.90			
Strawberry Commission	Aug					Strawberry Fresh	4,420.00	tray
	Aug					Strawberry Freezer	1,156.00	tray
Cooler (Fresh)	Sept					Cooler: Fresh	4,420.00	tray
Selling Cost (Fresh)	Sept					Selling Costs @ 8%	4,420.00	tray