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**UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION**

**2011**

**SAMPLE COSTS TO PRODUCE  
PROCESSING PEACHES**

**Cling and Freestone Extra-early Harvested Varieties**



**SACRAMENTO VALLEY  
and  
SAN JOAQUIN VALLEY**

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# UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

## SAMPLE COSTS TO PRODUCE PROCESSING PEACHES Cling and Freestone Extra-early Harvested Varieties SACRAMENTO VALLEY and SAN JOAQUIN VALLEY – 2011

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### INTRODUCTION

Sample costs to produce extra-early harvested varieties of processing peaches in the Sacramento and San Joaquin Valleys are presented in this study. This study is intended as a guide only, and can be used to make production decisions, determine potential returns, prepare budgets and evaluate production loans. Practices described are based on production practices considered typical for the crop and area, but will not apply to every situation. Sample costs for labor, materials, equipment and custom services are based on current figures. A blank column, “Your Costs”, in Tables 1 and 2 is provided to enter your costs.

The hypothetical farm operation, 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, 530-752-3589 or your 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, or obtained from county UC Cooperative Extension offices.

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## Assumptions

The assumptions refer to Tables 1 to 7 and pertain to sample costs to produce extra-early harvested varieties of processing peaches (cling and freestone) in the Sacramento and San Joaquin Valleys. **Practices described may not be University of California recommendations, but represent production practices and materials considered typical of a well-managed orchard in the region.** The costs, materials, and practices shown in this study serve only as a sample or guide and will not apply to all situations. Production cultural practices vary by grower and the differences can be significant. **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.**

**Land.** The hypothetical farm consists of 100 contiguous acres. Production costs are based on the 40 acres planted to an extra-early harvested variety of cling peach. The remaining acreage is in other mature tree crops. The grower owns and farms the orchard. Land is valued at \$11,000 per acre.

**Trees.** No specific variety is planted in this study, except that it is an extra-early variety of cling (or freestone) peaches delivered for processing. The trees are planted on 16 x 18 foot spacing, 151 trees per acre having an expected life at planting of 18 years.

**Orchard Establishment.** See *Sample Costs to Establish and Produce Processing Peaches, Late Harvested Varieties, 2011. Sacramento Valley and San Joaquin Valley.*

### Production Cultural Practices and Material Inputs in a Mature Orchard

**Pruning/Tree Wire.** In this study, pruning is done with hand crews during the dormant months (November through February). Prunings are normally stacked in the middles and shredded. Additional pruning is done in the summer. Wires wrapped around the tree are repaired in the dormant months.

**Fertilization.** Tree nutrient status is determined by leaf analysis in July. Liquid nitrogen fertilizer at 80 pounds of N per acre is injected through the low volume irrigation system in three equal applications from March to August. Some orchards may have potassium and/or zinc deficiency. Potassium may be soil applied in the fall and zinc may be soil or foliar applied.

**Thinning and Propping.** Thinning is done by hand in the spring, late April/early May. In some years, some blocks will need to be re-thinned if sizing is a problem. Limbs are propped with boards in June or July (approximately one month prior to harvest) to prevent limb breakage as fruit size increases. Props are removed at harvest.

**Irrigation.** Water for irrigation is supplied by a water district. The price per acre or acre-foot varies by district in this region. In this study district water costs \$2.74 per acre-inch or \$32.88 per acre foot. The annual water requirements assumed are 36 acre-inches. Water costs can be significantly affected by rainfall. Pumping costs for spring frost protection may also be a consideration.

**Pest Management.** The pesticides and rates mentioned in this cost study are listed in *UC Integrated Pest Management Guidelines, Peaches*. For information on other pesticides available, pest identification,

monitoring, and management visit the UC IPM website at [www.ipm.ucdavis.edu](http://www.ipm.ucdavis.edu). For information and pesticide use permits, contact the local county agricultural commissioner's office. **Pesticides mentioned in this study are used to calculate rates and costs. Although growers commonly use the pesticides mentioned, many other pesticides are available. Check with your Pest Control Adviser (PCA) and/or the UC IPM website for current recommendations.** Adjuvants are recommended for use with many pesticides for effective control, but the adjuvants and their costs are not included in this study. Pesticide costs may vary by location, brand, and grower volume. Pesticide costs in this study are taken from dealer (retail prices) and grower prices.

*Weeds (Orchard Floor Management).* The tree rows are sprayed with an herbicide or a mixture of herbicides and the row middles are mowed four times. In this study, Roundup in April and Gramoxone in June are applied as spot sprays in the tree rows. A dormant strip spray mixture of Roundup, Matrix and Surflan is applied to the tree row in the fall or winter (November through January).

*Insects and Mites.* In this study, insect and mite management begins with a dormant or delayed dormant spray for control of European red mite, San Jose scale, peach leaf curl (PLC) and peach twig borer (PTB). The dormant spray of horticultural oil, basic copper (Kocide) and insecticide (Dimilin) is made before bud swell during January or early February. The in-season treatments used in this study for oriental fruit moth (OFM) and PTB occur in May (Asana), and June (Intrepid) and possibly July (Altacor), also. Flowable pheromone (Checkmate OFM) is commonly added to these sprays. Some growers use pheromone mating disruption dispensers rather than sprays for OFM which are applied by early March. AgriMek is added to the May or June spray to control web spinning mites. All of the insect sprays are made with a tractor and an airblast (orchard) sprayer, except when the orchard is not accessible to ground equipment.

*Diseases.* Control of bloom, foliar, and fruit diseases become more critical in bearing orchards. Peach leaf curl, brown rot, powdery mildew, and rust are the main peach diseases, but other diseases may require treatment. In this study, peach leaf curl is treated with copper fungicide in the dormant spray to prevent damage later in the growing season. Two brown rot treatments are made at partial and full bloom: February with Pristine and March with Indar or Elite. Powdery mildew is treated in March (petal fall) with Quintec and for mildew and rust in April and May with wettable sulfur. Shot hole control begins at leaf drop in late November mainly in the Sacramento Valley. Ziram is applied for shothole and also controls peach leaf curl.

No costs are shown, but in some years a preharvest fungicide spray to prevent ripe fruit rot is applied during June or July if it rains prior to harvest. Fungicides are applied using either an orchard sprayer or by air when the orchard is inaccessible to ground sprays or for quicker coverage.

**Harvest.** Yield maturity is reached between the fifth and seventh year. In this cost study the grower contracts to have the crop hand harvested in July. Peaches are handpicked, placed into bins left throughout the orchard, field sorted (in Sacramento Valley, fruit is sorted from bins), and moved out of the orchard to the roadside where the bins are loaded on-to trucks and hauled to the grading/receiving station.

**Yields and Returns.** Cling peaches yields fluctuate over years by grower, variety and region. Nine counties produce the majority of the reported cling peaches grown in California and the United States. In this study, the average yield over the life of a mature orchard is 17 tons per acre. The contracted price for the 2010-2011 season was \$287 per ton and is used to determine potential profits/losses. Table 4 shows income, costs, and net returns at varying yields and prices.

**Assessment.** The Cling Peach Board (CPB) assesses all cling peaches, commercially grown in the state, to pay for cling peach promotion and research. The mandatory assessment is \$2.90 per ton.

The California Canning Peach Association is a grower organization which negotiates contract prices with processors and supports cling peach mechanized research. Membership is voluntary except for Stanislaus and Tuolumne variety plantings. The assessment rate is \$1.25 per paid ton. No cost is shown in this study.

**Pickup/ATV.** The grower uses the pickup for business and personal use. It is assumed that 5,000 miles are for business use. The ATV is used for inspecting and monitoring the orchard. It is also used for irrigating and checking the system, but is not included as an irrigation cost.

### **Labor, Interest, and Equipment**

**Labor.** Labor rates of \$17.29 per hour for machine operators and \$10.97 for general labor includes payroll overhead of 33%. The basic hourly wages are \$13.00 for machine operators and \$8.25 for general labor. The overhead includes the employers' share of federal and California state payroll taxes, workers' compensation insurance for fruit orchards (code 0016), and a percentage for other possible benefits. Workers' compensation insurance costs will vary among growers, but for this study the cost is based upon the average industry final rate as of January 1, 2010 (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.

**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 basic lending rate by a farm lending agency as of January 2011.

**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 takeoff (PTO) horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are \$2.60 (excludes excise tax) and \$3.10 per gallon, respectively. The cost includes a 2.5% local sales tax on diesel fuel and 7.5% sales tax on gasoline. The fuel prices are the 2010 average costs derived from the Energy Information Administration monthly data. 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.

**Risk.** The risks associated with producing and marketing cling peaches 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 of cling peach production. A market channel should be determined before cling peaches are planted and brought into production. Though, not used in this study, crop insurance is a risk management tool available to growers.

## 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, sanitation services, equipment repairs, and management.

**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 0.767% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs \$581 for the entire farm.

**Office Expense.** Office and business expenses are estimated at \$75 per acre. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, shop and office utilities, regulatory fees, worker and food safety, and miscellaneous administrative charges.

**Sanitation Services.** Sanitation services provide portable toilets for the orchard and cost the farm \$512 annually. The cost includes a double toilet, delivery and 2 months of weekly service.

**Investment Repairs.** Annual maintenance is calculated as 2% of the purchase price.

## Non-Cash Overhead Costs

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

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

*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% for investments 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 by a farm lending agency in January 2011.

**Land.** Cling peach orchards in Stanislaus County range in value from \$12,000 to \$25,000 and \$6,000 to \$25,000 in the Yuba/Sutter Counties. Bare land over several northern peach producing counties ranges from \$4,000 to \$22,000. Because the orchard is established on land previously planted to tree crops, the bare land in this study is valued at \$11,000 per acre.

**Irrigation System.** The orchard is irrigated using a micro sprinkler system. Water is delivered to the orchard from the district ditch and distributed through to the orchard by way of underground mainlines and valves. The life of the irrigation system is estimated at 18 years. The irrigation system is installed before the orchard is planted. The irrigation system is considered an improvement to the property and is shown in the capital recovery sections of Tables 1-3 and Investments in Table 5.

**Establishment Cost.** The establishment cost is the sum of cash costs for land preparation, planting, trees, production expenses, and cash overhead for growing cling peach trees through the first year fruit is harvested minus any returns from production. The *Total Accumulated Net Cash Cost* in the third year shown in Table 1 of the cost and returns study, “*Sample Costs to Establish and Produce Processing Peaches, Sacramento Valley and San Joaquin Valley, Late Harvested Varieties, 2011*” represents the establishment cost per acre. For this study, the cost is \$6,286 per acre or \$251,429 for the 40 acres planted to processing peaches. Establishment cost is amortized over the remaining 15 years that the orchard is assumed to be in production. Establishment cost is used to determine the annual capital recovery expense and interest on investment for production years.

**Buildings.** The shop building is a 1,800 square foot metal building and/or open structures on a cement slab.

**Shop Tools, Pruning Equipment, and Ladders.** This includes an assortment of shop tools, various pruning equipment, and 12 foot orchard ladders. The ladders are used for pruning and harvesting.

**Fuel Tanks.** Two 250-gallon fuel tanks using gravity feed are on metal stands. The tanks are setup in a cement containment pad that meets federal, state, and county regulations.

**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.

**Acknowledgment.** Appreciation is expressed to those growers and other cooperators who provided information for this study.

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**Table 1. COSTS PER ACRE TO PRODUCE EXTRA EARLY CLING PEACHES**  
 SACRAMENTO and SAN JOAQUIN VALLEY 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:								
Prune: Trees	47.00	516	0	0	0	516		
Tree: Wire Repair	1.50	16	0	25	0	41		
Disease/Insect: Dormant Spray (Oil, Kocide, Dimilin)	0.50	10	8	107	0	126		
Prune: Shred Prunings	0.40	8	7	0	0	15		
Disease: Brown Rot @ Partial Bloom (Pristine)	0.50	10	8	45	0	64		
Disease: Brown Rot @ Full Bloom (Indar)	0.50	10	8	21	0	40		
Disease: Mildew (Quintec)	0.50	10	8	36	0	55		
Irrigate: (water & labor)	2.56	28	0	99	0	127		
Weed: Spot Spray 2X (Roundup, 1X. Gramoxone 1X)	0.66	14	9	4	0	27		
Weed: Mow Middles 4X	1.60	33	27	0	0	60		
Fertilize: N (split application) (UN32)	0.00	0	0	42	0	42		
Disease: Mildew (Sulfur) 2X	1.00	21	16	7	0	44		
Thin: Thin Fruit by hand	90.00	987	0	0	0	987		
Insect: PTB, OFM (Asana, Checkmate)	0.50	10	8	99	0	118		
Prune: Summer Prune	12.00	132	0	0	0	132		
Insect: PTB, OFM, Mite (Intrepid, Checkmate, AgriMek)	0.50	10	8	94	0	112		
Prop Limbs & Remove Props	0.50	43	5	0	0	49		
Fertilize: Leaf Samples (nutrition analysis)	0.00	0	0	0	2	2		
Disease: Shothole, PLC (Ziram)	0.50	10	8	42	0	61		
Weed: Dormant Strip (Roundup, Matrix, Surflan)	0.33	7	5	56	0	67		
Pickup: Farm Use	2.85	59	27	0	0	86		
ATV: Irrigation & General Field Use	2.85	59	8	0	0	68		
<b>TOTAL CULTURAL COSTS</b>	<b>166.75</b>	<b>1,996</b>	<b>162</b>	<b>677</b>	<b>2</b>	<b>2,837</b>		
Harvest:								
Bins: Field Distribution	1.00	21	12	0	0	33		
Hand Pick & Field Sort	0.00	0	0	0	1,020	1,020		
Haul Fruit	0.00	0	0	0	204	204		
Assessment:	0.00	0	0	49	0	49		
<b>TOTAL HARVEST COSTS</b>	<b>1.00</b>	<b>21</b>	<b>12</b>	<b>49</b>	<b>1,224</b>	<b>1,306</b>		
Interest on operating capital @ 5.75%						52		
<b>TOTAL OPERATING COSTS/ACRE</b>		<b>2,017</b>	<b>174</b>	<b>727</b>	<b>1,226</b>	<b>4,195</b>		
CASH OVERHEAD:								
Office Expense						75		
Liability Insurance						6		
Sanitation Fees						5		
Property Taxes						164		
Property Insurance						13		
Investment Repairs						75		
<b>TOTAL CASH OVERHEAD COSTS</b>						<b>338</b>		
<b>TOTAL CASH COSTS/ACRE</b>						<b>4,533</b>		
NON-CASH OVERHEAD:								
		Per producing Acre		Annual Cost Capital Recovery				
Buildings		568		39		39		
Low Volume Irrigation		1,400		117		117		
Fuel Tanks		44		3		3		
Land		11,579		550		550		
Pruning/Shop Tools		165		16		16		
Orchard Establishment		6,286		595		595		
Equipment		893		96		96		
<b>TOTAL NON-CASH OVERHEAD COSTS</b>		<b>20,935</b>		<b>1,417</b>		<b>1,417</b>		
<b>TOTAL COSTS/ACRE</b>						<b>5,951</b>		

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**Table 2. COSTS AND RETURNS PER ACRE TO PRODUCE EXTRA EARLY CLING PEACHES**  
 SACRAMENTO and SAN JOAQUIN VALLEY 2011

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>GROSS RETURNS</b>					
Processing Peaches	17.00	ton	287.00	4,879	
<b>TOTAL GROSS RETURNS FOR PEACHES</b>				4,879	
<b>OPERATING COSTS</b>					
<b>Insecticide:</b>					
Superior Oil (Dormant Oil)	5.00	gal	7.90	40	
Dimilin 2L	14.00	floz	1.92	27	
Pristine	12.00	oz	3.76	45	
Asana XL	9.60	floz	8.00	77	
Checkmate OFM (F)	2.60	floz	17.38	45	
Intrepid 2F	12.80	floz	2.10	27	
Agir-Mek 0.15EC (miticide)	12.80	floz	3.45	44	
<b>Fungicide:</b>					
Kocide 20/20	10.00	lb	4.10	41	
Ziram 76DF	8.00	lb	5.26	42	
Indar 75WSP	2.00	oz	10.70	21	
Quintec	7.00	floz	5.16	36	
Sulfur (wetable)	20.00	lb	0.37	7	
<b>Tree Aids:</b>					
Tree Wire	1.00	acre	25.00	25	
<b>Irrigation:</b>					
Water	36.00	acin	2.74	99	
<b>Herbicide:</b>					
Roundup (or generic glyphosate)	1.30	pint	6.24	8	
Gramoxone Inteon	0.30	pint	6.15	2	
Matrix SG	1.32	oz	22.69	30	
Surflan 4AS	1.50	pint	13.07	20	
<b>Fertilizer:</b>					
UN-32	80.00	lb N	0.52	42	
<b>Custom/Contract:</b>					
Leaf Nutrition Analysis	1.00	acre	2.00	2	
Harvest - Hand Pick & Field Sort	17.00	ton	60.00	1,020	
Haul Fruit	17.00	ton	12.00	204	
<b>Assessment:</b>					
Cling Peach Board	17.00	ton	2.90	49	
Labor (machine)	17.63	hr	17.29	305	
Labor (non-machine)	156.06	hr	10.97	1,712	
Fuel - Gas	7.60	gal	3.10	24	
Fuel - Diesel	31.47	gal	2.60	82	
Lube				16	
Machinery repair				53	
Interest on operating capital @ 5.75%				52	
<b>TOTAL OPERATING COSTS/ACRE</b>				4,196	
<b>NET RETURNS ABOVE OPERATING COSTS</b>				683	
<b>CASH OVERHEAD COSTS:</b>					
Office Expense				75	
Liability Insurance				6	
Sanitation Fees				5	
Property Taxes				164	
Property Insurance				13	
Investment Repairs				75	
<b>TOTAL CASH OVERHEAD COSTS/ACRE</b>				338	
<b>TOTAL CASH COSTS/ACRE</b>				4,533	

UC COOPERATIVE EXTENSION  
**Table 2. CONTINUED**  
 SACRAMENTO and SAN JOAQUIN VALLEY 2011

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
NON-CASH OVERHEAD COSTS (Capital Recovery):					
Buildings				39	
Low Volume Irrigation				117	
Fuel Tanks				3	
Land				550	
Pruning/Shop Tools				16	
Orchard Establishment				595	
Equipment				96	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				1,417	
TOTAL COSTS/ACRE				5,951	
NET RETURNS ABOVE TOTAL COSTS				-1,072	

UC COOPERATIVE EXTENSION  
**Table 3. MONTHLY CASH COSTS PER ACRE TO PRODUCE EXTRA EARLY CLING PEACH**  
 SACRAMENTO and SAN JOAQUIN VALLEY 2011

Beginning JAN 11	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Ending DEC 11	11	11	11	11	11	11	11	11	11	11	11	11	
Cultural:													
Prune: Trees	258	258											516
Tree: Wire Repair	41												41
Disease/Insect: Dormant Spray (Oil, Kocide, Dimilin)		126											126
Prune: Shred Prunings			15										15
Disease: Brown Rot @ Partial Bloom (Pristine)		64											64
Disease: Brown Rot @ Full Bloom (Indar)			40										40
Disease: Mildew (Quintec)			55										55
Irrigate: (water & labor)				16	32	32	32	16					127
Weed: Spot Spray 2X (Roundup, 1X. Gramoxone 1X)				13		13							27
Weed: Mow Middles 4X				15	15	15	15						60
Fertilize: N (split application) (UN32)				14		14		14					42
Disease: Mildew (Sulfur) 2X				22	22								44
Thin: Thin Fruit by hand					987								987
Insect: PTB, OFM (Asana, Checkmate)					118								118
Prune: Summer Prune						132							132
Insect: PTB, OFM, Mite (Intrepid, Checkmate, AgriMek)						112							112
Prop Limbs & Remove Props						30	19						49
Fertilize: Leaf Samples (nutrition analysis)							2						2
Disease: Shothole, PLC (Ziram)											61		61
Weed: Dormant Strip (Roundup, Matrix, Surflan)											67		67
Pickup: Farm Use	8	8	8	8	8	8	8	8	8	8	8	8	86
ATV: Irrigation & General Field Use	6	6	6	6	6	6	6	6	6	6	6	6	68
<b>TOTAL CULTURAL COSTS</b>	<b>313</b>	<b>461</b>	<b>124</b>	<b>94</b>	<b>1,188</b>	<b>361</b>	<b>82</b>	<b>44</b>	<b>14</b>	<b>14</b>	<b>142</b>	<b>0</b>	<b>2,837</b>
Harvest:													
Bins: Field Distribution							33						33
Hand Pick & Field Sort							1,020						1,020
Haul Fruit							204						204
Assessment							49						49
<b>TOTAL HARVEST COSTS</b>							<b>1,306</b>						<b>1,306</b>
Interest on operating capital @ 5.75%	2	4	4	5	10	12	19	-1	-1	-1	-1	0	52
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>315</b>	<b>465</b>	<b>128</b>	<b>99</b>	<b>1,199</b>	<b>374</b>	<b>1,407</b>	<b>43</b>	<b>13</b>	<b>13</b>	<b>141</b>	<b>0</b>	<b>4,196</b>

UC COOPERATIVE EXTENSION  
**Table 3. CONTINUED**  
 SACRAMENTO and SAN JOAQUIN VALLEY 2011

Beginning JAN 11	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Ending DEC 11	11	11	11	11	11	11	11	11	11	11	11	11	
<b>CASH OVERHEAD:</b>													
Office Expense	7	7	7	7	7	7	7	7	7	7	7		75
Liability Insurance		6											6
Sanitation Fees	1	1	1	1	1	1	1	1	1	1			5
Property Taxes			82						82				164
Property Insurance			3			3			3			3	13
Investment Repairs	6	6	6	6	6	6	6	6	6	6	6	6	75
<b>TOTAL CASH OVERHEAD COSTS</b>	<b>14</b>	<b>20</b>	<b>99</b>	<b>14</b>	<b>14</b>	<b>17</b>	<b>14</b>	<b>14</b>	<b>99</b>	<b>14</b>	<b>13</b>	<b>9</b>	<b>338</b>
<b>TOTAL CASH COSTS/ACRE</b>	<b>328</b>	<b>485</b>	<b>226</b>	<b>113</b>	<b>1,212</b>	<b>390</b>	<b>1,420</b>	<b>56</b>	<b>112</b>	<b>27</b>	<b>154</b>	<b>9</b>	<b>4,533</b>

UC COOPERATIVE EXTENSION  
**Table 4. RANGING ANALYSIS**  
 SACRAMENTO VALLEY and SAN JOAQUIN VALLEY 2011

COSTS PER ACRE AT VARYING YIELDS TO PRODUCE CLING PEACHES

	YIELD (tons/acre)						
	11	13	15	17	19	21	23
<b>OPERATING COSTS:</b>							
Cultural Cost	2,837	2,837	2,837	2,837	2,837	2,837	2,837
Harvest: Pick, Field Sort & Haul	813	961	1,108	1,257	1,405	1,553	1,700
Assessment	32	38	44	49	55	61	67
Interest on operating capital @ 5.75%	50	51	52	52	53	54	55
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>3,732</b>	<b>3,887</b>	<b>4,040</b>	<b>4,195</b>	<b>4,350</b>	<b>4,505</b>	<b>4,659</b>
Total Operating Costs/ton	339	299	269	247	229	215	203
<b>CASH OVERHEAD COSTS/ACRE</b>							
<b>TOTAL CASH COSTS/ACRE</b>	<b>4,070</b>	<b>4,225</b>	<b>4,378</b>	<b>4,533</b>	<b>4,688</b>	<b>4,843</b>	<b>4,997</b>
Total Cash Costs/ton	370	325	292	267	247	231	217
<b>NON-CASH OVERHEAD COSTS/ACRE</b>							
<b>TOTAL COSTS/ACRE</b>	<b>5,486</b>	<b>5,642</b>	<b>5,795</b>	<b>5,950</b>	<b>6,106</b>	<b>6,261</b>	<b>6,415</b>
Total Costs/ton	499	434	386	350	321	298	279

NET RETURNS PER ACRE ABOVE OPERATING COSTS

PRICE \$/ton	YIELD (tons/acre)						
	11	13	15	17	19	21	23
227.00	-1,235	-936	-635	-336	-37	262	562
247.00	-1,015	-676	-335	4	343	682	1,022
267.00	-795	-416	-35	344	723	1,102	1,482
287.00	-575	-156	265	684	1,103	1,522	1,942
307.00	-355	104	565	1,024	1,483	1,942	2,402
327.00	-135	364	865	1,364	1,863	2,362	2,862
347.00	85	624	1,165	1,704	2,243	2,782	3,322

NET RETURNS PER ACRE ABOVE CASH COSTS

PRICE \$/ton	YIELD (tons/acre)						
	11	13	15	17	19	21	23
227.00	-1,573	-1,274	-973	-674	-375	-76	224
247.00	-1,353	-1,014	-673	-334	5	344	684
267.00	-1,133	-754	-373	6	385	764	1,144
287.00	-913	-494	-73	346	765	1,184	1,604
307.00	-693	-234	227	686	1,145	1,604	2,064
327.00	-473	26	527	1,026	1,525	2,024	2,524
347.00	-253	286	827	1,366	1,905	2,444	2,984

NET RETURNS PER ACRE ABOVE TOTAL COSTS

PRICE \$/ton	YIELD (tons/acre)						
	11	13	15	17	19	21	23
227.00	-2,989	-2,691	-2,390	-2,091	-1,793	-1,494	-1,194
247.00	-2,769	-2,431	-2,090	-1,751	-1,413	-1,074	-734
267.00	-2,549	-2,171	-1,790	-1,411	-1,033	-654	-274
287.00	-2,329	-1,911	-1,490	-1,071	-653	-234	186
307.00	-2,109	-1,651	-1,190	-731	-273	186	646
327.00	-1,889	-1,391	-890	-391	107	606	1,106
347.00	-1,669	-1,131	-590	-51	487	1,026	1,566

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**Table 5. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS**  
SACRAMENTO VALLEY and SAN JOAQUIN VALLEY 2011

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead			Total
						Insur- ance	Taxes		
11	55HP 2WD Tractor	33,039	15	6,432	2,826	151	197		3,175
11	66HP 2WD Tractor	39,424	15	7,675	3,372	181	235		3,788
11	All Terrain Vehicle	7,579	7	2,875	942	40	52		1,035
11	Bin Trailers #1	1,970	15	189	178	8	11		197
11	Bin Trailers #2	1,970	15	189	178	8	11		197
11	Bin Trailers #3	1,970	15	189	178	8	11		197
11	Bin Trailers #4	1,970	15	189	178	8	11		197
11	Mower - Flail 10 ft	10,477	10	1,853	1,191	47	62		1,300
11	Orch.Sprayer 500 G	21,200	10	3,749	2,411	96	125		2,631
11	Pickup Truck - 3/4 ton	32,000	7	12,139	3,978	169	221		4,368
11	Utility Trailer	1,836	20	96	141	7	10		158
11	Weed Sprayer 100 Gal	4,500	10	796	512	20	26		558
<b>TOTAL</b>		<b>157,935</b>		<b>36,371</b>	<b>16,083</b>	<b>745</b>	<b>971</b>		<b>17,800</b>
		<b>94,761</b>		<b>21,823</b>	<b>9,650</b>	<b>447</b>	<b>583</b>		<b>10,680</b>

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

ANNUAL INVESTMENT COSTS

Description	Purchase Price	Years Life	Salvage Value	Capital Recovery	Cash Overhead			Total
					Insurance	Taxes	Repairs	
<b>INVESTMENT</b>								
Buildings 1,800 sqft	54,000	25		3,736	207	270	1,080	5,293
Establishment (Orchard)	251,429	15		23,816	0	1,257	1,257	26,330
Fuel Tanks 2-250 gal	4,200	40	420	317	18	23	84	442
Land	1,100,000	15	1,100,000	52,250	0	11,000	0	63,250
Low Volume Irrigation	56,000	18		4,697	215	280	1,120	6,312
Pruning/Field Tools	2,500	10		320	10	13	50	392
Shop Tools	13,136	15	1,314	1,182	55	72	263	1,573
<b>TOTAL INVESTMENT</b>	<b>1,481,265</b>		<b>1,101,734</b>	<b>86,318</b>	<b>505</b>	<b>12,915</b>	<b>3,854</b>	<b>103,592</b>

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/		Price/ Unit	Total Cost
	Farm	Unit		
Liability Insurance	95	acre	6.12	581
Office Expense	95	acre	75.00	7,125
Sanitation Fees	40	acre	12.80	512

UC COOPERATIVE EXTENSION  
**Table 6. HOURLY EQUIPMENT COSTS**  
 SACRAMENTO VALLEY and SAN JOAQUIN VALLEY 2011

Yr	Description	COSTS PER HOUR								
		Actual Hours Used	Capital Recovery	Cash Overhead			Operating		Total Oper.	Total Costs/Hr.
				Insur- ance	Taxes	Repairs	Fuel & Lube			
11	55HP 2WD Tractor	800	2.12	0.11	0.15	1.48	8.08	9.56	11.94	
11	66HP 2WD Tractor	800	2.53	0.14	0.18	1.76	9.69	11.45	14.30	
11	All Terrain Vehicle	285	1.98	0.08	0.11	0.56	2.38	2.94	5.11	
11	Bin Trailers #1	166	0.64	0.03	0.04	0.28	0.00	0.28	0.99	
11	Bin Trailers #2	166	0.64	0.03	0.04	0.28	0.00	0.28	0.99	
11	Bin Trailers #3	166	0.64	0.03	0.04	0.28	0.00	0.28	0.99	
11	Bin Trailers #4	166	0.64	0.03	0.04	0.28	0.00	0.28	0.99	
11	Mower - Flail 10 ft	200	3.57	0.14	0.18	4.42	0.00	4.42	8.31	
11	Orch.Sprayer 500 G	230	6.29	0.25	0.33	3.65	0.00	3.65	10.52	
11	Pickup Truck - 3/4 ton	285	8.37	0.36	0.46	2.36	7.13	9.49	18.68	
11	Utility Trailer	150	0.56	0.03	0.04	0.28	0.00	0.28	0.91	
11	Weed Sprayer 100 Gal	150	2.05	0.08	0.11	1.21	0.00	1.21	3.45	



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**Table 7. OPERATIONS WITH EQUIPMENT and MATERIALS**  
 SACRAMENTO VALLEY and SAN JOAQUIN VALLEY 2011

Operation	Operation Month	Tractor	Implement	Non-Machine Labor Hrs	Material	Broadcast Rate/acre	Unit
Prune: Hand	January			23.50			
	February			23.50			
Prune/Tree Wires: Wire Repair	January			1.50			
Prune: Shred Prunings	March	66HP 2WD	Mower-Flail				
Prune: Summer Prune	June			12.00			
Thin Fruit	May			90.00			
Prop Limbs	June	55HP 2WD	Utility Trailer	2.00			
Remove Props	July	55HP 2WD	Utility Trailer	1.00			
Disease/Insect: Dormant Spray	January	66HP 2WD	Orchard Sprayer		Oil	5.00	ga;
					Kocide (Cu)	10.00	lb
					Dimilin	14.00	floz
					Pristine	12.00	oz
Disease: Brown Rot @ partial bloom	February	66HP 2WD	Orchard Sprayer		Indar	2.00	oz
Disease: Brown Rot @ full bloom	March	66HP 2WD	Orchard Sprayer		Quintec	7.00	floz
Disease: Mildew	March	66HP 2WD	Orchard Sprayer		Sulfur (wetttable)	10.00	lb
Disease: Mildew, Rust	April	66HP 2WD	Orchard Sprayer		Sulfur (wetttable)	10.00	lb
	May	66HP 2WD	Orchard Sprayer		Asana	9.60	floz
Insect: PTB, OFM	May	66HP 2WD	Orchard Sprayer		Checkmate OFM	1.30	floz
					Intrepid	12.80	floz
Insect: PTB, OFM, Mites	June	66HP 2WD	Orchard Sprayer		Checkmate OFM	1.30	floz
					AgriMek	12.80	floz
Disease: Shothole, PLC	November	66HP 2WD	Orchard Sprayer		Ziram	8.00	lb
Irrigate:	April			0.30	Water	4.50	acin
	May			0.60	Water	9.00	acin
	June			0.60	Water	9.00	acin
	July			0.60	Water	9.00	acin
	August			0.30	Water	4.50	acin
Weed: Spot Spray	April	66HJP 2WD	Weed Sprayer		Roundup	0.30	pt
	June	66HP 2WD	Weed Sprayer		Gramoxone	0.30	pt
Weed: Mow Middles	April	66HP 2WD	Mower-Flail				
	May	66HP 2WD	Mower-Flail				
	June	66HP 2WD	Mower-Flail				
	July	66HP 2WD	Mower-Flail				
Weed: Dormant Strip	November	66HP 2WD	Weed Sprayer		Roundup	1.00	pt
					Matrix	1.32	oz
					Surflan	1.50	pt
Fertilize: N	April				UN32	26.67	lb N
	June				UN32	26.67	lb N
	August				UN32	26.67	lb N
Fertilize: Leaf/Nutrition Analysis	July				Analysis		
Harvest: Field Bin Distribution	July	66HP 2WD	Bin Trailer				
			Bin Trailer				
		55HP 2WD	Bin Trailer				
			Bin Trailer				
Hand Pick & Field Sort Fruit	July	Contract					