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UNIVERSITY OF CALIFORNIA AGRICULTURE AND NATURAL RESOURCES  
COOPERATIVE EXTENSION  
AGRICULTURAL ISSUES CENTER  
UC DAVIS DEPARTMENT OF AGRICULTURAL AND RESOURCE ECONOMICS

## **SAMPLE COSTS FOR PROCESSING PEACHES**



**PRODUCE PROCESSING PEACHES**  
**Cling and Freestone Extra-early Harvested Varieties**  
**SACRAMENTO and SAN JOAQUIN VALLEY 2017**

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**Sacramento and San Joaquin Valley – 2017**

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**INTRODUCTION**

Sample costs to produce extra-early harvested varieties of processing peaches in the Sacramento and San Joaquin Valleys are shown in this study. This study is intended as a guide only. It can be used to help guide production decisions, estimate potential returns, prepare budgets and evaluate production loans. Sample costs given for labor, materials, equipment and contract services are based on January 2017 figures. Practices described are based on production practices considered typical for the crop and area, but will not apply to every situation. A blank column titled Your Costs is provided in Tables 1 and 2 to enter your estimated costs.

For an explanation of calculations used in the study refer to the section titled Assumptions. For more information contact Jeremy Murdock; University of California Agriculture and Natural Resources, Agricultural Issues Center, Department of Agricultural and Resource Economics, at 530-752-4651 or [jmmurdock@ucdavis.edu](mailto:jmmurdock@ucdavis.edu).

Sample Cost of Production studies for many commodities are available and can be down loaded from the website, <http://coststudies.ucdavis.edu>. Archived studies are also available on the website.

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## ASSUMPTIONS

The following 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. Cultural practices and costs for extra-early processing peaches vary considerably among growers within the region; therefore, many of the costs, practices, and materials in this study will not be applicable to every farm. The practices and inputs used in this cost study serve 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.**

**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.

**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, 2017 . 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 by hand with contract labor crews during the dormant months (November through February). Prunings are normally stacked in the middles and shredded with a flail mower. Additional pruning is done in the summer (also done by contract labor). Wires wrapped around the tree are repaired in the dormant months.

**Fertilization.** Fertilizer usage is based on crop removal, so fertilizer rates will vary based on yield. In this study 102 lbs. of N per acre in the form of UAN-32 is applied annually based on a yield of 17 tons. The UAN-32 is injected in three equal applications from March to August.

A leaf tissue analysis is conducted in July to determine nutrient deficiencies. Some orchards may require applications of potassium and/or zinc, but these applications are not included in this study.

**Thinning and Propping.** In this study, thinning is done by hand with contract labor crews in the spring, late April/early May. In some years, some blocks will need to be re-thinned if sizing is a problem. Mechanical blossom or fruit thinning can significantly reduce thinning costs while improving fruit size in extra early orchards, but this is not included in this study. 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.** Irrigation water 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 \$5.00 per acre-inch or \$60.00 per acre foot. The cost of irrigation water includes a cost of \$20 per acre-foot for electricity to pressurize the micro-sprinkler irrigation system. The annual water requirements assumed is 42 acre-inches. Pumping costs for spring frost protection may also be a consideration, but are not included in this study.

The \$5.00 per acre-inch water cost is typical in the Sacramento Valley. Northern San Joaquin Valley water costs are lower (Modesto and Turlock water districts). A water cost of \$3.50 per acre-inch could be added to the “Your Cost” column in Tables 1 and 2 to factor in the lower water cost in Northern San Joaquin Valley. Total water costs may vary depending on weather (i.e. temperature, rainfall, or frost protection), district or well water availability, and electricity costs.

**Pest Management.** The pesticides and rates mentioned in this cost study are listed in *UC Integrated Pest Management for Peaches*. **Pesticides mentioned in this study are not recommendations, but those commonly used in the region.** For information and pesticide use permits, contact the local county Agricultural Commissioner’s office. 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) **Pest control costs can vary considerably each year depending upon local conditions and pest populations in any given year.** Adjuvants are recommended for many pesticides for effective control and are an added cost. Adjuvants are not included as a cost in this study.

*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 (February, April, May, June). 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). This spray of horticultural oil and insecticide (Dimilin) is made before bud swell during January or early February and includes basic copper (Kocide) for peach leaf curl control. The in-season treatments used in this study for oriental fruit moth (OFM) and PTB occur in late April or May (Asana), and June (Intrepid) and possibly July (Altacor). 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 too wet and 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 a copper fungicide in the dormant spray to prevent damage later in the growing season. Two brown rot treatments are made at early and full bloom: February with Rovral and March with Pristine. Powdery mildew is treated in March (petal fall) with Quintec. Mildew and rust is treated 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 pre-harvest 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, field sorted, and placed into bins left throughout the orchard. In the Sacramento Valley, fruit is sorted from the bins. In the North San Joaquin Valley, fruit is sorted on tables before placing into bins. The bins are moved out of the orchard to the roadside and are loaded onto trucks and hauled to the grading/receiving station. Refer to “*Sample*

*Costs to Establish and Produce Processing Peaches, Late Harvested Varieties, Sacramento Valley and San Joaquin Valley- 2017*” for information regarding machine harvested peaches.

**Yields and Returns.** Cling peach 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 2016 season was \$545 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 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.** Hourly wages for workers are \$15.00 for machine operators and \$11.00 per hour non-machine labor. Adding 46 percent for the employers’ share of federal and state payroll taxes, insurance, and other possible benefits gives the labor rates shown of \$21.90 and \$16.06 per hour for machine labor and non-machine labor, respectively. The overhead includes the employer’s share of federal and California state payroll taxes, workers' compensation insurance for field crops and a percentage for other possible benefits. Workers’ compensation insurance costs will vary among growers. The cost is based on the average industry rate as of January, 2017. Labor for operations involving machinery are 20 percent higher than the operation time given in Table 2 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 and Biological Engineers (ASABE). Fuel and lubrication costs are also determined by ASABE equations based on maximum power takeoff (PTO) horsepower, and fuel type. Average prices for on-farm delivery of diesel and gasoline based on January 2017 data from the Energy Information Administration are \$2.86 and \$2.76 per gallon, respectively. The cost includes a 9.25 percent sales tax, a \$0.13/gal excise tax on diesel fuel, an 8 percent sales tax, and a \$0.30/gal excise tax on gasoline. It is noted that federal and state excise taxes are refundable for on-farm use when filing the farm income tax return. 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 percent 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 4.50 percent 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 2017.

**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 profitability and economic viability of cling peach production. Because of so many potential risk factors, effective risk management must combine specific tactics in a detailed manner, in various combinations for a sustainable operation.

### **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 can 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 percent 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 percent of the average value of the property.

**Insurance.** Insurance for farm investments varies depending on the assets included and the amount of coverage.

*Property Insurance.* This provides coverage for property loss and is charged at 0.846 percent of the average value of the assets over their useful life.

*Liability insurance.* A standard farm liability insurance policy will help cover the expenses for which you become legally obligated to pay for bodily injury claims on your property and damages to another person's property as a result of a covered accident. Common liability expenses covered under your policy include attorney fees and court costs, medical expenses for people injured on your property, injury or damage to another's property. In this study, liability insurance costs \$640 for the entire farm.

*Crop Insurance.* This is available to peach growers for any unavoidable loss of production, damage or poor quality resulting from adverse weather conditions such as cool wet weather, freeze, frost, hail, heat, rain, wind and damage from birds, drought, earthquakes and fire. Coverage levels are from 50-85 percent of the approved average yield as established by verifiable production records from the orchard. Actual insurance coverage is by unit, not by acre. A significant number of growers purchase crop insurance in this region. Due to variability in coverages, crop insurance is not included in this study. <http://www.rma.usda.gov/policies/2016policy.html>

**Office Expense.** Office and business expenses are estimated at \$75 per acre. These expenses include office supplies, telephones, bookkeeping, accounting, 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 6 months of weekly service.

**Management/Supervisor Wages.** A salary for a farm manager for the 100-acre farm is included to indicate that a cash cost for professional supervision of the orchard is incurred. An expense of \$60,000 per year which includes 46 percent for payroll overhead and insurance benefits is used in this study. The total cost for a farm manager in this study is \$600 per acre.

**Investment Repairs.** Annual maintenance is calculated as 2 percent of the purchase price except on orchard establishment which is 0.5 percent to cover costs for tree replacement.

### **Non-Cash Overhead Costs**

Non-cash overhead costs, shown on an annual per-acre basis, are 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 and Biological Engineers (ASABE) based on equipment type and years of life. The life in years is estimated by dividing the wear out life, as given by ASABE, by the annual hours of use in the 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 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.* An interest rate of 5.00 percent is used to calculate capital recovery. The rate will vary depending upon loan amount and other lending agency conditions, but is the basic suggested rate by a farm lending agency as of January 2017.

**Land.** Cropland with irrigation availability plantable to peaches is valued at \$22,000 per acre. For this study, the producing acreage estimated worth is \$29,939 per acre. It is the crop land value plus the establishment cost (\$22,000 + \$7,939).

**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 micro-sprinkler irrigation system is considered an improvement to the property and is shown in the capital recovery sections of Tables 1 and 2, and Investments in Table 5. It is

the standard method of irrigation in the Sacramento Valley, however, in San Joaquin Valley the more common method is flood irrigation.

**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, 2017*” represents the establishment cost per acre. For this study, the cost is \$7,939 per acre or \$317,560 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, thinning, 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 percent 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 CLING PEACHES**  
SACRAMENTO AND SAN JOAQUIN VALLEY 2017

Operation	Operation		Cash and Labor Costs per Acre				Total Cost	Your Cost
	Time (Hrs/A)	Labor Cost	Fuel	Lube & Repairs	Material Cost	Custom/Rent		
Cultural:								
Prune, Train, & Sucker	0.00	755	0	0	0	0	755	
Prune/Train: Tree Wire Repairs	0.00	24	0	0	25	0	49	
Disease/Insect: Dormant Spray	0.50	13	5	4	105	0	127	
Shred Prunings	0.40	11	4	3	0	0	18	
Disease: Brown Rot @ Early Bloom	0.50	13	5	4	40	0	62	
Disease: Brown Rot @ Full Bloom	0.50	13	5	4	42	0	64	
Weeds: Mow Middles 4X	1.60	42	16	13	0	0	72	
Disease: Mildew	0.50	13	5	4	36	0	59	
Irrigate 8X	0.00	41	0	0	210	0	251	
Weed: Spot Spray 2X	0.66	17	7	3	3	0	30	
Fertigate: UAN-32 3X	0.00	0	0	0	61	0	61	
Disease: Mildew 2X Sulfur	1.00	26	10	8	7	0	52	
Thin Fruit	0.00	1,445	0	0	0	0	1,445	
Insects: PTB/OFM (Asana)	0.50	13	5	4	30	0	52	
Prune: Summer	0.00	193	0	0	0	0	193	
Insects: PTB/OFM/Mites (Intrepid)	0.50	13	5	4	59	0	82	
Prop Limbs/Remove Props	0.50	61	4	2	0	0	67	
Insect: PTB/OFM (Altacor)	0.50	13	5	4	85	0	108	
Leaf Tissue Analysis	0.00	0	0	0	0	2	2	
Disease: Shothole/PLC	0.50	13	5	4	42	0	64	
Weeds: Dormant Strip Spray	0.33	9	3	2	56	0	69	
Pickup Truck Use	2.85	75	16	9	0	0	100	
ATV Use	2.85	75	5	3	0	0	83	
<b>TOTAL CULTURAL COSTS</b>	<b>14.19</b>	<b>2,879</b>	<b>107</b>	<b>76</b>	<b>802</b>	<b>2</b>	<b>3,867</b>	
Harvest:								
Bin Field Distribution	0.80	21	12	2	0	0	35	
Hand Pick & Field Sort Fruit	0.00	0	0	0	0	1,339	1,339	
Haul Fruit	0.00	0	0	0	0	204	204	
Assessments	0.00	0	0	0	49	0	49	
<b>TOTAL HARVEST COSTS</b>	<b>0.80</b>	<b>21</b>	<b>12</b>	<b>2</b>	<b>49</b>	<b>1,543</b>	<b>1,627</b>	
Interest on Operating Capital at 4.50%							56	
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>14</b>	<b>2,900</b>	<b>119</b>	<b>79</b>	<b>852</b>	<b>1,545</b>	<b>5,550</b>	

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**Table 1. CONTINUED**

SACRAMENTO AND SAN JOAQUIN VALLEY 2017

Operation	Operation	Cash and Labor Costs per Acre					Total Cost	Your Cost
	Time (Hrs/A)	Labor Cost	Fuel	Lube & Repairs	Material Cost	Custom/Rent		
<b>CASH OVERHEAD:</b>								
Liability Insurance							6	
Office Expense							75	
Sanitation Fees							13	
Field Manager Salary							600	
Property Taxes							275	
Property Insurance							23	
Investment Repairs							91	
<b>TOTAL CASH OVERHEAD COSTS/ACRE</b>							<b>1,083</b>	
<b>TOTAL CASH COSTS/ACRE</b>							<b>6,633</b>	
<b>NON-CASH OVERHEAD:</b>								
		Per Producing Acre	Annual Cost					
			Capital Recovery					
Building: 1800 sq. ft.		540	35				35	
Orchard Establishment Cost		7,939	765				765	
Fuel Tanks: 2-250 gal		63	4				4	
Land		22,000	1,100				1,100	
Micro-sprinkler Irrigation System		1,800	154				154	
Pruning Equipment		25	3				3	
Shop Tools		131	12				12	
Equipment		1,036	118				118	
<b>TOTAL NON-CASH OVERHEAD COSTS</b>		<b>33,535</b>	<b>2,191</b>				<b>2,192</b>	
<b>TOTAL COSTS/ACRE</b>							<b>8,825</b>	

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**Table 2. COSTS AND RETURNS PER ACRE TO PRODUCE CLING PEACHES**  
 SACRAMENTO AND SAN JOAQUIN VALLEY 2017

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>GROSS RETURNS</b>					
Cling Peaches	17	Ton	545.00	9,265	
<b>TOTAL GROSS RETURNS</b>				9,265	
<b>OPERATING COSTS</b>					
<b>Herbicide:</b>					<b>59</b>
Roundup Ultra Max	0.30	pint	4.31	1	
Gramoxone Inteon	0.30	pint	5.25	2	
Roundup Pro	1.00	pint	6.24	6	
Matrix SG	1.32	oz	22.69	30	
Surflan 4 AS	1.50	pint	13.07	20	
<b>Insecticide:</b>					<b>265</b>
Superior Oil	5.00	gal	4.50	23	
Dimilin 2L	14.00	floz	2.26	32	
Quintec	7.00	floz	5.16	36	
Asana XL	9.60	floz	0.77	7	
Checkmate OFM (F)	3.90	floz	17.38	68	
Intrepid 2F	12.80	floz	2.10	27	
Agri-Mek 0.15EC	8.00	floz	1.25	10	
Altacor	4.00	Oz	15.72	63	
<b>Fungicide:</b>					<b>182</b>
Kocide 3000	5.00	lb	10.15	51	
Rovral 4F	2.00	pint	20.01	40	
Pristine	12.00	oz	3.50	42	
Sulfur - Wettable	20.00	lb	0.37	7	
Ziram 76DF	8.00	lb	5.26	42	
<b>Fertilizer:</b>					<b>61</b>
UAN-32	102.00	lb N	0.60	61	
<b>Water:</b>					<b>210</b>
Water - Peach	42.00	acin	5.00	210	
<b>Custom:</b>					<b>1,545</b>
Leaf Analysis	1.00	acre	2.00	2	
Harvest - Hand	17.00	ton	78.75	1,339	
Haul Fruit	17.00	ton	12.00	204	
<b>Tree Aids:</b>					<b>25</b>
Tree Rope	1.00	acre	25.00	25	
<b>Assessment:</b>					<b>49</b>
CPB Assessment Fee	17.00	ton	2.90	49	
<b>Labor</b>					<b>2,900</b>
Equipment Operator Labor	17.99	hrs	21.90	394	
Non-Machine Labor	156.06	hrs	16.06	2,506	
<b>Machinery</b>					<b>197</b>
Fuel-Gas	7.60	gal	2.76	21	
Fuel-Diesel	34.08	gal	2.87	98	
Lube				18	
Machinery Repair				61	
Interest on Operating Capital @ 4.50%				56	
<b>TOTAL OPERATING COSTS/ACRE</b>				5,550	
<b>TOTAL OPERATING COSTS/TON</b>				326	
<b>NET RETURNS ABOVE OPERATING COSTS</b>				3,715	

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**Table 2. CONTINUED**  
SACRAMENTO AND SAN JOAQUIN VALLEY 2017

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>CASH OVERHEAD COSTS</b>					
Liability Insurance				6	
Office Expense				75	
Sanitation Fees				13	
Field Manager Salary				600	
Property Taxes				275	
Property Insurance				23	
Investment Repairs				91	
<b>TOTAL CASH OVERHEAD COSTS/ACRE</b>				<b>1,083</b>	
<b>TOTAL CASH OVERHEAD COSTS/TON</b>				<b>64</b>	
<b>TOTAL CASH COSTS/ACRE</b>				<b>6,633</b>	
<b>TOTAL CASH COSTS/TON</b>				<b>390</b>	
<b>NET RETURNS ABOVE CASH COSTS</b>				<b>2,632</b>	
<b>NON-CASH OVERHEAD COSTS (Capital Recovery)</b>					
Building: 1800 sq. ft.				35	
Orchard Establishment Cost				765	
Fuel Tanks: 2-250 gal				4	
Land				1,100	
Micro-sprinkler Irrigation System				154	
Pruning Equipment				3	
Shop Tools				12	
Equipment				118	
<b>TOTAL NON-CASH OVERHEAD COSTS/ACRE</b>				<b>2,192</b>	
<b>TOTAL NON-CASH OVERHEAD COSTS/TON</b>				<b>129</b>	
<b>TOTAL COST/ACRE</b>				<b>8,825</b>	
<b>TOTAL COST/TON</b>				<b>519</b>	
<b>NET RETURNS ABOVE TOTAL COST</b>				<b>440</b>	

UC COOPERATIVE EXTENSION-AGRICULTURAL ISSUES CENTER  
**Table 3. MONTHLY PER ACRE CASH COSTS TO PRODUCE CLING PEACHES**  
 SACRAMENTO AND SAN JOAQUIN VALLEY 2017

	JAN 17	FEB 17	MAR 17	APR 17	MAY 17	JUN 17	JUL 17	AUG 17	SEP 17	OCT 17	NOV 17	Total
<b>Cultural:</b>												
Prune, Train, & Sucker	377	377										755
Prune/Train: Tree Wire Repairs	49											49
Disease/Insect: Dormant Spray		127										127
Shred Prunings			18									18
Disease: Brown Rot @ Early Bloom		62										62
Disease: Brown Rot @ Full Bloom			64									64
Weeds: Mow Middles 4X		18		18	18	18						72
Disease: Mildew			59									59
Irrigate 8X				31	63	63	63	31				251
Weed: Spot Spray 2X				15		15						30
Fertigate: UAN-32 3X			20			20		20				61
Disease: Mildew 2X Sulfur				26	26							52
Thin Fruit					1,445							1,445
Insects: PTB/OFM					52							52
Prune: Summer						193						193
Insects: PTB/OFM/Mites						82						82
Prop Limbs/Remove Props						42	26					67
Insect: PTB/OFM							108					108
Leaf Tissue Analysis							2					2
Disease: Shothole/PLC											64	64
Weeds: Dormant Strip Spray											69	69
Pickup Truck Use	9	9	9	9	9	9	9	9	9	9	9	100
ATV Use	8	8	8	8	8	8	8	8	8	8	8	83
<b>TOTAL CULTURAL COSTS</b>	<b>443</b>	<b>602</b>	<b>178</b>	<b>107</b>	<b>1,621</b>	<b>449</b>	<b>215</b>	<b>68</b>	<b>17</b>	<b>17</b>	<b>151</b>	<b>3,867</b>
<b>Harvest:</b>												
Bin Field Distribution							35					35
Hand Pick & Field Sort Fruit							1,339					1,339
Haul Fruit							204					204
Assessments							49					49
<b>TOTAL HARVEST COSTS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,627</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,627</b>
Interest on Operating Capital @ 4.50%	2	4	5	5	11	13	19	-1	-1	-1	-1	56
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>445</b>	<b>606</b>	<b>182</b>	<b>108</b>	<b>1,625</b>	<b>454</b>	<b>1,746</b>	<b>64</b>	<b>16</b>	<b>16</b>	<b>150</b>	<b>5,500</b>
<b>CASH OVERHEAD</b>												
Liability Insurance												6
Office Expense	6	6	6	6	6	6	6	6	6	6	6	75
Sanitation Fees	1	1	1	1	1	1	1	1	1	1	1	13
Field Manager Salary	50	50	50	50	50	50	50	50	50	50	50	600
Property Taxes		275										275
Property Insurance		23										23
Investment Repairs	8	8	8	8	8	8	8	8	8	8	8	91
<b>TOTAL CASH OVERHEAD COSTS</b>	<b>66</b>	<b>364</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>1,083</b>
<b>TOTAL CASH COSTS/ACRE</b>	<b>510</b>	<b>969</b>	<b>248</b>	<b>174</b>	<b>1,690</b>	<b>520</b>	<b>1,811</b>	<b>129</b>	<b>81</b>	<b>82</b>	<b>216</b>	<b>6,633</b>

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**Table 4. RANGING ANALYSIS**  
SACRAMENTO AND SAN JOAQUIN VALLEY 2017

COSTS PER ACRE AND PER TON AT VARYING YIELDS TO PRODUCE EXTRA-EARLY CLING PEACHES

	YIELD (TON)						
	11.00	13.00	15.00	17.00	19.00	21.00	23.00
<b>OPERATING COSTS/ACRE:</b>							
Cultural	3,867	3,867	3,867	3,867	3,867	3,867	3,867
Harvest	1,065	1,253	1,440	1,627	1,815	2,002	2,189
Interest on Operating Capital @ 4.50%	54	54	55	56	56	57	58
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>4,986</b>	<b>5,174</b>	<b>5,362</b>	<b>5,550</b>	<b>5,738</b>	<b>5,926</b>	<b>6,114</b>
<b>TOTAL OPERATING COSTS/TON</b>	<b>453.25</b>	<b>397.98</b>	<b>357.45</b>	<b>326.46</b>	<b>301.99</b>	<b>282.18</b>	<b>265.82</b>
<b>CASH OVERHEAD COSTS/ACRE</b>							
	1,084	1,084	1,084	1,084	1,084	1,084	1,084
<b>TOTAL CASH COSTS/ACRE</b>	<b>6,069</b>	<b>6,257</b>	<b>6,445</b>	<b>6,633</b>	<b>6,821</b>	<b>7,009</b>	<b>7,197</b>
<b>TOTAL CASH COSTS/TON</b>	<b>551.76</b>	<b>481.33</b>	<b>429.69</b>	<b>390.20</b>	<b>359.02</b>	<b>333.78</b>	<b>312.93</b>
<b>NON-CASH OVERHEAD COSTS/ACRE</b>							
	2,192	2,192	2,192	2,192	2,192	2,192	2,192
<b>TOTAL COSTS/ACRE</b>	<b>8,261</b>	<b>8,449</b>	<b>8,637</b>	<b>8,825</b>	<b>9,013</b>	<b>9,201</b>	<b>9,389</b>
<b>TOTAL COSTS/TON</b>	<b>751.00</b>	<b>650.00</b>	<b>576.00</b>	<b>519.00</b>	<b>474.00</b>	<b>438.00</b>	<b>408.00</b>

Net Return per Acre above Operating Costs for Cling peach

PRICE (\$/ton)	YIELD (ton/acre)						
Cling Peach	11.00	13.00	15.00	17.00	19.00	21.00	23.00
395.00	-641	-39	563	1,165	1,767	2,369	2,971
445.00	-91	611	1,313	2,015	2,717	3,419	4,121
495.00	459	1,261	2,063	2,865	3,667	4,469	5,271
545.00	1,009	1,911	2,813	3,715	4,617	5,519	6,421
595.00	1,559	2,561	3,563	4,565	5,567	6,569	7,571
645.00	2,109	3,211	4,313	5,415	6,517	7,619	8,721
695.00	2,659	3,861	5,063	6,265	7,467	8,669	9,871

Net Return per Acre above Cash Costs for Cling peach

PRICE (\$/ton)	YIELD (ton/acre)						
Cling Peach	11.00	13.00	15.00	17.00	19.00	21.00	23.00
395.00	-1,724	-1,122	-520	82	684	1,286	1,888
445.00	-1,174	-472	230	932	1,634	2,336	3,038
495.00	-624	178	980	1,782	2,584	3,386	4,188
545.00	-74	828	1,730	2,632	3,534	4,436	5,338
595.00	476	1,478	2,480	3,482	4,484	5,486	6,488
645.00	1,026	2,128	3,230	4,332	5,434	6,536	7,638
695.00	1,576	2,778	3,980	5,182	6,384	7,586	8,788

Net Return per Acre above Total Costs for Cling peach

PRICE (\$/ton)	YIELD (ton/acre)						
Cling Peach	11.00	13.00	15.00	17.00	19.00	21.00	23.00
395.00	-3,916	-3,314	-2,712	-2,110	-1,508	<u>-906</u>	<u>-304</u>
445.00	-3,366	-2,664	-1,962	-1,260	<u>-558</u>	144	846
495.00	-2,816	-2,014	-1,212	<u>-410</u>	392	1,194	1,996
545.00	-2,266	-1,364	<u>-462</u>	440	1,342	2,244	3,146
595.00	-1,716	-714	288	1,290	2,292	3,294	4,296
645.00	-1,166	-64	1,038	2,140	3,242	4,344	5,446
695.00	<u>-616</u>	586	1,788	2,990	4,192	5,394	6,596

UC COOPERATIVE EXTENSION-AGRICULTURAL ISSUES CENTER  
**Table 5. WHOLE FARM EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD**  
 SACRAMENTO AND SAN JOAQUIN VALLEY 2017

ANNUAL EQUIPMENT COSTS

Yr.	Description	Price	Years Life	Salvage Value	Capital Recovery	Cash Overhead		Total
						Insurance	Taxes	
17	55 HP 2WD Tractor	33,039	15	6,432	2,885	17	197	3,099
17	66 HP 2WD Tractor	46,200	15	8,994	4,034	23	276	4,334
17	ATV 4WD	8,350	7	3,167	1,054	5	58	1,116
17	Mower - Flail 10'	10,477	10	1,853	1,210	5	62	1,276
17	Orch. Sprayer 500 gal	26,000	8	5,870	3,408	13	159	3,581
17	Pickup Truck - 3/4	32,000	7	12,139	4,039	19	221	4,279
17	Utility Trailer	1,836	20	96	144	1	10	155
17	Weed Sprayer 100 G	4,500	10	796	520	2	26	548
17	Bin Carrier	45,000	10	7,958	5,195	22	265	5,482
TOTAL		207,402	-	47,305	22,489	108	1,274	23,870
60% of New Cost*		124,441	-	28,383	13,493	65	764	14,322

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

ANNUAL INVESTMENT COSTS

Description	Price	Years Life	Salvage Value	Capital Recovery	Cash Overhead			Total
					Insurance	Taxes	Repairs	
INVESTMENT								
Building: 1800 sq. ft.	54,000	30	0	3,513	23	270	1,080	4,886
Orchard Establishment Cost	317,560	15	0	30,594	134	1,588	1,588	33,905
Fuel Tanks: 2-250G	6,310	30	442	404	3	34	126	566
Land - Peaches	880,000	20	880,000	44,000	744	8,800	0	53,544
Micro-sprinkler Irrigation System	72,000	18	0	6,159	30	360	1,440	7,990
Pruning Equipment	2,500	10	175	310	1	13	50	374
Shop Tools	13,136	15	920	1,223	6	70	263	1,562
TOTAL INVESTMENT	1,345,506	-	881,537	86,203	942	11,135	4,547	102,827

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Liability Insurance	40.00	Acre	6.40	256
Office Expense	40.00	Acre	75.00	3,000
Sanitation Fees	40.00	Acre	12.90	516
Field Manager Salary	40.00	Acre	600.00	24,000

UC COOPERATIVE EXTENSION-AGRICULTURAL ISSUES CENTER  
**Table 6. HOURLY EQUIPMENT COSTS**  
 SACRAMENTO AND SAN JOAQUIN VALLEY 2017

Yr	Description	Cling Peach Hours Used	Total Hours Used	Capital Recovery	Cash Overhead		Operating		Total Oper.	Total Costs/Hr.
					Insurance	Taxes	Lube & Repairs	Fuel		
17	55 HP 2WD Tractor	22	778	2.22	0.01	0.15	2.67	7.75	10.42	12.81
17	66 HP 2WD Tractor	352	800	3.03	0.02	0.21	3.44	9.30	12.75	16.00
17	ATV 4WD	114	285	2.22	0.01	0.12	0.89	1.84	2.73	5.08
17	Mower - Flail 10'	80	200	3.63	0.02	0.18	4.40	0.00	4.40	8.23
17	Orch. Sprayer 500 G	200	250	8.18	0.03	0.38	4.52	0.00	4.52	13.11
17	Pickup Truck - 3/4	114	285	8.50	0.04	0.46	3.19	5.52	8.71	17.72
17	Utility Trailer	20	150	0.58	0.00	0.04	0.27	0.00	0.27	0.89
17	Weed Sprayer 100 G	40	150	2.08	0.01	0.11	1.21	0.00	1.21	3.40
17	Bin Carrier	35	300	10.39	0.04	0.53	2.81	13.39	16.20	27.17



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**Table 7. OPERATIONS WITH EQUIPMENT and MATERIALS**

SACRAMENTO AND SAN JOAQUIN VALLEY 2017

Operation	Operation Month	Tractor	Implement	Labor Type/ Material	Rate/ acre	Unit
Prune, Train, & Sucker	Jan			Non-Machine Labor	23.50	hours
	Feb			Non-Machine Labor	23.50	hours
Prune/Train: Tree Wire	Jan			Non-Machine Labor	1.50	hours
Disease: Dormant Spray	Feb	66 HP 2WD Tractor	Orch.Sprayer 500 G	Tree Rope	1.00	acre
				Equipment Operator Labor	0.60	hour
				Superior Oil	5.00	Gal
				Kocide 3000	5.00	Lb
Shred Prunings	Mar	66 HP 2WD Tractor	Mower - Flail 10'	Equipment Operator Labor	0.48	hour
	Feb	66 HP 2WD Tractor	Orch.Sprayer 500 G	Equipment Operator Labor	0.60	hour
Disease: Brown Rot	Mar	66 HP 2WD Tractor	Orch.Sprayer 500 G	Rovral 4F	2.00	Pint
				Equipment Operator Labor	0.60	hour
Disease: Brown Rot	Mar	66 HP 2WD Tractor	Orch.Sprayer 500 G	Pristine	12.00	Oz
				Equipment Operator Labor	0.60	hour
Disease: Mildew	Mar	66 HP 2WD Tractor	Orch.Sprayer 500 G	Quintec	7.00	FLOz
				Equipment Operator Labor	0.60	hour
Irrigate 8X	Apr			Non-Machine Labor	0.32	hour
				Water - Peach	5.25	AcIn
	May			Non-Machine Labor	0.64	hour
				Water - Peach	10.50	AcIn
	June			Non-Machine Labor	0.64	hour
				Water - Peach	10.50	AcIn
	July			Non-Machine Labor	0.64	hour
				Water - Peach	10.50	AcIn
Aug	Non-Machine Labor	0.32	hour			
	Water - Peach	5.25	AcIn			
Weed: Spot Spray 2X	Apr	66 HP 2WD Tractor	Weed Sprayer 100 G	Equipment Operator Labor	0.40	hour
				Roundup Ultra Max	0.30	Pint
Weeds: Mow Middles 4X	February	66 HP 2WD Tractor	Mower - Flail 10'	Equipment Operator Labor	0.48	hour
				Equipment Operator Labor	0.48	hour
Fertigate: UAN-32 3X	April	66 HP 2WD Tractor	Mower - Flail 10'	Equipment Operator Labor	0.48	hour
	May	66 HP 2WD Tractor	Mower - Flail 10'	Equipment Operator Labor	0.48	hour
	June	66 HP 2WD Tractor	Mower - Flail 10'	Equipment Operator Labor	0.48	hour
	March			UAN-32	34.00	lb N
Disease: Mildew 2X	Apr	66 HP 2WD Tractor	Orch.Sprayer 500 G	UAN-32	34.00	lb N
				UAN-32	34.00	lb N
				UAN-32	34.00	lb N
Thin Fruit	May	66 HP 2WD Tractor	Orch.Sprayer 500 G	Equipment Operator Labor	0.60	hour
				Sulfur - Wetttable	10.00	lb
Insects: PTB/OFM	May	66 HP 2WD Tractor	Orch.Sprayer 500 G	Equipment Operator Labor	0.60	hour
				Sulfur - Wetttable	10.00	lb
Prune: Summer	June	66 HP 2WD Tractor	Orch.Sprayer 500 G	Non-Machine Labor	90.00	hours
				Equipment Operator Labor	0.60	hour
Insect: PTB/OFM/Mites	June	66 HP 2WD Tractor	Orch.Sprayer 500 G	Asana XL	9.60	FLOz
				Checkmate OFM (F)	1.30	FLOz
Prop Limbs/Remove	July	55 HP 2WD Tractor	Utility Trailer	Non-Machine Labor	2.00	hours
				Equipment Operator Labor	0.60	hour
Insect: PTB/OFM	July	66 HP 2WD Tractor	Orch.Sprayer 500 G	Intrepid 2F	12.80	FLOz
				Checkmate OFM (F)	1.30	FLOz
Leaf Tissue Analysis	July	66 HP 2WD Tractor	Orch.Sprayer 500 G	Agri-Mek 0.15EC	8.00	FLOz
				Equipment Operator Labor	0.40	hour
Disease: Shothole/PLC	Nov	66 HP 2WD Tractor	Orch.Sprayer 500 G	Roundup Pro	1.00	Pint
				Ziram 76DF	8.00	Lb
Weeds: Dormant Strip	Nov	66 HP 2WD Tractor	Weed Sprayer 100 G	Equipment Operator Labor	0.40	hour
				Matrix SG	1.32	Oz
Pickup Truck Use	Nov	66 HP 2WD Tractor	Weed Sprayer 100 G	Surflan 4 AS	1.50	Pint
				Equipment Operator Labor	3.42	hours
ATV Use	Nov		Pickup Truck - 3/4	Equipment Operator Labor	3.42	hours
Bin Field Distribution	July		ATV 4WD	Equipment Operator Labor	0.96	hour
Hand Pick & Field Sort	July		Bin Carrier	Harvest - Hand	17.00	Ton
Haul Fruit	July			Haul Fruit	17.00	Ton
Assessments	July			CPB AssessmentFee	17.00	Ton