

U.C. COOPERATIVE EXTENSION

SAMPLE COSTS TO PRODUCE CLING PEACHES IN THE SACRAMENTO AND SAN JOAQUIN VALLEYS 1990

by

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The detailed costs for cling peach production in the Sacramento and San Joaquin Valleys is presented in this study. The hypothetical farm used in this report consists of 100 acres of which 40 acres are in cling peach production. The cost of another 2.4 acres of roads, ditches and farmstead are allocated to the peach orchard. The remainder of the farm is planted to a different tree crop.

Practices described are based on those production procedures considered typical for this crop and area. Sample costs given for labor, materials, equipment and contract services are based on 1990 figures. Some costs and practices detailed in this study may not be applicable to your situation. This study is only intended as a guide and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans. A blank Your Costs column is provided to enter your actual costs on **Table 1, Sample Costs To Produce Cling Peaches**.

This study consists of General Assumptions for Producing Cling Peaches and seven tables.

- Table 1. Sample Costs to Establish a Cling Peach Orchard.**
- Table 2. Sample Costs to Produce Cling Peaches.**
- Table 3. Monthly Summary of Per Acre Cash Costs to Produce Cling Peaches.**
- Table 4. Equipment and Buildings List for Cling Peaches.**
- Table 5. Cost to Produce Cling Peaches.**
- Table 6. Per Acre Income Above Cash Costs.**
- Table 7. Per Acre Income Above Total Cost.**

For an explanation of calculations used for the study refer to the attached General Assumptions or call the Department of Agricultural Economics, Cooperative Extension, University of California, Davis, California, (916) 752-3589 or call the Farm Advisor in the county of interest

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GENERAL ASSUMPTIONS FOR PRODUCING CLING PEACHES

Sacramento & San Joaquin Valleys - 1990

U.C. Cooperative Extension

The following is a description of some general assumptions pertaining to sample costs of cling peach production in the Sacramento and San Joaquin Valleys.

1. LAND:

Land is valued at \$5,000 per acre. There are 40 acres in the actual peach orchard with another 2.4 acres of roads and farmstead allocated to the peach orchard operation. This increases the cost of land to \$5,300 per producing acre. The farm includes an additional 60 acres of land planted to another tree crop such as almonds. Land is not depreciated.

2. TREES:

Trees are planted at 20' X 20' spacings, with 108 trees per acre.

3. IRRIGATION:

The orchard is irrigated using a flood irrigation system. Water is pumped by a 40 hp motor from a 150 foot well. Four acre-feet of water per year are applied in eight equal irrigations. Pumping costs are estimated at \$25 per acre foot. A total of 4 acre-feet of water is applied.

4. CULTURAL PRACTICES:

Pruning is done by hand during the winter months followed by a dormant spray. Spray applications occur from May through July for peach twig borer, oriental fruit moth, mites, brown rot, shot hole, leaf curl and mildew. Spraying for disease control takes place in the spring and winter months. Nitrogen fertilizer is applied in the spring before the first irrigation and again just before harvest. Potassium is applied only once every four years.

5. LABOR:

Hourly wages for workers are \$5.90 and \$4.25 per hour for skilled and field workers respectively. Adding 34% for SDI, FICA, insurance and other benefits gives the labor rates shown of \$8.00 per hour for skilled labor and \$6.00 per hour for field labor. The labor for operations involving machinery are 10% higher than the machine hours to account for the extra labor involved in equipment set-up, moving, maintenance and repair.

6. OVERHEAD:

County taxes are calculated as 1% of the land value plus 1% of the average of the trees, equipment, buildings and improvements. Insurance is charged at 0.8% of the average value of the equipment over its useful life. Office and business costs are estimated at \$6,000 per year for the whole ranch and include office supplies, phone, bookkeeping, accounting, legal fees, etc.

7. INTEREST:

Interest on operating capital is based on cash costs and is calculated monthly until harvest at the rate of 12.00% per year. Interest is also charged on investment at 12% per year to account for income foregone that could be received from an alternative investment (opportunity cost) and is based on the value of the of the land plus the average value of the trees over the life of the orchard, buildings and equipment.

8. EQUIPMENT COSTS:

In allocating the equipment costs per acre, the following calculations were made and shown in **Table 3**: (a) **Original Cost** of equipment is the cost of the new equipment plus sales tax. (b) **Depreciation** is straight line with a 10% salvage value. (c) **Interest** on investment is calculated as the average value of the equipment per acre during its useful life (average value = (new cost + salvage value)/2 on a cost per acre basis) multiplied by an interest rate of 12.00%. (d) The total investment costs are also calculated as 60% of the depreciation and the interest costs for all new equipment to reflect a mix of the new and used equipment. These values are also used in **Table 1**. Most of this equipment is used on the entire 100 acre ranch.

9. FUEL & REPAIR:

The fuel and repair cost for each operation is determined by multiplying the total hourly operating cost for each piece of equipment by the number of hours per acre for that operation. The equipment used for an operation is identified by the number listed in the Item Number column on **Table 1** which corresponds to the Item Number column on **Table 3**.

- 10.** Pickup truck costs operating costs are based on 8,000 miles per year of use at \$0.15 per mile.

Table 1.

SAMPLE COSTS TO ESTABLISH CLING PEACHES
San Joaquin-Sacramento Valleys - 1990
U. C. Cooperative Extension

Costs are for an orchard planted 20' X 20', with 108 trees/acre. A flood irrigation system is used.

YEAR	Costs per Acre						
	1st	2nd	3rd	4th	5th	6th	7th
YIELD (Tons/acre)				\$4.00	\$8.00	\$12.00	\$16.00
Planting costs							
Land preparation: subsoil & level - contract	\$160						
Disk and Float: 4 hours - labor and tractor	\$76						
Trees: 55 @ \$9.50 (+2 2nd Yr. and 1 3rd Yr.)	\$523	\$19	\$10				
Survey and Plant: 55 @ \$1.50	\$83	\$3	\$2				
TOTAL PLANTING COSTS	\$841	\$22	\$11				
Cultural costs:							
Prune and train (skilled hand labor)	\$4	\$8	\$15	\$23	\$55	\$83	\$194
Brush disposal	\$5	\$9	\$30	\$30	\$30	\$30	\$30
Tillage and Irrigation Preparation: 7 hrs. yr. 1 1 hr. yr. 2+	\$127	\$82	\$82	\$82	\$82	\$82	\$82
Put up borders	\$30						
Mow middles		\$16	\$16	\$16	\$16	\$16	\$16
Weed control sprays (material & application)		\$47	\$47	\$47	\$47	\$47	\$47
Irrig. labor: 4 hrs. 1st yr. 1 hr. yrs. 2+	\$23	\$11	\$11	\$11	\$11	\$11	\$11
Water @ \$20/ac. ft. + \$6/ac. district tax	\$26	\$26	\$46	\$92	\$106	\$120	\$120
Fertilizer: Nitrogen \$0.33/lb	\$2	\$4	\$9	\$18	\$18	\$36	\$50
.5 hr. labor and tractor	\$7	\$7	\$7	\$7	\$7	\$7	\$7
Pest control sprays			\$12	\$12	\$12	\$60	\$60
Custom application			\$15	\$15	\$15	\$45	\$45
Miscellaneous labor and power - 1 hour	\$8	\$8	\$8	\$8	\$8	\$8	\$8
Pick-up truck costs	\$23	\$23	\$23	\$23	\$23	\$23	\$23
TOTAL CULTURAL COSTS	\$254	\$240	\$321	\$384	\$430	\$568	\$693
Harvesting Costs:							
Bin Distribution ----- 1.31%	per Ton			\$5	\$2		
Hand Picking ----- 25.00%	per Ton					\$130	\$130
Field Sorting ----- 2.75%	per Ton					\$80	\$80
Hauling - Orchard to Roadside -- 2.62%	per Ton						\$1
TOTAL HARVEST COSTS				\$5	\$2	\$210	\$211
Overhead Costs:							
Office and business costs	\$60	\$60	\$60	\$60	\$60	\$60	\$60
County Taxes	\$60	\$60	\$60	\$60	\$60	\$165	\$191
Insurance	\$6	\$6	\$6	\$6	\$6	\$6	\$6
TOTAL OVERHEAD COSTS	\$126	\$126	\$126	\$126	\$126	\$231	\$257
TOTAL CASH COSTS	\$1,221	\$388	\$458	\$515	\$558	\$1,010	\$1,160
ACCUMULATED CASH COSTS	\$1,221	\$1,608	\$2,066	\$2,581	\$3,139	\$4,149	\$5,309
Depreciation:							
Buildings, equipment and irrigation system	\$96	\$96	\$96	\$96	\$96	\$96	\$96
TOTAL DEPRECIATION	\$96	\$96	\$96	\$96	\$96	\$96	\$96
Interest on Investment							
Buildings, equipment and irrigation system	\$89	\$89	\$89	\$89	\$89	\$89	\$89
Land \$5000/acre	\$632	\$632	\$632	\$632	\$632	\$632	\$632
Interest on accumulated cash costs	\$146	\$193	\$248	\$310	\$377	\$498	\$637
TOTAL INTEREST ON INVESTMENT	\$867	\$913	\$968	\$1,030	\$1,097	\$1,218	\$1,357
TOTAL COST FOR THE YEAR	\$2,183	\$1,397	\$1,522	\$1,641	\$1,751	\$2,324	\$2,613
CREDIT FROM HARVEST @ \$0.45/ POUND				\$2	\$4	\$5	\$7
NET COST FOR THE YEAR	\$2,183	\$1,397	\$1,522	\$1,639	\$1,747	\$2,318	\$2,606
TOTAL ACCUMULATED NET COST	\$2,183	\$3,580	\$5,102	\$6,741	\$8,488	\$10,807	\$13,413

Table 2.

SAMPLE COSTS TO PRODUCE CLING PEACHES
San Joaquin-Sacramento Valleys - 1990
U. C. Cooperative Extension

Labor Rate: \$8.00/hr. skilled labor
\$5.70/hr. field labor

Interest Rate: 12%
Yield - (Gross tons/A): 17.0

40 acres of peaches in a 100 acre operation. 20 X 20 spacing, 108 trees per acre. Flood irrigated.

Operation	-- Equipment Used* --		----- Cash and Labor -----			Costs per	Acres	-----
	Item No.	Hours	Labor	Fuel & Repairs	Material	Custom / Rent	Total Cost	Your Cost
Pruning						\$194.40	\$194	
Shred brush	1, 9	1.8	\$15.40	\$15.05			30	
Repair tree wire	2	1.0	5.70	2.91			9	
Dormant spray	1, 6	.3	2.90	3.70	\$45.00		52	
Bloom spray 2X	1, 6	.7	5.81	7.39	55.00		68	
Insecticide spray 3X	1, 6	1.0	8.71	11.09	53.25		73	
Pre-harvest brown rot spray	1, 6	.3	2.90	3.70	25.50		32	
Fall disease control	1, 6	.3	2.90	3.70	20.00		27	
Spring weed control	1, 7	.2	1.76	1.66	4.90		8	
Thin						270	270	
Fertilize (120# N @ \$.31)	2, 7	.2	1.76	1.00	37.20		40	
Potassium (1 of 4 yrs.)	2	.1	.44	.15	81.25		82	
Cultivate 4X	1, 3	2.6	23.23	23.98			47	
Ridger 4X	1, 8	.2	1.76	1.34			3	
Irrigation (8 X 6" = 48")	15, 17				100.00		100	
Labor		2.0	11.39				11	
Prop trees - equip.	2	1.4	11.88	3.93			16	
Labor (3 men)		2.7	15.38				15	
Remove props - equip.	2	.6	5.28	1.75			7	
Labor		1.4	7.69				8	
Backhoe		.3				13	13	
Remove tree and burn	1	.3	2.00	.97			3	
Fumigate and replant tree	2	.2	1.71	.58	5.25		8	
Costs for pick up truck	18, 19			22.50			23	
Miscellaneous		2.0	13.70	7.00			21	
Interest on operating capital @ 0		x 6 months					67	
TOTAL CULTURAL COSTS		\$19.46	\$142	\$112	\$427	\$477	\$1,227	
Harvest Costs - (based on 34 bins/acre)								
Bin handling	2, 12	1.0	\$8.80	\$2.91			\$12	
extra labor		1.0	5.70				6	
Hand pick	\$ 13.00 / bin					\$442.00	442	
Field sorting	\$ 1.50 / bin					51.00	51	
Rent forklift @ \$1,500/month						37.50	38	
Hauling (12 bins/trip = 2.833 trips/acre)			22.67	4.25			27	
Harvest supervision		2.0	16.00				16	
TOTAL HARVEST COSTS		4.0	\$53	\$7		\$531	\$591	
Cash overhead:								
Office and business costs							\$60	
County Taxes							98	
Insurance							31	
Marketing order assessment							94	
TOTAL CASH OVERHEAD COSTS							\$282	
TOTAL CASH COSTS							\$2,100	
Investment	Per production Acre		Annual Depreciation	Cost Interest @ 12%				
Land (bare)	\$5,000			\$600		\$600		
Roads & Farmstead	300			36		36		
Equipment & buildings*	1,476		\$96	89		185		
Trees (15 yr. depreciation)	7,500		500	450		950		
TOTAL INVESTMENT COSTS	\$14,555		\$596	\$1,175		\$1,771		
TOTAL COSTS PER ACRE							\$3,871	
TOTAL COST/PAID-FOR TON	@ 15.81 Paid-for tons/acre (17 gross tons/acre, 7% off grade)						\$244.82	

* From Table 3. "Equipment and Building List for Cling Peaches"

Table 3.

MONTHLY SUMMARY OF PER ACRE CASH COSTS TO PRODUCE CLING PEACHES
San Joaquin-Sacramento Valleys - 1990
U. C. Cooperative Extension

Operation	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	TOTAL
Pruning	\$97	\$97											\$194
Shred brush	15	15											30
Wire repairs	4	4											9
Dormant spray		52											52
Bloom spray 2X			\$31	\$38									68
OFM 3X						\$24	\$24	\$24					73
Brown rot									\$32				32
Fall disease control												\$27	27
Spring weed control					\$8								8
Thin						270							270
Fertilize (120# N)				20					20				40
Potassium (1/4 yrs.)												82	82
Cultivate 4X					12	12	12			12			47
Ridger 4X						1	1	1	1				3
Irrigation (8 X 6")						25	25	25	25				100
Labor						3	3	3	3				11
Prop trees (3 men)								16					16
Extra labor								15					15
Remove props										7			7
Extra labor										8			8
Replant and remove												3	3
Miscellaneous	1	1	1	1	1	1	1	1	1	1	1	1	8
Pick-up truck costs	2	2	2	2	2	2	2	2	2	2	2	2	23
Interest on operating capital	1	3	3	4	4	8	8	9	10	17			67
TOTAL CULTURAL COSTS	\$120	\$174	\$36	\$64	\$27	\$345	\$76	\$96	\$93	\$46	\$3	\$114	\$1,193
=====													
Harvest Costs (1.75 tns/A):													
Bin handling										\$12			\$12
Extra labor										6			6
Hand pick										442			442
Field sorting										51			51
Rent forklift										38			38
Hauling (12 bins/trip)										27			27
Harvest supervision										16			16
TOTAL HARVEST COSTS										\$591			\$591
=====													
Cash overhead:													
Office and business	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$60
County Taxes			49				49						98
Equipment Insurance				31									31
Advisory board asmt.											94		94
TOTAL CASH OVERHEAD	\$5	\$5	\$54	\$36	\$5	\$5	\$54	\$5	\$5	\$5	\$99	\$5	\$282
=====													
TOTAL CASH COSTS	\$125	\$179	\$90	\$100	\$32	\$350	\$129	\$101	\$98	\$641	\$101	\$119	\$2,066

Table 4.

EQUIPMENT AND BUILDING LIST FOR CLING PEACHES
 San Joaquin-Sacramento Valleys - 1990
 U. C. Cooperative Extension

Interest Rate: 12% Fuel Cost per Gallon \$.85 diesel
 \$1.00 unleaded

Item No.	Description	New Cost	Annual Use (acres)	Cost Per Acre	Life* (hrs)	Years* to Trade	Over head* Depreciation	Interest	TAR*	Hourly Costs Fuel*	Repairs*	Total
Tractors:												
1	65 hp wheel, diesel	\$25,000	100	\$250	12,000	15	\$16.67	\$15.00	120	\$3.70	\$2.50	\$6.20
2	30 hp wheel, gas	12,000	100	120	12,000	15	8.00	7.20	120	1.71	1.20	2.91
3	Disc, offset 10'	6,000	100	60	2,500	10	6.00	3.60	120		2.88	2.88
4	Ringroller, 10'	1,500	100	15	2,500	10	1.50	.90	120		.72	.72
5	Float, 14'	9,500	100	95	2,500	10	9.50	5.70	60		2.28	2.28
6	Orchard sprayer, PTO 500 gal	12,500	100	125	2,000	10	12.50	7.50	80		5.00	5.00
7	Weedsprayer, 100 gal.	2,500	100	25	1,200	10	2.50	1.50	100		2.08	2.08
8	Ridger	1,000	100	10	2,500	10	1.00	.60	120		.48	.48
9	Brush shredder, 8'	6,000	100	60	2,500	10	6.00	3.60	100		2.40	2.40
10	3 point blade	1,000	100	10	2,500	10	1.00	.60	100		.40	.40
11	Props	12,000	100	120		30	4.00	7.20				
12	5 - Bin trailers	4,100	40	103		20	5.13	6.15				
13	20 - ladders, 10'	2,500	40	63		10	6.25	3.75				
14	25 - buckets	125	40	3		5	.63	.19				
15	Irrigation pump, 40 hp	15,000	40	375		20	18.75	22.50				
16	Well, 150'	6,000	100	60		35	1.71	3.60				
17	Flood irrig. system	12,000	40	300		35	8.57	18.00				
18	Pickup, 3/4 ton	14,000	100	140		7	20.00	8.40				
19	Pick-up, 1/2 ton (used)	2,500	100	25		4	6.25	1.50				
20	ATV	2,200	100	22		5	4.40	1.32				
21	Tractor trailer	5,000	100	50		20	2.50	3.00				
	Miscellaneous shop tools	5,000	100	50		10	5.00	3.00				
	2 - fuel storage tanks	10,000	100	100		35	2.86	6.00				
	Chemical storage shed	3,000	100	30		30	1.00	1.80				
	Shop building	25,000	100	250		30	8.33	15.00				
TOTAL COST		\$195,425		\$2,460			\$160	\$148				
60% OF NEW COSTS*		\$117,255		\$1,476			\$96	\$89				

* DEFINITIONS:

LIFE IN HOURS ----- Derived from the "American Society of Agricultural Engineers Yearbook of Standards".
 YEARS TO TRADE----- The projected life of the machine in years adjusted for excessive annual use.
 OVERHEAD ----- Per acre per year.
 DEPRECIATION ----- "COST PER ACRE" divided by "YEARS TO TRADE"
 INTEREST----- ("COST PER ACRE" X "INTEREST RATE") divided by 2 = average interest cost per acre per year.
 TAR----- Total accumulated repairs. The total cost of repairs during the machine's life expressed as a percent of "NEW COST". Calculated from equations based on equipment type and annual use.
 HOURLY COST OF FUEL----- Diesel fuel, oil and lube costs per hour = HP x cost of diesel fuel/gal X 0.0667.
 HOURLY COST OF REPAIRS----- Gasoline fuel, oil and lube costs per hour = HP x cost of gasoline/gal X 0.0889.
 60% OF NEW COSTS ----- ("NEW COST" X "TAR") divided by ("LIFE IN HOURS").
 Used to reflect a mix of new and used equipment.

Table 5.

RANGING ANALYSIS FOR CLING PEACHES AT VARYING PRICES AND OFF-GRADES
 San Joaquin-Sacramento Valleys - 1990
 U. C. Cooperative Extension

Gross Yield: 17 Tons per Acre

TABLE 4. COST TO PRODUCE CLING PEACHES

Yield (Paid-for tons/acre) Off-grade	16.15 5%	15.81 7%	15.47 9%
Cultural Costs	\$1,227	\$1,227	\$1,227
Harvest Costs	589	589	588
Cash Overhead	282	282	282
Cash cost/acre	2,099	2,098	2,098
Cash cost/ton	130	133	136
Investment cost	1,771	1,771	1,771
TOTAL COST/ ACRE	3,869	3,869	3,868
TOTAL COST/ TON	\$240	\$245	\$250

TABLE 5. PER ACRE INCOME ABOVE CASH COSTS

Dollars per Ton	Yield (Paid-for Tons/Acre)		
	16.15	15.81	15.47
170	\$647	\$590	\$532
180	808	748	687
190	970	906	842
200	1,131	1,064	996
210	1,293	1,222	1,151
220	1,454	1,380	1,306
230	1,616	1,538	1,461

TABLE 6. PER ACRE INCOME ABOVE TOTAL COSTS

Dollars per Ton	Yield (Paid-for Tons/Acre)		
	16.15	15.81	15.47
170	\$-1,124	\$-1,181	\$-1,238
180	-962	-1,023	-1,084
190	-801	-865	-929
200	-639	-707	-774
210	-478	-549	-619
220	-316	-391	-465
230	-155	-232	-310