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UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2004

SAMPLE COSTS TO  
ESTABLISH AND PRODUCE  
**NECTARINES**

Fresh Market



July/August Harvested Varieties – Furrow Irrigation  
**SAN JOAQUIN VALLEY - SOUTH**

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# UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

## SAMPLE COSTS TO ESTABLISH AND PRODUCE FRESH MARKET NECTARINES San Joaquin Valley – South 2004

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### INTRODUCTION

Sample costs to establish a nectarine orchard and produce fresh market nectarines, July/August harvest, in the southern San Joaquin Valley 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. The production practices described in this study are those considered typical for growing nectarines in the San Joaquin Valley, but they 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 2 and 3 is provided to enter your farm 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, (530) 752-4424 or obtained from the local county UC Cooperative Extension offices. Some archived studies are also available on the website.

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## ASSUMPTIONS

The assumptions refer to Tables 1 to 8 and pertain to sample costs to establish and produce fresh market nectarines in the southern San Joaquin Valley. The cultural practices shown represent production operations and materials considered typical of a well-managed orchard in the region. Costs, materials, and practices in this study will not apply to all farms. Timing of and types of cultural practices will vary among growers within the region and from season to season due to variables such as variety, weather, soil, and insect and disease pressure. **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 farm consists of 100 contiguous acres. Ten acres are being planted to nectarines and will reach maturity in seven years. Other orchard and vine crops are grown on 85 acres; the remaining five acres are road and farmstead. The owner farms the orchard.

### **Orchard Establishment Operating Costs (Table 1)**

Crop season is December through November.

**Site Preparation.** This orchard is established on ground that has been previously planted to other tree, field or row crops. The land is assumed to be deep, well drained, and either a class I or II soil. The orchard site allows for a uniform water flow (i.e. flood or furrow irrigation). Custom operators begin land preparation by slip plowing the soil profile to four to five feet deep in the tree row and subsoiling the middles four to five feet deep in order to break up any underlying hardpan or mix stratified soils that would affect root penetration and water infiltration. Following ripping and slip plowing, the ground is disked three times to prepare the ground for the preplant fumigation. The field is fumigated solid untarped with methyl bromide by a custom applicator. After fumigation, borders are put up for an irrigation to settle the tilled ground. When the soil has dried, the site is laser leveled followed by two passes with an orchard float. For purposes of this report all land preparation is included in the first year costs.

**Trees.** No specific nectarine varieties or rootstocks are planted in this study. Cultivars that are representative of the costs incurred in this study include: Summer Bright, Summer Fire, and August Red. Common rootstocks available are Nemaguard, Nemared and Lovell. The trees are planted on a 16-foot X 18-foot (tree x row) spacing, 151 trees per acre. The life of the orchard at the time of planting is estimated to be 15 years.

**Plant.** Planting the orchard starts in January by marking tree sites, digging holes, planting, and placing tree wraps on the trunk. Immediately after planting, berms are put up in the tree row. In the second year, 2% of the trees or three trees per acre are planted to replace dead and/or weak trees. The nursery furnishes the trees free and the grower incurs the replanting costs.

**Prune/Thin/Rope/Prop.** New trees are topped at planting and regular pruning begins in December, which is the beginning of the second season. The prunings are placed in the row middles and shredded with the grower's equipment. Fruit thinning by hand begins in March of the third year and the thinning time increases each year as the yields increase. Summer pruning and leaf removal to improve fruit color begins two to three weeks prior to harvest beginning in the third year. Trees are roped each year starting in February of the third year and changes to alternate years after the fourth year. Roping is the practice of tying ropes around the branches to hold and

prevent them from breaking under heavy fruit loads. As yields increase the weight on the branches increases. To prevent the branches from breaking, the branches are propped with poles or boards in July, beginning in the fifth year.

**Irrigation.** Water costs include water at \$3.00 per acre-inch (\$36 per acre-foot) and irrigation labor at 0.93 hours per acre per irrigation. Price per acre-foot for water will vary depending on the irrigation district, and/or various well characteristics, and other irrigation factors. The amount of water applied to the orchard during the establishment period increases each year and is shown in Table A. In addition to the 20 acre-inches applied the first year, 10 acre-inches were applied during land preparation after ripping to settle the ground. Water is delivered to the orchard from the well through an underground pipe and flood valve system to furrows along the tree rows. No assumption is made about effective rainfall. If leveling costs will be excessive, pressurized irrigation systems should be considered that do not require leveling. Irrigation furrows are made with the grower's tractor and crowder implement after planting to establish a permanent tillage reduced irrigation system.

Year	Acre-inches per Year
1	20
2	24
3	30
4	36
5	44

**Fertilization.** Nitrogen is the major nutrient required for proper tree growth and optimum yields. Nitrogen fertilizer (ammonium nitrate) is applied by hand and the amount applied increases each year up to the fourth year. Beginning in the fourth year, the fertilizer is applied with the grower's tractor and broadcast spreader. In some locations, the fertilizer company furnishes the spreader and the grower will not own a spreader. Annual rates of actual N are shown in Table B. Neutral Zinc at five pounds per acre in the first year and 10 pounds per acre thereafter is applied each year with the dormant spray. Zinc sulfate at 10 pounds per acre is applied in the fall (October).

Year	Pounds of N/Acre
1	38
2	57
3	64
4+	151

**Pest Management.** The pesticides and rates mentioned in this cost study as well as other materials available are listed in *UC Integrated Pest Management Guidelines, Nectarine* available online at [www.imp.ucdavis.edu](http://www.imp.ucdavis.edu). Pesticides mentioned in the study are commonly used, but are not recommendations.

**Weeds.** The tree row (berm) is sprayed with Surflan immediately after the berm is made. Beginning in the second season, the tree rows are sprayed during the dormant period (December) with preemergent herbicides--Goal and Surflan. The irrigation furrows (middles) are sprayed with Roundup four to six times per year – February, April, June, July, September. Five percent of the acreage is also spot sprayed in May and July with Roundup. The irrigation furrows are cleaned once or twice each year (once in this study) with the crowder or center sweepers.

**Insects.** Insects treated in this study are peach twig borer (PTB), oriental fruit moth (OFM), San Jose scale, katydid, mites, thrips, and aphids. A dormant spray – Dormant Oil, Diazinon (with zinc and Ziram) – is applied in December/January at the beginning of the second establishment year and in subsequent years to control PTB, scale, mites and aphids. Apollo insecticide for mite control is applied in May. Beginning in year three, Imidan insecticide is applied in April for worm (PTB, OFM) control and suppression of katydids. Imidan is also applied in July (with Elite) as a preharvest spray for katydid and some worm control. Success insecticide is combined with the preharvest spray for thrips.

**Disease.** Ziram is applied with the dormant spray for peach leaf curl control. Beginning in year three, Break fungicide is applied at 20-40 % bloom (February) for brown rot blossom blight control. Beginning in the fourth year, a second application with Rally is applied 7 to 10 days later (late February/early March) at 80 – 100% bloom. Elite fungicide (mixed with the insect spray) is applied in July as a preharvest spray for ripe fruit rot prevention.

**Harvest.** Harvest starts in the third year establishment year. Harvest costs will vary according to yield. The crop is harvested by hand and hauled to a packing shed for cooling, storing, and selling. The grower furnishes one tractor and bin trailer for the first harvest and two tractors and trailers in the following years.

Table D. Annual yields per acre

Year	Boxes/acre
3	250
4	450
5	750
6	1,000
7+	1,200

**Yields and Returns.** Although nectarines begin bearing an economic crop in the third year after planting, yield maturity is not reached until the seventh year. Typical annual yields for the July/August harvested varieties are shown in Table D.

Boxes = 25 lbs.

### Production Cultural Operating Costs – Mature Trees

Crop season in this study is December through November.

**Prune/Rope/Thin/Prop.** Pruning is done by hand in the winter months, December and January. The prunings are placed in the row middles and shredded with the grower’s equipment. Trees are also summer pruned in June about two to three weeks prior to harvest to improve fruit color. Additionally to improve fruit color, leaves are removed two to three weeks prior to harvest. Roping or tying ropes around the branches to hold and prevent them from breaking is done in February on alternate years and 1/2 the cost is charged to the orchard each year. Fruit thinning is done by hand in April. In July, props are placed under the limbs to help support the heavy loads and keep the branches from breaking, and then removed after harvest.

**Irrigation.** The cost includes water pumping or district costs at \$3.00 per acre-inch (\$36 per acre-foot) and irrigation labor at 0.93 hours per acre per irrigation. Price per acre-foot for water will vary depending on the irrigation district, and/or various well characteristics, and other irrigation factors. The irrigation period is typically from late March through early October. The trees are assumed to have a seasonal consumptive water use of 36 acre-inches. The irrigation efficiency is approximately 82%; therefore a total of 44 acre-inches is applied during the year. Water is delivered to the orchard from the well or district ditch through an underground pipe and flood valve system to furrows along the tree rows. No assumption is made about effective rainfall.

**Fertilization.** Nitrogen fertilizer is applied in the spring (April) and the fall (September). In this study nitrogen is applied at a rate of 151 pounds of N per acre split equally between April and September. A foliar application of zinc sulfate at 10 pounds per acre is applied in the autumn at leaf fall (October), and neutral zinc at 10 pounds per acre is applied in the winter (December) with the dormant spray. The majority of growers in the region apply zinc during the dormant season only.

**Leaf Sampling.** Leaf - tissue samples - sampling for nutritional analyses are not included in this study but should be taken in June or July and the fertilizers applied according to the recommendations.

**Pest Management.** The pesticides and rates mentioned in this cost study are listed in *UC Integrated Pest Management Guidelines, Nectarine*. 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 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 a single dealer and shown as full retail.

*Pest Control Adviser (PCA).* Written recommendations are required for many commercially applied pesticides and are written by licensed pest control advisers. In addition the PCA will monitor the field for agronomic problems including pests, diseases, and nutritional status. Growers may hire private PCA's or receive the service as part of a service agreement with an agricultural chemical and fertilizer company. The grower has a full service agreement with the company.

*Weed.* Weeds are controlled in the tree rows (berm) during the winter (December/January) with residual pre-emergence herbicides – Goal and Surflan combination. In May and July, the grower uses an ATV and sprayer to apply Roundup as a spot spray (weedy spots) in the tree row. Irrigation furrows made in the first year are cleaned once or twice each year with the crowder or similar type implement. The weeds are controlled in the row middles (furrows) during the spring and summer – February, April, June, July, September – by chemical mowing (Roundup).

*Insects.* A dormant spray – Dormant Oil, Diazinon (mixed with Ziram and zinc) – is applied in the winter (December/January) to control pests, eggs, and diseases – peach twig borer, mites, scale, aphids. In season preharvest sprays are applied to protect the crop from such pests as oriental fruit moth, peach twig borer, leaf rollers, mites and fruit rot. Imidan for worm control (PTB or OFM and katydid suppression) is applied in April. A preharvest spray with Imidan for katydid and some worm control and Success insecticide for thrips (are mixed with Elite) are applied in July.

*Diseases.* Ziram fungicide for peach leaf curl control is applied with the insect dormant spray. Break fungicide is applied in February at 20% to 40% bloom for blossom blight. A second application 7 to 10 days later (late February/early March) at 80% to 100% bloom is made with Rally fungicide. Elite fungicide for ripe fruit rot control is applied with the preharvest insect spray (July). Depending on the variety and year, a second preharvest fungicide spray may be made just prior to or even during harvest.

**Harvest.** The orchard reaches maturity in the seventh year. The harvests costs will vary according to yield. The crop is harvested by the grower's picking crew using ladders and buckets supplied by an independently owned and operated packing shed. The grower furnishes two tractors and trailers for moving the bins around the field. The picked fruit is placed into half-ton plastic or wooden field bins. The plastic field bins hold approximately 850 to 900 pounds of fruit. Typically, the field packouts are in the 60% to 80% range, but are not accounted for in this study, therefore the bins hauled represents marketable fruit only. The fruit is hauled to the packing shed by a contract hauler for \$5.50 per bin. The shed packs, palletizes, cools and sells the fruit under a contract with the grower. Packing charges are assumed to be \$3.25 per box.

**Yields.** The average annual yield measure in boxes per acre for July/August harvested varieties over the remaining life of the orchard is 1,200 25-pound boxes per acre. Average county yields for all varieties of nectarines for fresh market are shown in Table E. The averages include early, midseason, and late nectarines as well as orchards in different years of production.

Table E. Average County Yields for Fresh Market Nectarines

Year	Tons/Acre <sup>1</sup>	Boxes/Acre <sup>2</sup>
1999	7.62	609
2000	7.40	5.92
2001	6.47	517
2002	8.38	670
2003	7.53	602

<sup>1</sup> Source: Ag Commissioner Crop Reports Fresno, Tulare. <sup>2</sup> Boxes weigh 25 lbs

**Returns.** An estimated average price over the last few years of \$8.00 per box is based on grower input and is used in this study to determine income over a range of prices and yields. Return prices for fresh market nectarines at different yields and prices are shown in Table 5.

**Assessments:** The California Tree Fruit Agreement (CTFA) assesses fees on boxes of nectarines sold. The current fee for nectarines is \$0.195 per 25-pound box equivalent. The CTFA conducts research, inspection, and marketing programs to promote peaches, plums, and nectarines.

**Pickup/ATV.** The study assumes business use mileage of 90 miles per acre per year for the pickup. The all terrain vehicle (ATV) is used for spot spraying and is included in those specific costs. Use of the ATV for monitoring the orchard and checking the irrigation is shown under the ATV operation and assumes a use of 2.70 hours per acre. The pickup and ATV information is an assumption that is not based on any specific data.

**Labor.** Labor rates of \$14.10 per hour for machine operators and \$9.52 for general labor includes payroll overhead of 41%. The basic hourly wages are \$10.00 for machine operators and \$6.75 for general labor. The overhead includes the employers' share of federal and California state payroll taxes, workers' compensation insurance for orchard/fruit crops (code 0016), and a percentage for other possible benefits. Workers' compensation costs will vary among growers, but for this study the cost is based upon the average industry final rate as of January 5, 2004 (California Department of Insurance). Labor for operations involving machinery are 20% 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.

Wages for management are not included as a cash cost. Any return above total costs is considered a return to management and risk. However, growers wanting to account for management may wish to add a fee. The manager makes all production decisions including cultural practices, action to be taken on pest management recommendations, and labor.

**Equipment Operating Costs.** Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by the American Society of Agriculture Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum power takeoff (PTO) horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are \$1.45 and \$1.88 per gallon, respectively. The fuel prices are averaged based on four California delivery locations plus \$0.24 per gallon, which is one-half the difference between the high and low price for regular gasoline in 2003 from the California State Automobile Association Monthly Survey. The cost includes a 2.25% sales tax (effective September 2001) on diesel fuel and 7.25% sales tax on gasoline. Gasoline also includes federal and state excise tax, which can be refunded for on-farm use when filing your income tax. The fuel, lube, and repair cost per acre for each operation in Table 2 is determined by multiplying the total hourly operating cost in Table 8 for each piece of equipment used for the selected operation by the hours per acre. Tractor time is 10% higher than implement time for a given operation to account for setup, travel and down time.



**Interest On Operating Capital.** Interest on operating capital is based on cash operating costs and is calculated monthly until harvest at a nominal rate of 6.89% per year. A nominal interest rate is the typical market cost of borrowed funds. The interest cost of post harvest operations is discounted back to the last harvest month using a negative interest charge.

**Risk.** Production risks should not be minimized. While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent financial, agronomic and market risks, which affect the profitability and economic viability of nectarine production.

### **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 0.676% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs \$645 for the 100 acre farm or \$6.45 per acre

**Office Expense.** Office and business expenses are estimated at \$65.00 per producing acre (95 acres). These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, shop and office utilities, and miscellaneous administrative charges. The cost is a general estimate and not based on any actual data.

**Sanitation Services.** Sanitation services provide double portable toilets, washbasins, soap, and towels for the orchard and cost the farm \$144 per month. The monthly service charge is an average of four to six California sanitation companies and locations. The cost includes delivery and five months of weekly service. The sanitation costs are estimated and not based on any specific data. Growers using contract labor may not have a cost because many labor contractors provide their own sanitation facilities.

**Management/Supervisor Salaries.** The grower farms the orchard; therefore no salaries are included for management. Returns above costs are considered a return to management.

**Investment Repairs.** Annual maintenance is calculated as two percent of the purchase price.



## Non-Cash Overhead

Non-cash overhead is calculated as the capital recovery cost for equipment and other farm investments.

**Capital Recovery Costs.** Capital recovery cost is the annual depreciation and interest costs for a capital investment. It is the amount of money required each year to recover the difference between the purchase price and salvage value (unrecovered capital). It is equivalent to the annual payment on a loan for the investment with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but more accurately represents the annual costs of ownership because it takes the time value of money into account (Boehlje and Eidman). The formula for the calculation of the annual capital recovery costs is  $((\text{Purchase Price} - \text{Salvage Value}) \times \text{Capital Recovery Factor}) + (\text{Salvage Value} \times \text{Interest Rate})$ .

*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. The purchase price and salvage value for equipment and investments are shown in the tables.

*Capital Recovery Factor.* Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 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 6.23% used to calculate capital recovery cost is the USDA-ERS's ten-year average of California's agricultural sector long-run rate of return to production assets from current income. It is used to reflect the long-term realized rate of return to these specialized resources that can only be used effectively in the agricultural sector.

**Establishment Cost.** Costs to establish the orchard are used to determine capital recovery expenses, depreciation, and interest on investment for the production years. Establishment cost is the sum of the costs for land preparation, planting, trees, cash overhead and production expenses for growing the trees through the first year that nectarines are harvested minus any returns from production. In Table 1, the Total Accumulated Net Cash Cost in the third year represents the establishment cost. For this study the cost is \$5,488 per producing acre or \$54,880 for the 10-acre orchard. The establishment cost is spread over the remaining 12 producing years of the 15 years of orchard life.

**Irrigation System.** For this study, the orchard is irrigated down furrows that are chemically mowed several times during the growing season. Water is delivered to the orchard from a well or district ditch and distributed to the orchard by way of underground mainlines and valves. The irrigation system is installed before the orchard is planted and the life of the irrigation system is estimated at 30 years. Pressurized (micro-sprinkler) systems are also used in some orchards, but the initial capital costs are higher.

**Land.** The orchard is established on ground previously planted to deciduous trees or vines. Field or row cropland costs range from \$2,000 to \$5,500 per acre. Land in this study is valued at \$3,750 per acre or \$3,947 per producing acre. Land values with tree crops (includes the tree value) range from \$4,500 to \$9,000 per acre.

**Building.** The buildings total 1,800 square feet and are metal building/buildings on a cement slab.

**Tools.** This includes shop tools, hand tools, and miscellaneous field tools such as pruning tools.

**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.

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UC COOPERATIVE EXTENSION  
**Table 1. SAMPLE COSTS PER ACRE TO ESTABLISH A NECTARINE ORCHARD**  
 SAN JOAQUIN VALLEY – South 2004

Year	Cost Per Acre					
	1st	2nd	3rd	4th	5th	6th
Yield: 25 Pound Boxes Per Acre			250	450	750	1,000
<b>Planting Costs: (Bold = reference in assumptions)</b>						
<b>Land Preparation:</b> Slip Plow (Custom)	350					
<b>Land Preparation:</b> Disc 3X (Custom)	60					
<b>Land Preparation:</b> Fumigate Solid Untarped (Custom)	1,100					
<b>Land Preparation:</b> Put Up Borders	5					
<b>Irrigate:</b> To settle ground	53					
<b>Land Preparation:</b> Level (Custom)	125					
<b>Land Preparation:</b> Float 2X (Custom)	18					
<b>Plant:</b> Layout, Plant Trees (Custom)	98	3				
<b>Trees:</b> 151 Per Acre	1,057					
<b>TOTAL PLANTING COSTS</b>	<b>2,866</b>	<b>3</b>				
<b>Cultural Costs:</b>						
<b>Weed:</b> Dormant Strip (tree row) Spray (Yr 1, Surflan. Yr 2+ ,Surflan, Goal)	45	65	65	65	65	65
<b>Prune:</b> Trees		48	120	240	359	551
<b>Prune:</b> Shred Prunings		10	13	13	13	13
<b>Insect:</b> Dormant Spray (Oil, Diazinon). <b>Disease:</b> (Ziram). <b>Fertilizer:</b> (Neutral Zinc)		94	98	98	98	98
<b>Rope</b> Trees			43	62		62
<b>Weed:</b> Spray Middles 5X (4X Yr. 1) (Roundup)	59	73	72	72	73	73
<b>Disease:</b> Bloom 20-40% – Blossom Blight (Break)			29	29	29	29
<b>Disease:</b> Bloom 80-100% - Blossom Blight (Rally)				30	30	30
<b>Thin</b> Fruit: Hand			89	177	381	671
<b>Weed:</b> Furrow Middles	4	4	4	4	4	4
<b>Irrigate</b> 12X	171	172	205	224	250	250
<b>Insect:</b> Worms (Imidan)			47	47	47	47
<b>Insect:</b> Mites (Apollo)		60	60	60	60	60
<b>Fertilizer:</b> Nitrogen (UN32)	26	35	39	76	75	75
<b>Weed:</b> Spot Spray (Roundup)		4	9	10	10	10
<b>Prune:</b> Summer			41	59	89	89
<b>Prune:</b> Leaf Removal			124	209	286	286
<b>Insect:</b> Preharvest Worms (Imidan), Thrips (Success). <b>Disease:</b> Fruit Rot Spray (Elite).			114	114	114	114
<b>Weed:</b> Put Up Berms	5					
<b>Fertilizer:</b> Fall Foliar Zinc (Zinc sulfate)	11	14	14	14	14	14
<b>Prop:</b> Limbs/Branches					49	67
<b>Pickup:</b> Business Use	73	73	73	73	73	73
<b>ATV:</b> Irrigation & other	49	49	49	49	49	49
<b>TOTAL CULTURAL COSTS</b>	<b>443</b>	<b>701</b>	<b>1,308</b>	<b>1,725</b>	<b>2,168</b>	<b>2,730</b>
<b>Harvest Costs:</b>						
Pick Fruit			218	331	548	735
Haul to Shed			44	77	121	165
Pack Fruit			813	1,462	2,438	3,250
Sell			200	360	600	800
<b>TOTAL HARVEST COSTS</b>			<b>1,275</b>	<b>2,230</b>	<b>3,707</b>	<b>4,950</b>
<b>Assessment Costs:</b>						
California Tree Fruit Agreement			49	88	146	195
<b>TOTAL ASSESSMENT COSTS</b>			<b>49</b>	<b>88</b>	<b>146</b>	<b>195</b>
Interest On Operating Capital @ 6.89%	172	20	47	68	95	128
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>3,481</b>	<b>724</b>	<b>2,679</b>	<b>4,111</b>	<b>6,116</b>	<b>8,003</b>

## UC COOPERATIVE EXTENSION

Table 1. continued

Year	Cost Per Acre					
	1st	2nd	3rd	4th	5th	6th
Yield: 25 Pound Boxes Per Acre			250	450	750	1,000
<b>Cash Overhead Costs:</b>						
Office Expense	65	65	65	65	65	65
Liability Insurance	7	7	7	7	7	7
Sanitation Fees	8	8	8	8	8	8
Property Taxes	47	48	49	49	50	50
Property Insurance	5	5	6	7	7	7
Investment Repairs	22	22	22	22	22	22
<b>TOTAL CASH OVERHEAD COSTS</b>	<b>152</b>	<b>155</b>	<b>157</b>	<b>158</b>	<b>159</b>	<b>159</b>
<b>TOTAL CASH COSTS/ACRE</b>	<b>3,633</b>	<b>879</b>	<b>2,836</b>	<b>4,269</b>	<b>6,275</b>	<b>8,162</b>
<b>INCOME/ACRE FROM PRODUCTION</b>			<b>1,860</b>	<b>3,348</b>	<b>5,580</b>	<b>7,440</b>
<b>NET CASH COSTS/ACRE FOR THE YEAR</b>	<b>3,633</b>	<b>879</b>	<b>976</b>	<b>921</b>	<b>695</b>	<b>722</b>
<b>PROFIT/ACRE ABOVE CASH COSTS</b>						
<b>ACCUMULATED NET CASH COSTS/ACRE</b>	<b>3,633</b>	<b>4,512</b>	<b>5,488</b>	<b>6,409</b>	<b>7,104</b>	<b>7,826</b>
<b>Non-Cash Overhead Costs (Capital Recovery):</b>						
Shop Building	42	42	42	42	42	42
Land	246	246	246	246	246	246
Fuel Tank & Pump	3	3	3	3	3	3
Shop Tools	13	13	13	13	13	13
Furrow Irrigation System	34	34	34	34	34	34
Equipment	41	50	74	81	91	98
<b>TOTAL NON-CASH OVERHEAD COST/ACRE</b>	<b>379</b>	<b>388</b>	<b>412</b>	<b>419</b>	<b>429</b>	<b>436</b>
<b>TOTAL COST/ACRE FOR THE YEAR</b>	<b>4,012</b>	<b>1,267</b>	<b>3,248</b>	<b>4,688</b>	<b>6,704</b>	<b>8,598</b>
<b>INCOME/ACRE FROM PRODUCTION</b>			<b>1,860</b>	<b>3,348</b>	<b>5,580</b>	<b>7,440</b>
<b>TOTAL NET COST/ACRE FOR THE YEAR</b>	<b>4,012</b>	<b>1,267</b>	<b>1,388</b>	<b>1,340</b>	<b>1,124</b>	<b>1,158</b>
<b>NET PROFIT/ACRE ABOVE TOTAL COST</b>						
<b>TOTAL ACCUMULATED NET COST/ACRE</b>	<b>4,012</b>	<b>5,279</b>	<b>6,667</b>	<b>8,007</b>	<b>9,131</b>	<b>10,289</b>

UC COOPERATIVE EXTENSION  
**Table 2. COSTS PER ACRE TO PRODUCE NECTARINES**  
 SAN JOAQUIN VALLEY - South 2004

Operation	Cash and Labor Costs per Acre						Your Cost
	Operation Time (Hrs/A)	Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/Rent	Total Cost	
Cultural: ( <b>bold</b> = reference in assumptions)							
<b>Weed:</b> Dormant Strip (Surflan, Goal)	0.20	3	1	59	0	63	
<b>Prune:</b> Trees	64.00	609	0	0	0	609	
<b>Prune:</b> Shred Prunings	0.43	7	5	0	0	13	
<b>Insect:</b> Dormant (Oil, Diazinon). <b>Disease:</b> (Ziram). <b>Fertilizer:</b> (zinc)	0.31	5	4	89	0	98	
<b>Rope</b> Trees 1X/2Yr (1/2 cost)	4.00	38	0	0	0	38	
<b>Disease:</b> Bloom 20-40%, Blossom Blight (Break)	0.31	5	4	19	0	29	
<b>Disease:</b> Bloom 80-100%, Blossom Blight (Rally)	0.31	5	4	21	0	30	
<b>Weed:</b> Spray Middles 5X (Roundup)	1.41	24	7	43	0	73	
<b>Irrigate</b> 12X	11.27	107	0	143	0	250	
<b>Insect:</b> Worms (Imidan)	0.31	5	4	38	0	47	
<b>Thin:</b> Fruit by Hand	103.00	981	0	0	0	981	
<b>Weed:</b> Clean Furrows - Middles	0.14	2	1	0	0	4	
<b>Fertilize:</b> Nitrogen (split application)	0.26	4	2	69	0	75	
<b>Insect:</b> Mites (Apollo)	0.31	5	4	51	0	60	
<b>Weed:</b> Spot Spray 2X (Roundup) ATV	0.40	7	0	2	0	9	
<b>Prune:</b> Summer Pruning	9.32	89	0	0	0	89	
<b>Prune:</b> Remove Leaves	30.00	286	0	0	0	286	
<b>Prop</b> Limbs & Remove Props	1.00	93	5	0	0	99	
<b>Insect:</b> Worms (Imidan). <b>Disease:</b> Brown Rot (Elite)	0.31	5	4	65	0	114	
<b>Fertilize:</b> Fall (Zinc sulfate)	0.31	5	4	5	0	14	
<b>Pickup:</b> Business Use	3.00	51	22	0	0	73	
<b>ATV:</b> Irrigation & General Field Use	2.70	46	3	0	0	49	
<b>TOTAL CULTURAL COSTS</b>	233.27	2,383	76	643	0	3,102	
Harvest:							
Pick Fruit (Hand Pick Labor = 73 hrs/acre)	3.65	818	61	0	0	880	
Haul To Shed	0.00	0	0	0	198	198	
Pack Fruit	0.00	0	0	0	3,900	3,900	
Sell	0.00	0	0	0	960	960	
<b>TOTAL HARVEST COSTS</b>	3.65	818	61	0	5,058	5,938	
Assessment:							
CTFA Assessment	0	0	0	234	0	234	
<b>TOTAL ASSESSMENT COSTS</b>	0	0	0	234	0	234	
Interest on operating capital @ 6.89%						143	
<b>TOTAL OPERATING COSTS/ACRE</b>		3,202	137	877	5,058	9,417	
CASH OVERHEAD:							
Office Expense						65	
Liability Insurance						7	
Sanitation Fees						8	
Property Taxes						78	
Property Insurance						26	
Investment Repairs						22	
<b>TOTAL CASH OVERHEAD COSTS</b>						205	
<b>TOTAL CASH COSTS/ACRE</b>						9,622	

\*Equipment hours

## UC COOPERATIVE EXTENSION

Table 2. continued

Operation	Operation	Cash and Labor Costs per Acre					Total Cost	Your Cost
	Time (Hrs/A)	Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/ Rent			
NON-CASH OVERHEAD:	Per producing					Annual Cost		
	Acre					Capital Recovery		
Buildings	474				42		42	
Fuel Tanks	37				3		3	
Shop Tools	126				13		13	
Irrigation System	450				34		34	
Nectarine Establishment	5,488				663		663	
Land	3,947				246		246	
Equipment	893				107		107	
TOTAL NON-CASH OVERHEAD COSTS		11,415			1,108		1,108	
TOTAL COSTS/ACRE							10,730	



UC COOPERATIVE EXTENSION  
**Table 3. COSTS AND RETURNS PER ACRE TO PRODUCE NECTARINES**  
 SAN JOAQUIN VALLEY - South 2004

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>GROSS RETURNS</b>					
Nectarine	1,200.00	box	8.00	9,600	
<b>OPERATING COSTS</b>					
<b>Herbicide:</b>					
Surflan 4 AS	2.00	pint	13.07	26	
Goal 2 XL	2.00	pint	16.45	33	
Roundup Ultra Max	5.20	pint	8.56	45	
<b>Fungicide:</b>					
Ziram 76DF	8.00	lb	3.15	25	
Break EC	4.00	oz	4.84	19	
Rally 40W	4.25	oz	4.90	21	
Elite 45WP	6.00	oz	4.50	27	
<b>Insecticide:</b>					
Dormant Oil Plus	8.00	gal	3.59	29	
Diazinon 50 W	4.00	lb	6.45	26	
Imidan 70WSB	8.50	lb	8.99	76	
Apollo 42%	5.00	oz	10.19	51	
Success	6.00	floz	6.60	40	
<b>Fertilizer:</b>					
Ammonium Nitrate 34-0-0	151.00	lb N	0.46	69	
Neutral Zinc	10.00	lb	0.94	9	
Zinc Sulfate 36%	10.00	lb	0.46	5	
<b>Irrigation:</b>					
Water	44.00	acin	3.25	143	
<b>Custom/Contract:</b>					
Haul Fruit from field	36.00	bin	5.50	198	
Pack Fruit	1,200.00	box	3.25	3,900	
Sell (10% of Return Price)	1,200.00	box	0.80	960	
<b>Assessment:</b>					
CTFA Assessment	1,200.00	box	0.20	234	
Labor (machine)	22.77	hrs	14.10	321	
Labor (non-machine)	302.59	hrs	9.52	2,881	
Fuel - Gas	0.92	gal	1.88	2	
Fuel – Diesel	50.59	gal	1.45	73	
Lube				11	
Machinery repair				51	
Interest on operating capital @ 6.89%				143	
<b>TOTAL OPERATING COSTS/ACRE</b>				<b>9,417</b>	
<b>NET RETURNS ABOVE OPERATING COSTS</b>				<b>183</b>	
<b>CASH OVERHEAD COSTS:</b>					
Office Expense				65	
Liability Insurance				7	
Sanitation Fees				8	
Property Taxes				78	
Property Insurance				26	
Investment Repairs				22	
<b>TOTAL CASH OVERHEAD COSTS/ACRE</b>				<b>205</b>	
<b>TOTAL CASH COSTS/ACRE</b>				<b>9,622</b>	

UC COOPERATIVE EXTENSION

Table 3 continued

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Buildings				42	
Fuel Tanks				3	
Shop Tools				13	
Irrigation System				34	
Nectarine Establishment				663	
Land				246	
Equipment				107	
<b>TOTAL NON-CASH OVERHEAD COSTS/ACRE</b>				1,108	
<b>TOTAL COSTS/ACRE</b>				10,730	
<b>NET RETURNS ABOVE TOTAL COSTS</b>				-1,130	

UC COOPERATIVE EXTENSION  
**Table 4. MONTHLY CASH COSTS PER ACRE TO PRODUCE NECTARINES**  
 SAN JOAQUIN VALLEY - South 2004

Beginning DEC 03	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
Ending NOV 04	03	04	04	04	04	04	04	04	04	04	04	04	
Cultural: ( <b>bold</b> = reference in assumptions)													
<b>Weed:</b> Dormant Strip Tree Row (Surflan, Goal)	63												63
<b>Prune:</b> Trees	305	305											609
<b>Prune:</b> Shred Prunings		13											13
<b>Insect:</b> Dormant (Oil, Diazinon). <b>Disease:</b> (Ziram). <b>Fertilizer:</b> (Neutral Zinc)		98											98
<b>Rope</b> Trees 1X/2Yr (1/2 cost)			38										38
<b>Disease:</b> Bloom 20-40%, Blossom Blight (Break)			29										29
<b>Disease:</b> Bloom 80-100%, Blossom Blight (Rally))			30										30
<b>Weed:</b> Spray Middles 5X (Roundup)			15		15		15	15		15			73
<b>Irrigate</b> 12X				21	21	25	58	46	38	21	21		250
<b>Insect:</b> Worms (Imidan)					47								47
<b>Thin:</b> Fruit by Hand					981								981
<b>Weed:</b> Furrow Middles					4								4
<b>Fertilize:</b> Nitrogen (split application)					38					38			75
<b>Insect:</b> Mites (Apollo)						60							60
<b>Weed:</b> Spot Spray 2X (Roundup) ATV						4		4					9
<b>Prune:</b> Summer Pruning							89						89
<b>Prune:</b> Remove Leaves							286						286
<b>Prop</b> Limbs & Remove Props								99					99
<b>Insect:</b> Worms (Imidan), Thrips (Success). <b>Disease:</b> Brown Rot (Elite)								114					114
<b>Fertilize:</b> Fall Foliar Zinc (Zinc sulfate)											14		14
<b>Pickup:</b> Farm Use	6	6	6	6	6	6	6	6	6	6	6	6	73
<b>ATV:</b> Irrigation & General Field Use	4	4	4	4	4	4	4	4	4	4	4	4	49
<b>TOTAL CULTURAL COSTS</b>	<b>379</b>	<b>426</b>	<b>122</b>	<b>31</b>	<b>1,116</b>	<b>100</b>	<b>458</b>	<b>288</b>	<b>48</b>	<b>84</b>	<b>45</b>	<b>6</b>	<b>3,102</b>
<b>Harvest:</b>													
Pick Fruit								440	440				1,023
Haul To Shed								99	99				198
Pack Fruit								1,950	1,950				3,900
Sell								480	480				960
<b>TOTAL HARVEST COSTS</b>								<b>3,086</b>	<b>3,086</b>				<b>5,938</b>
<b>Assessment:</b>													
CTFA Assessment								117	117				234
<b>TOTAL ASSESSMENT COSTS</b>								<b>117</b>	<b>117</b>				<b>234</b>
Interest on operating capital @ 6.89%	2	5	5	5	12	12	15	34	52	-1	0	0	143
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>381</b>	<b>431</b>	<b>127</b>	<b>37</b>	<b>1,127</b>	<b>112</b>	<b>473</b>	<b>3,408</b>	<b>3,187</b>	<b>83</b>	<b>45</b>	<b>6</b>	<b>9,417</b>

UC COOPERATIVE EXTENSION

Table 4. continued

	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
Beginning DEC 03													
Ending NOV 04	03	04	04	04	04	04	04	04	04	04	04	04	
<b>CASH OVERHEAD:</b>													
Office Expense	5	5	5	5	5	5	5	5	5	5	5	5	65
Liability Insurance			7										7
Sanitation Fees	1	1	1	1	1	1	1	1	1	1	1		8
Property Taxes		39						39					78
Property Insurance		13						13					26
Investment Repairs	2	2	2	2	2	2	2	2	2	2	2	2	22
<b>TOTAL CASH OVERHEAD COSTS</b>	<b>8</b>	<b>61</b>	<b>15</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>61</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>205</b>
<b>TOTAL CASH COSTS/ACRE</b>	<b>389</b>	<b>491</b>	<b>142</b>	<b>45</b>	<b>1,135</b>	<b>120</b>	<b>481</b>	<b>3,469</b>	<b>3,195</b>	<b>91</b>	<b>53</b>	<b>13</b>	<b>9,622</b>

UC COOPERATIVE EXTENSION  
**Table 5. RANGING ANALYSIS**  
 SAN JOAQUIN VALLEY – South 2004

COSTS PER ACRE AT VARYING YIELDS TO PRODUCE NECTARINES

	YIELD (25 lb box/acre)						
	900	1,000	1,100	1,200	1,300	1,400	1,500
<b>OPERATING COSTS:</b>							
Cultural Cost	3,102	3,102	3,102	3,102	3,102	3,102	3,102
Harvest: Pick & Haul	763	868	973	1,078	1,183	1,288	1,393
Pack & Sell	3,645	4,050	4,455	4,860	5,265	5,670	6,075
Assessment	175	195	215	234	253	273	292
Interest on operating capital	129	134	138	143	148	152	157
<i>TOTAL OPERATING COSTS/ACRE</i>	7,814	8,349	8,883	9,417	9,951	10,485	11,019
<i>Total Operating Costs/box</i>	8.68	8.35	8.08	7.85	7.65	7.49	7.35
<b>CASH OVERHEAD COSTS/ACRE</b>	205	205	205	205	205	206	206
<i>TOTAL CASH COSTS/ACRE</i>	8,019	8,554	9,088	9,622	10,156	10,691	11,225
<i>Total Cash Costs/box</i>	8.91	8.55	8.26	8.02	7.81	7.64	7.48
<b>NON-CASH OVERHEAD COSTS/ACRE</b>	1,096	1,100	1,104	1,108	1,111	1,115	1,118
<i>TOTAL COSTS/ACRE</i>	9,115	9,654	10,192	10,730	11,267	11,806	12,343
<i>Total Costs/box</i>	10.13	9.65	9.27	8.94	8.67	8.43	8.23

NET RETURNS PER ACRE ABOVE OPERATING COSTS

PRICE \$/box	YIELD (25 lb box/acre)						
	900	1,000	1,100	1,200	1,300	1,400	1,500
6.00	-2,414	-2,349	-2,283	-2,217	-2,151	-2,085	-2,019
6.50	-1,964	-1,849	-1,733	-1,617	-1,501	-1,385	-1,269
7.00	-1,514	-1,349	-1,183	-1,017	-851	-685	-519
7.50	-1,064	-849	-633	-417	-201	15	231
8.00	-614	-349	-83	183	449	715	981
8.50	-164	151	467	783	1,099	1,415	1,731
9.00	286	651	1,017	1,383	1,749	2,115	2,481

NET RETURNS PER ACRE ABOVE CASH COSTS

PRICE \$/box	YIELD (25 lb box/acre)						
	900	1,000	1,100	1,200	1,300	1,400	1,500
6.00	-2,619	-2,554	-2,488	-2,422	-2,356	-2,291	-2,225
6.50	-2,169	-2,054	-1,938	-1,822	-1,706	-1,591	-1,475
7.00	-1,719	-1,554	-1,388	-1,222	-1,056	-891	-725
7.50	-1,269	-1,054	-838	-622	-406	-191	25
8.00	-819	-554	-288	-22	244	509	775
8.50	-369	-54	262	578	894	1,209	1,525
9.00	81	446	812	1,178	1,544	1,909	2,275

NET RETURNS PER ACRE ABOVE TOTAL COSTS

PRICE \$/box	YIELD (25 lb box/acre)						
	900	1,000	1,100	1,200	1,300	1,400	1,500
6.00	-3,715	-3,654	-3,592	-3,530	-3,467	-3,406	-3,343
6.50	-3,265	-3,154	-3,042	-2,930	-2,817	-2,706	-2,593
7.00	-2,815	-2,654	-2,492	-2,330	-2,167	-2,006	-1,843
7.50	-2,365	-2,154	-1,942	-1,730	-1,517	-1,306	-1,093
8.00	-1,915	-1,654	-1,392	-1,130	-867	-606	-343
8.50	-1,465	-1,154	-842	-530	-217	94	407
9.00	-1,015	-654	-292	70	433	794	1,157

UC COOPERATIVE EXTENSION  
**Table 6. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS**  
 SAN JOAQUIN VALLEY - South 2004

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead			Total
						Insur- ance	Taxes		
04	40 HP 2WD Tractor	14,263	15	2,777	1,373	58	85		1,516
04	80 HP 4WD Tractor	54,532	15	10,616	5,251	220	326		5,797
04	All Terrain Vehicle	5,790	7	2,196	786	27	40		853
04	Bin Trailers W/Bin	10,500	7	2,679	1,579	45	66		1,690
04	Bin Trailers W/Bin	10,500	7	2,679	1,579	45	66		1,690
04	Crowder - 13'	3,500	15	336	352	13	19		384
04	Fertilizer Spreader	12,000	15	1,152	1,206	44	66		1,316
04	Mower/Chopper - 8'	6,713	10	1,187	833	27	40		899
04	Orchard Sprayer 500 gal	19,741	10	3,491	2,449	79	116		2,644
04	Pickup Truck - 3/4 ton	32,000	7	12,139	4,343	149	221		4,713
04	Spot Sprayer ATV 20 gal	511	10	90	63	2	3		68
04	Weed Sprayer 100 gal	3,424	10	606	425	14	20		459
<b>TOTAL</b>		<b>173,474</b>		<b>39,948</b>	<b>20,239</b>	<b>723</b>	<b>1,068</b>		<b>22,029</b>
60% of New Cost *		104,084		23,969	12,144	433	640		13,217

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

ANNUAL INVESTMENT COSTS

Description	Price	Life	Value	Recovery	Cash Overhead			Total
					Insurance	Taxes	Repairs	
<b>INVESTMENT</b>								
Buildings 1,800 sqft	45,000	20		3,997	152	225	900	5,274
Fuel Tanks 2-250 gal	3,500	20	350	302	13	19	70	404
Irrigation System	42,750	30		3,183	144	214	855	4,396
Land	375,000	20	375,000	23,363	0	3,750	0	27,113
Nectarine Establishment	54,880	12		6,629	185	274	0	7,089
Shop Tools	12,000	15	1,200	1,204	45	66	240	1,554
<b>TOTAL INVESTMENT</b>	<b>533,130</b>		<b>376,550</b>	<b>38,678</b>	<b>539</b>	<b>4,548</b>	<b>2,065</b>	<b>45,830</b>

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Liability Insurance	100	acre	6.45	645
Office Expense	95	acre	65.00	6,175
Sanitation Fees	95	acre	7.58	720

UC COOPERATIVE EXTENSION  
**Table 7. HOURLY EQUIPMENT COSTS**  
 SAN JOAQUIN VALLEY - South 2004

Yr Description	COSTS PER HOUR							Total Costs/Hr.
	Actual Hours Used	Cash Overhead			Operating			
		Capital Recovery	Insur- ance	Taxes	Repairs	Fuel & Lube	Total Oper.	
04 40 HP 2WD Tractor	800.7	1.03	0.04	0.06	0.26	3.28	3.54	4.68
04 80 HP 4WD Tractor	799.9	3.94	0.17	0.24	2.34	6.55	8.89	13.24
04 All Terrain Vehicle	285.0	1.65	0.06	0.08	0.43	0.65	1.08	2.87
04 Bin Trailers W/Bin	381.5	2.48	0.07	0.10	1.57	0.00	1.57	4.22
04 Bin Trailers W/Bin	382.5	2.48	0.07	0.10	1.57	0.00	1.57	4.22
04 Crowder - 13'	133.4	1.58	0.06	0.09	0.92	0.00	0.92	2.65
04 Fertilizer Spreader	79.6	9.08	0.33	0.50	4.51	0.00	4.51	14.42
04 Mower/Chopper - 8'	200.3	2.50	0.08	0.12	2.78	0.00	2.78	5.47
04 Orchard Sprayer 500 gal	200.4	7.33	0.24	0.35	3.34	0.00	3.34	11.26
04 Pickup Truck - 3/4 ton	285.0	9.14	0.31	0.46	2.35	5.00	7.35	17.27
04 Spot Sprayer ATV 20 gal	150.0	0.25	0.01	0.01	0.14	0.00	0.14	0.41
04 Weed Sprayer 100 gal	150.1	1.70	0.05	0.08	0.91	0.00	0.91	2.75



UC COOPERATIVE EXTENSION  
**Table 8. NECTARINE OPERATIONS WITH EQUIPMENT**  
 SAN JOAQUIN VALLEY – South 2004

Operation	Operation			Material	Broadcast Rate/acre	Unit
	Month	Tractor	Implement			
Weed: Dormant Strip	December	40HP 2WD	Weed Sprayer	Surflan	2.00	pt
				Goal	2.00	pt
Weed: Spray Middles 5X	February	40HP 2WD	Weed Sprayer	Roundup	1.00	pt
	April	40HP 2WD	Weed Sprayer	Roundup	1.00	pt
	June	40HP 2WD	Weed Sprayer	Roundup	1.00	pt
	July	40HP 2WD	Weed Sprayer	Roundup	1.00	pt
	September	40HP 2WD	Weed Sprayer	Roundup	1.00	pt
Weed: Spot Spray	May	ATV	ATV Sprayer	Roundup	0.10	pt
	August	ATV	ATV Sprayer	Roundup	0.10	pt
Weed: Clean Furrows	April	80HP MFWD	Crowder			
Prune: Hand	December			Labor	32.00	hrs
	January			Labor	32.00	hrs
Prune: Shred Prunings	January	80HP MFWD	Mower/Chopper			
Rope Trees (Alternate Years) 1/2 cost each year	February			Labor	4.00	hrs
Thin Fruit	April			Labor	103.00	hrs
Prune: Summer	June			Labor	9.30	hrs
Prune: Remove Leaves	June			Labor	38.00	hrs
Prop Limbs & Remove Props	July			Labor	8.00	
Insect: Dormant. Disease: Dormant. Fertilize: Dormant	January	80HP MFWD	Orchard Sprayer	Dormant Oil	8.00	gal
				Diazinon	4.00	lb
				Ziram	8.00	lbs
				Neutral Zinc	10.00	lbs
Disease: Bloom 10-25%	February	80HP MFWD	Orchard Sprayer	Break	4.00	floz
Disease: Bloom 80-100%	February	80HP MFWD	Orchard Sprayer	Rally	4.25	oz
Insect: Worms	April	80HP MFWD	Orchard Sprayer	Imidan	4.25	lbs
Insect: Mites	May	80HP MFWD	Orchard Sprayer	Apollo	5.00	oz
Insect: Worms, Thrips. Disease: Fruit Rot	July	80HP MFWD	Orchard Sprayer	Imidan (worms)	4.25	lbs
				Success (thrips)	1.00	lb
				Elite (fruit rot)	6.00	oz
Irrigate	March			Water	3.66	acin
	April			Water	3.70	acin
	May			Water	4.88	acin
	June			Water	9.76	acin
	July			Water	8.54	acin
	August			Water	6.10	acin
	September			Water	3.70	acin
	October			Water	3.66	acin
Fertilize: Nitrogen Split	April	40HP 2WD	Fertilizer Spreader	Ammonium Nitrate	75.50	lbs N
	September	40HP 2WD	Fertilizer Spreader	Ammonium Nitrate	75.50	lbs N
Fertilize: Fall Zinc	October	80HP MFWD	Orchard Sprayer	Zinc Sulfate	10.00	lbs
Harvest: Pick Fruit	July	40HP 2WD	Bin Trailers w/bins	Picking Labor	36.50	hrs
	August	40HP 2WD	Bin Trailers w/bins	Picking Labor	36.50	hrs
Harvest: Haul	July	Custom		21 Bins	5.50	bin
	August	Custom		20 bins	5.50	bin
Pack Fruit	July	Custom		700 Boxes	3.25	box
	August	Custom		700 Boxes	3.25	box