

U.C. COOPERATIVE EXTENSION

SAMPLE COSTS TO ESTABLISH AND PRODUCE

PLUMS

Friar Variety

IN THE SOUTHERN SAN JOAQUIN VALLEY - 1992

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The detailed costs for plum establishment and production in the Southern San Joaquin Valley are presented in this study. The hypothetical farm used in this report consists of 100 acres of which 5 acres are in plum production.

Practices described in this study are based on those production procedures considered typical for this crop and area. Additional practices that are not listed may be required. Sample costs given for labor, materials, equipment and contract services are based on current 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 Cost* column is provided to enter your actual costs on **Table 2, Sample Costs To Produce Mature Plums** and **Table 3, Details of Costs Per Acre to Produce Mature Plums**.

This study consists of General Assumptions for Establishing and Producing Plums and seven tables.

Table 1.	Costs Per Acre to Establish A Plum Orchard
Table 2.	Costs Per Acre to Produce Mature Plums
Table 3.	Details of Costs Per Acre to Produce Mature Plums
Table 4.	Monthly Cash Costs Per Acre to Produce Mature Plums
Table 5.	Annual Equipment, Investment and Business Overhead
Table 6.	Hourly Equipment Costs
Table 7.	Ranging Analysis

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 ESTABLISHING AND PRODUCING
PLUMS**

Friar Variety

Southern San Joaquin Valley - 1992

U.C. Cooperative Extension

The following is a description of some general assumptions pertaining to sample costs of plum establishment and production in the Southern San Joaquin Valley. The costs are based on typical cultural practices used by growers in this region, some of which may not be used during every production year. These costs are represented on an annual, per acre basis. *The use of trade names 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.*

1. LAND:

The farm consists of 100 acres of land. There are 5 acres being established in the actual plum orchard with another 90 acres on which other orchard and vine crops are grown and 5 acres of roads and farmstead. No other crops are grown. Land is valued at \$5,500 per acre and is not depreciated.

2. TREES:

The plum variety that is planted and produced in this cost study is Friar. This variety of plum accounts for approximately 11% of the acreage and 16% of the plum crop in the Southern San Joaquin Valley. The trees are planted at 14' X 18' spacings, with 172 trees per acre. The life of the orchard is estimated to be 20 years.

3. IRRIGATION:

Water for irrigation is pumped from a well. Price per acre foot for pumped water will vary from grower to grower in this region depending on various well characteristics and irrigation factors. In this study, water is pumped from a depth of 85 feet in a 150 foot well and is calculated to cost \$32.52 per acre foot. The amount of water used by the orchard during its establishment varies each year and is shown in **Table A** below.

Water is delivered to the orchard from the well through an underground pipe and flood valve system. The orchard is irrigated down furrows that are put up at the beginning of each growing season. No assumption is made about effective rainfall. The life of the system is estimated at 30 years. This irrigation system is installed before the orchard is planted.

Table A. Water Use For Establishment And Production Years

Year	Acre Inches/Year	Annual \$/Acre
1	20	54
2	24	65
3	30	81
4+	36	98

4. ESTABLISHMENT PRACTICES:

This orchard is established on ground that was previously planted to deciduous trees or vines. Land preparation, preplant fumigation and tree planting are done by custom operators in the first year. The young trees are not headed back or pruned after planting. In the second year, 2 trees per acre are replanted, but there is no cost for the trees since many nurseries will provide replants free.

Berms are put up during the first year and sprayed to control weeds. The row middles are cultivated and furrowed for weed control and irrigation purposes throughout the life of the orchard.

Weed control for the orchard begins with a strip spray on the berms the first season and switches to a pre-emergent and spot sprays in the second. The spot spray is only used on 5% of the acreage. The middles are sprayed beginning with the first harvest in the third year.

Pest control does not start until the second year with a dormant season application. Both a bloom and worm spray are added in the third year to round out the pest control program.

Thinning also begins in the third year and the amount of time required for this operation increases as the yields increase. Plums are not roped as are peaches and nectarines.

Nitrogen fertilizer is applied at increasing rates during the orchard establishment and is shown in **Table B** below. Zinc sulfate is also applied with the dormant spray at a rate of 5 pounds per acre in the first year and 10 pounds in each year thereafter.

Table B. Applied Nitrogen During Establishment Years

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

Establishment cost is used to determine the non-cash overhead expenses, depreciation and interest on investment, during the production years. It 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 fruit is harvested. The Total Accumulated Net Cash Cost shown on **Table 1**, in the third year represents the establishment cost. For this study, this cost is \$2,929 per acre or \$14,625 for the 5 acre orchard. The establishment cost is spread over the remaining 17 years of the 20 years the orchard is in production.

5. PRODUCTION CULTURAL PRACTICES:

Pruning is done by hand in the winter months. Prunings are shredded by machine. Fruit thinning is performed in April and May.

Nitrogen fertilizer is applied in summer/fall following harvest. In some instances nitrogen fertilizer may need to be applied in both spring and late summer. It is applied at a rate of 151 pounds of N per acre. Zinc sulfate is applied in the autumn at leaf fall at a rate of 10 pounds per acre.

Mature trees are cultivated by discing in the spring and fall. Furrows are drawn in the spring after discing to contain irrigation water. Weeds are controlled in row centers during the spring and summer by chemical mowing using low volume sprays. Weeds on the berms are controlled by pre-emergent herbicides.

A dormant spray is applied annually to control pests and diseases. 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.

The pesticides and rates mentioned in this cost study are a few of those that are listed in the [UC IPM Prune/Plum Pest Management Guidelines](#). Cultural practices for the production of plums vary from grower to grower and region to region. The practices and inputs used in this cost study serve only as a sample or guide. Variations can be significant. For additional information contact the farm advisor in the county of interest.

6. HARVEST:

Harvesting starts in the third year after the orchard is planted. As the yields increase the cost to harvest also increases, until orchard maturity is reached in the sixth year. In this cost study the crop is harvested by the grower's picking crew using ladders and buckets supplied by the packing shed. The fruit is then hauled to the shed by a contract hauler. The shed packs, palletizes, cools and sells the fruit under a contract with the grower. For growers that own their packing and cooling equipment and sell their crop, the needed equipment for packing and cooling operations should be inventoried in Investment costs on **Table 5**, and operation costs would be calculated and placed in Harvest costs in **Table 1** and **2**. All custom charges would be subtracted from Harvest costs in **Table 1** and **2**.

Assessment fees are collected on a voluntary basis and are determined by the number of boxes sold. The assessment fee charges \$0.15 per box and is shown as a harvest cost.

7. YIELDS & RETURNS:

As noted above, plums most often begin bearing an economic crop in the third year after planting. Typical annual yields for the Friar variety are measured in boxes per acre and are shown in **Table C**. These yields are from the third year of orchard establishment to maturity. The weight of a box of plums in this study is 28 pounds.

Table C. Annual Yield Per Acre

Year	Yield (Boxes/Acre)
3	100
4	250
5	500
6	700
7+	900

An estimated price of a \$7.85 per box of Friar plums is based on typical average fruit size and price distribution, is used in this study. Returns, shown in **Table 7**, will vary and the yields and prices used in this cost study are an estimate taking into consideration current situations.

8. LABOR:

Hourly wages for workers are \$6.55 and \$4.69 per hour for skilled and field workers respectively. Adding 34% for SDI, FICA, insurance and other benefits gives the labor rates shown of \$8.78 per hour for skilled labor and \$6.28 per hour for field labor. The labor for operations involving machinery are 20% higher than the operation time to account for the extra labor involved in equipment set up, moving, maintenance and repair.

9. OVERHEAD:

County taxes are calculated as 1% of the land value plus 1% of the average value of the trees, equipment, buildings and improvements. Insurance is charged at 0.5% of the average value of the equipment over its useful life. Liability insurance covers accidents on the farm and costs \$330 for the entire farm or \$3.30 per acre. Office expenses are estimated at \$30 per acre and include, but are not limited to office supplies, phone, bookkeeping, accounting, legal fees, etc. Sanitation services provide portable field toilets for the orchard workers and cost the farm \$224 annually.

10. INTEREST:

Interest on operating capital is based on cash costs and is calculated monthly for eleven months until harvest at a nominal rate of 9.00% per year. Interest is also charged on investment at 4% per year to account for income foregone that could be received from an alternative investment (opportunity cost) and is based on the average value of the land, orchard, buildings and equipment. Real interest rates are used on investments, so no adjustment for inflation has been included. Nominal interest rates would contain a factor for inflation which might run 1% to 4% higher than real interest rates, to account for inflation.

11. EQUIPMENT COSTS:

In allocating the equipment costs per acre, the following calculations were made and shown in **Table 5**: (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 per acre of the equipment during its useful life, multiplied by an interest rate of 4%. Average value equals new cost plus salvage value divided by 2 on a per acre basis. (d) The total investment costs are calculated as

60% of the depreciation and the interest reflect a mix of new and used equipment. These values are also used in **Table 2**. Hourly equipment costs are shown in **Table 6**.

12. FUEL & REPAIR:

The fuel and repair cost per acre for each operation in **Table 2**, is determined by multiplying the total hourly operating cost for each piece of equipment in **Table 6**, by the number of hours per acre for that operation. Prices for on farm delivery of diesel and gasoline are \$0.71 and \$0.98 per gallon respectively.

Table 1.

U. C. COOPERATIVE EXTENSION
SAMPLE COSTS PER ACRE TO ESTABLISH A PLUM ORCHARD
SOUTHERN SAN JOAQUIN VALLEY - 1992
Friar Variety

Labor Rate: \$8.78/hr. machine labor
\$6.28/hr. non-machine labor
Interest rate: 9.0%
Trees/Acre: 172

YEAR	Costs per Acre					
	1st	2nd	3rd	4th	5th	6th
YIELD (Boxes/Acre)			100	250	500	700
Planting Costs:						
Land Preparation - Ripping, Custom	\$170					
Land Preparation - Touch Up Leveling, Custom	50					
Disk and Float - 2X	10					
Fumigate - Custom	500					
Trees: 172 @ \$3.75 (+ Replants Year 2 No Cost)	645					
Survey And Plant Trees	95	\$15				
TOTAL PLANTING COSTS	\$1,470	\$15				
Cultural Costs:						
Prune and Train		\$32	\$72	\$144	\$216	\$324
Shred Brush		7	7	7	7	7
Cultivate	\$16	16	7	7	7	7
Thin Fruit					250	250
Put Up Berms	3					
Furrow Middles	17	17	4	4	4	4
Irrigate	1	127	141	156	176	176
Fertilizer - Nitrogen	18	19	31	48	48	48
Fertilizer - Zinc	10	15	15	15	15	15
Pest Control - Dormant		59	59	59	59	59
Pest Control - Bloom			38	38	38	38
Pest Control - Codling Mtbh			30	30	30	30
Pest Control - Mte		31	31	31	31	31
Weed Control - Pre-emergent		40	40	40	40	40
Weed Control - Strip Spray Berms	29					
Weed Control - Middles			13	13	13	13
Weed Control - Spot Spray 1/4 Or Acreage		2	2	2	2	2
Pickup Truck Use	87	87	87	87	87	87
TOTAL CULTURAL COSTS	\$181	\$452	\$577	\$681	\$1,023	\$1,131
Harvesting Costs:						
Pick Fruit			\$162	\$406	\$811	\$1,135
Haul To Shed - Contract			11	26	53	74
Pack Fruit - Contract			265	663	1,325	1,855
Palletize And Cool - Contract			25	63	125	175
Sell			79	198	395	553
California Tree Fruit Agreement Assessment			15	38	75	105
TOTAL HARVEST COSTS			\$557	\$1,394	\$2,784	\$3,897
Post harvest Costs:						
Fall Ripping	\$3	\$3	\$3	\$3	\$3	\$3
TOTAL POSTHARVEST COSTS	\$3	\$3	\$3	\$3	\$3	\$3
Interest on operating capital @ 9%	\$150	\$22	\$23	\$34	\$57	\$71

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Table 1. continued

YEAR	Costs per Acre					
	1st	2nd	3rd	4th	5th	6th
Cash Overhead Costs:						
Office Expense	\$100	\$100	\$100	\$100	\$100	\$100
Liability Insurance	3	3	3	3	3	3
Sanitation Services	2	2	2	2	2	2
Property Taxes	64	64	64	64	64	64
Property Insurance	32	32	32	32	32	32
Investment Repairs	5	5	5	5	5	5
TOTAL CASH OVERHEAD COSTS	\$206	\$206	\$206	\$206	\$206	\$206
TOTAL CASH COSTS	\$2,010	\$698	\$1,366	\$2,318	\$4,073	\$5,308
INCOME FROM PRODUCTION			\$1,145	\$2,863	\$5,725	\$8,015
NET CASH COSTS FOR THE YEAR	\$2,010	\$698	\$221			
PROFIT ABOVE CASH COSTS				\$544	\$1,652	\$2,707
ACCUMULATED NET CASH COSTS	\$2,010	\$2,708	\$2,929	\$2,384	\$733	
ACCUMULATED PROFITS ABOVE NET CASH COSTS						\$1,974
Depreciation:						
Buildings	\$13	\$13	\$13	\$13	\$13	\$13
Furrow Irrigation System	9	9	9	9	9	9
Fuel Tanks & Pumps	4	4	4	4	4	4
Shop Tools	7	7	7	7	7	7
ATV - 4WD	12	12	12	12	12	12
Equipment	47	47	47	47	47	47
TOTAL DEPRECIATION	\$92	\$92	\$92	\$92	\$92	\$92
Interest on Investment @ 4%:						
Buildings	\$8	\$8	\$8	\$8	\$8	\$8
Furrow Irrigation System	7	7	7	7	7	7
Fuel Tanks & Pumps	2	2	2	2	2	2
Shop Tools	2	2	2	2	2	2
ATV - 4WD	1	1	1	1	1	1
Land @ \$5500/acre	220	220	220	220	220	220
Equipment	15	15	15	15	15	15
TOTAL INTEREST ON INVESTMENT	\$255	\$255	\$255	\$255	\$255	\$255
TOTAL COST FOR THE YEAR	\$2,357	\$1,045	\$1,713	\$2,665	\$4,420	\$5,655
INCOME FROM PRODUCTION			\$1,145	\$2,863	\$5,725	\$8,015
TOTAL NET COST FOR THE YEAR	\$2,357	\$1,045	\$568			
NET PROFIT ABOVE TOTAL COST				\$197	\$1,305	\$2,360
TOTAL ACCUMULATED NET COST	\$2,357	\$3,402	\$3,970	\$3,772	\$2,467	\$107
TOTAL ACCUMULATED PROFITS ABOVE NET COSTS						

Table 2.

U. C. COOPERATIVE EXTENSION
 COSTS PER ACRE TO PRODUCE MATURE PLUMS
 SOUTHERN SAN JOAQUIN VALLEY - 1992
 Friar Variety

Labor Rate: \$8.78/hr. machine labor Interest Rate: 9.00%
 \$6.28/hr. non-machine labor Yield per Acre: 900 box

Operation	Operation			Cash and Labor Costs per Acre			Your Cost
	Time (Hrs/A)	Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/Rent	Total Cost	
Cultural:							
Prune And Train	51.60	324	0	0	0	324	
Weed Control - Pre-emergent	0.13	1	1	38	0	40	
Shred Brush	0.37	4	3	0	0	7	
Pollination	0.00	0	0	0	30	30	
Pest Control - Dormant & Zinc	0.20	2	3	45	0	50	
Cultivate	0.37	4	3	0	0	7	
Furrow Middles	0.26	3	1	0	0	4	
Pest Control - Coddling Moth	0.41	4	6	40	0	50	
Fertilize - Nitrogen	0.11	1	0	47	0	48	
Thinning	143.30	900	0	0	0	900	
Irrigate	10.25	64	0	119	0	184	
Weed Control - Middles	0.64	7	3	8	0	18	
Weed Control - Spot Spray	0.43	4	2	3	0	9	
Pest Control - Mites	0.21	2	3	26	0	31	
Pickup Truck Use	5.70	60	27	0	0	87	
TOTAL CULTURAL COSTS	213.98	1381	50	327	30	1789	
Harvest:							
Pick Fruit - 900 Boxes/Acre	74.20	1248	212	0	0	1460	
Haul To Shed	0.00	0	0	0	95	95	
Pack Fruit	0.00	0	0	0	2385	2385	
Palletize And Cool Fruit	0.00	0	0	0	225	225	
Sell	0.00	0	0	0	711	711	
Voluntary Assessment	0.00	0	0	105	0	105	
TOTAL HARVEST COSTS	74.20	1248	212	105	3416	4981	
Post harvest:							
Fall Chisel ing	0.19	2	1	0	0	3	
TOTAL POSTHARVEST COSTS	0.19	2	1	0	0	3	
Interest on operating capital @ 9.00%							93
TOTAL OPERATING COSTS/ ACRE		2631	263	432	3446	6866	
TOTAL OPERATING COSTS/ BOX							7.63

U. C. COOPERATIVE EXTENSION
Table 2. continued

CASH OVERHEAD:				
Office Expense				100
Liability Insurance				3
Sanitation Fees				2
Property Taxes				83
Property Insurance				42
Investment Repairs				5

TOTAL CASH OVERHEAD COSTS				235

TOTAL CASH COSTS/ ACRE				7101
TOTAL CASH COSTS/ BOX				7.89

NON-CASH OVERHEAD:				
	Per produci ng	----- Annual Cost -----		
Investment	Ac re	Depr eci at i on	Int er est @ 4.00%	
	-----	-----	-----	
Bui l di ngs	370	13	8	21
Fuel Tanks & Pumps	81	4	2	5
Shop Tool s	110	7	2	9
I rri gat i on Syst em	310	9	7	16
ATV - 4WD	65	12	1	13
Land	5500		220	220
Est abli shment Cost	2929	172	59	231
Equi pment	1577	118	35	153
	-----	-----	-----	-----
TOTAL NON-CASH OVERHEAD COSTS	10942	335	334	669

TOTAL COSTS/ ACRE				7771
TOTAL COSTS/ BOX				8.63
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Table 3.

U. C. COOPERATIVE EXTENSION
 DETAIL OF COSTS PER ACRE TO PRODUCE MATURE PEACHES/NECTARINES
 SOUTHERN SAN JOAQUIN VALLEY - 1992
 Friar Variety

Use of trade names does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products .

Labor Rate: \$8.78/hr. machi ne Labor Interest Rate: 9.00%
 \$6.28/hr. non-machi ne Labor

	Quantity/Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
OPERATING COSTS					
Herbi ci de:					
Surflan	1.00	qt	17.92	18	
Goal	1.00	qt	19.89	20	
Roundup	1.00	qt	11.29	11	
Cont ract:					
Pollination Fee	1.00	hive	30.00	30	
Pack	900.00	box	2.65	2385	
Palletize	900.00	box	0.25	225	
Sell	900.00	box	0.79	711	
Mt i ci de:					
Dormant Oil	6.00	gal	2.79	17	
Omite	5.00	lb	5.28	26	
Fertili zer:					
Zinc	10.00	lb	1.10	11	
Ammonium Nitrate	151.00	lb	0.31	47	
Insect i ci de:					
Diazinon 50 W	4.00	lb	4.41	18	
Guthion	2.00	lb	8.98	18	
Sevin 80S	5.00	lb	4.38	22	
Wãt er:					
Water	44.01	acin	2.71	119	
Cust om:					
Haul	21.15	bin	4.50	95	
Assessment:					
Voluntary	700.00	box	0.15	105	
Labor (machi ne)	93.03	hrs	8.78	877	
Labor (non-machi ne)	279.37	hrs	6.28	1754	
Fuel - Gas	11.40	gal	0.98	11	
Fuel - Diesel	130.98	gal	0.71	93	
Lube				16	
Machinery repair				144	
Interest on operating capital @ 9.00%				93	
TOTAL OPERATING COSTS/ ACRE				6866	
TOTAL OPERATING COSTS/ BOX				7.63	

U. C. COOPERATIVE EXTENSION
Table 3. cont i nued

CASH OVERHEAD COSTS:	
Office Expense	100
Liability Insurance	3
Sanitation Fees	2
Property Taxes	83
Property Insurance	42
Investment Repairs	5

TOTAL CASH OVERHEAD COSTS/ ACRE	235

TOTAL CASH COSTS/ ACRE	7101
TOTAL CASH COSTS/ BOX	7.89

NON-CASH OVERHEAD COSTS (DEPRECIATION & INTEREST):	
Buildings	21
Fuel Tanks & Pumps	5
Shop Tools	9
Irrigation System	16
ATV - 4WD	13
Land	220
Establishment Cost	231
Equipment	153

TOTAL NON-CASH OVERHEAD COSTS/ ACRE	669

TOTAL COSTS/ ACRE	7771
TOTAL COSTS/ BOX	8.63
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Table 4.

U. C. COOPERATIVE EXTENSION
MONTHLY CASH COSTS PER ACRE TO PRODUCE MATURE PLUMS
SOUTHERN SAN JOAQUIN VALLEY - 1992
Friar Variety

Beginning	DEC 92	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
Ending	NOV 93	92	93	93	93	93	93	93	93	93	93	93	93	
Cultural:														
Prune And Train		162	162											324
Weed Control - Pre-emergent		40												40
Shred Brush			7											7
Pollination				15	15									30
Pest Control - Dormant & Zinc			50											50
Cultivate					3				3					7
Furrow M d d l e s					4									4
Pest Control - Coddling M o t h						23		13	13					50
Fertilize - Nitrogen						48								48
Thinning						450	450							900
Irrigate						20	20	47	39	39	20			184
Weed Control - M d d l e s							4	4	4	4	4			18
Weed Control - Spot Spray							2	2	2	2	2			9
Pest Control - M t e s								16	16					31
Pickup Truck Use		8	8	8	8	8	8	8	8	8	8	8	8	87
TOTAL CULTURAL COSTS		210	227	23	30	549	483	89	85	52	33	8		1789
Harvest:														
Pick Fruit - 900 Boxes/Acre									1460					1460
Haul To Shed									95					95
Pack Fruit									2385					2385
Palletize And Cool Fruit									225					225
Sell									711					711
Voluntary Assessment									105					105
TOTAL HARVEST COSTS									4981					4981
Post harvest:														
Fall Chiseling												3		3
TOTAL POSTHARVEST COSTS												3		3
Interest on oper. capital		2	3	3	4	8	11	12	50					93
TOTAL OPERATING COSTS/ ACRE		211	230	26	34	556	494	101	5116	52	33	11		6866
TOTAL OPERATING COSTS/ BOX		0.23	0.26	0.03	0.04	0.62	0.55	0.11	5.68	0.06	0.04	0.01		7.63
OVERHEAD:														
Office Expense		9	9	9	9	9	9	9	9	9	9	9	9	100
Liability Insurance		0	0	0	0	0	0	0	0	0	0	0	0	3
Sanitation Fees		2												2
Property Taxes			42						42					83
Property Insurance			21						21					42
Investment Repairs		0	0	0	0	0	0	0	0	0	0	0	0	5
TOTAL CASH OVERHEAD COSTS		12	72	10	10	10	10	10	72	10	10	10		235
TOTAL CASH COSTS/ ACRE		223	303	36	44	566	504	111	5188	62	43	21		7101
TOTAL CASH COSTS/ BOX		0.25	0.34	0.04	0.05	0.63	0.56	0.12	5.76	0.07	0.05	0.02		7.89

Table 5.

U. C. COOPERATIVE EXTENSION
WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
SOUTHERN SAN JOAQUIN VALLEY - 1992

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	- Non-Cash Over- Depr- ciation	Interest	- Cash Overhead - Insur- ance	Taxes	Total
92	30 HP 2WD Tractor	18100	15	1086	398	50	100	1634
92	30 HP 2WD Tractor	18100	15	1086	398	50	100	1634
92	75 HP 4WD Tractor	37450	15	2247	824	103	206	3380
92	Bin Trailer	950	15	57	21	3	5	86
92	Bin Trailer	950	15	57	21	3	5	86
92	Bin Trailer	950	15	57	21	3	5	86
92	Disc - Tandem 14'	7490	10	674	165	21	41	901
92	Furrowing Bar	750	15	45	16	2	4	68
92	Mower/Chopper - 8'	5500	10	495	121	15	30	661
92	Orchard Sprayer 500 Gal	16050	10	1444	353	44	88	1930
92	Pickup Truck - 3/4 Ton	19260	7	2476	424	53	106	3059
90	Pickup Truck - Used	8000	7	1029	176	22	44	1271
92	Ripper - 3 Shank	1953	15	117	43	5	11	176
92	Spinner Spreader - 3PT	800	20	36	18	2	4	60
92	Weed Sprayer 100 Gal	3424	10	308	75	9	19	412
TOTAL		139727		11215	3074	384	769	15442
60% of New Cost *		83836		6729	1844	231	461	9265

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

ANNUAL INVESTMENT COSTS

Yr	Description	Price	Yrs Life	- Non-Cash Over- Depr- ciation	Interest	- Cash Overhead - Insur- ance	Taxes	Repairs	Total
INVESTMENT									
	ATV - 4WD	6500	5	1170	143	18	36	50	1417
	Buildings	37000	25	1332	814	102	203	100	2551
	Establishment Cost	14645	17	861	293	37	73	0	1264
	Fuel Tanks & Pumps	8100	20	365	178	22	45	125	735
	Irrigation System	31030	30	931	683	85	171	100	1970
	Land	27500			1100	138	275	0	1513
	Shop Tools	11000	15	660	242	30	61	100	1093
TOTAL INVESTMENT		135775		5319	3453	432	863	475	10541

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Liability Insurance	100.00	acre	3.30	330
Office Expense	100.00	acre	100.00	10000
Sanitation Fees	100.00	acre	2.24	224

Table 6.

U. C. COOPERATIVE EXTENSION
HOURLY EQUIPMENT COSTS
SOUTHERN SAN JOAQUIN VALLEY - 1992

Yr	Description	COSTS PER HOUR								Total Costs/ Hr.
		Actual Hours Used	- Non-Cash Depre- ciation	Over- Inter- est	- Cash Insur- ance	Overhead Taxes	Repa- irs	Operat- ing Fuel & Lube	Total Oper.	
92	30 HP 2WD Tractor	937.3	0.70	0.25	0.03	0.06	1.09	1.20	2.29	3.33
92	30 HP 2WD Tractor	933.0	0.70	0.26	0.03	0.06	1.09	1.20	2.29	3.34
92	75 HP 4WD Tractor	799.1	1.69	0.62	0.08	0.15	1.87	3.01	4.88	7.42
92	Bin Trailer	287.5	0.12	0.04	0.01	0.01	0.23	0.00	0.23	0.41
92	Bin Trailer	287.5	0.12	0.04	0.01	0.01	0.23	0.00	0.23	0.41
92	Bin Trailer	287.5	0.12	0.04	0.01	0.01	0.23	0.00	0.23	0.41
92	Disc - Tandem 14'	249.8	1.62	0.40	0.05	0.10	2.15	0.00	2.15	4.32
92	Furrowing Bar	165.3	0.16	0.06	0.01	0.01	0.22	0.00	0.22	0.46
92	Mower/Chopper - 8'	199.9	1.49	0.36	0.05	0.09	1.98	0.00	1.98	3.97
92	Orchard Sprayer 500 Gal	119.1	7.28	1.78	0.22	0.44	8.05	0.00	8.05	17.77
92	Pickup Truck - 3/4 Ton	284.2	5.23	0.89	0.11	0.22	3.50	2.25	5.75	12.20
90	Pickup Truck - Used	73.3	8.43	1.44	0.18	0.36	1.45	2.25	3.70	14.11
92	Ripper - 3 Shank	166.0	0.42	0.16	0.02	0.04	0.56	0.00	0.56	1.20
92	Spinner Spreader - 3PT	59.6	0.36	0.18	0.02	0.04	0.48	0.00	0.48	1.09
92	Weed Sprayer 100 Gal	124.0	1.49	0.36	0.05	0.09	1.72	0.00	1.72	3.71

Table 7.

U. C. COOPERATIVE EXTENSION
RANGING ANALYSIS
SOUTHERN SAN JOAQUIN VALLEY - 1992
Friar Variety

COSTS PER ACRE AT VARYING YIELDS TO PRODUCE PLUM

	YIELD (BOX/ ACRE)						
	750	800	850	900	950	1000	1050
<i>OPERATING COSTS/ ACRE:</i>							
Cultural Cost	1728	1728	1728	1728	1728	1728	1728
Harvest Cost	4316	4538	4759	4981	5203	5424	5646
Post harvest Cost	3	3	3	3	3	3	3
Interest on operating capital	87	89	90	92	94	95	97
TOTAL OPERATING COSTS/ ACRE	6135	6358	6581	6804	7028	7251	7474
TOTAL OPERATING COSTS/ BOX	8.18	7.95	7.74	7.56	7.40	7.25	7.12
<i>CASH OVERHEAD COSTS/ ACRE</i>							
	235	235	235	235	235	235	235
TOTAL CASH COSTS/ ACRE	6370	6594	6817	7040	7263	7486	7709
TOTAL CASH COSTS/ BOX	8.49	8.24	8.02	7.82	7.65	7.49	7.34
<i>NON-CASH OVERHEAD COSTS/ ACRE</i>							
	669	669	669	669	669	669	669
TOTAL COSTS/ ACRE	7039	7263	7486	7709	7932	8155	8379
TOTAL COSTS/ BOX	9.39	9.08	8.81	8.57	8.35	8.16	7.98

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR PLUM

PRICE (DOLLARS PER BOX)	YIELD (BOX/ ACRE)						
	750	800	850	900	950	1000	1050
6.50	-1260	-1158	-1056	-954	-853	-751	-649
7.00	-885	-758	-631	-504	-378	-251	-124
7.50	-510	-358	-206	-54	97	249	401
8.00	-135	42	219	396	572	749	926
8.50	240	442	644	846	1047	1249	1451
9.00	615	842	1069	1296	1522	1749	1976
9.50	990	1242	1494	1746	1997	2249	2501

NET RETURNS PER ACRE ABOVE CASH COSTS FOR PLUM

PRICE (DOLLARS PER BOX)	YIELD (BOX/ ACRE)						
	750	800	850	900	950	1000	1050
6.50	-1495	-1394	-1292	-1190	-1088	-986	-884
7.00	-1120	-994	-867	-740	-613	-486	-359
7.50	-745	-594	-442	-290	-138	14	166
8.00	-370	-194	-17	160	337	514	691
8.50	5	206	408	610	812	1014	1216
9.00	380	606	833	1060	1287	1514	1741
9.50	755	1006	1258	1510	1762	2014	2266

NET RETURNS PER ACRE ABOVE TOTAL COSTS FOR PLUM

PRICE (DOLLARS PER BOX)	YIELD (BOX/ ACRE)						
	750	800	850	900	950	1000	1050
6.50	-2164	-2063	-1961	-1859	-1757	-1655	-1554
7.00	-1789	-1663	-1536	-1409	-1282	-1155	-1029
7.50	-1414	-1263	-1111	-959	-807	-655	-504
8.00	-1039	-863	-686	-509	-332	-155	21
8.50	-664	-463	-261	-59	143	345	546
9.00	-289	-63	164	391	618	845	1071
9.50	86	337	589	841	1093	1345	1596
