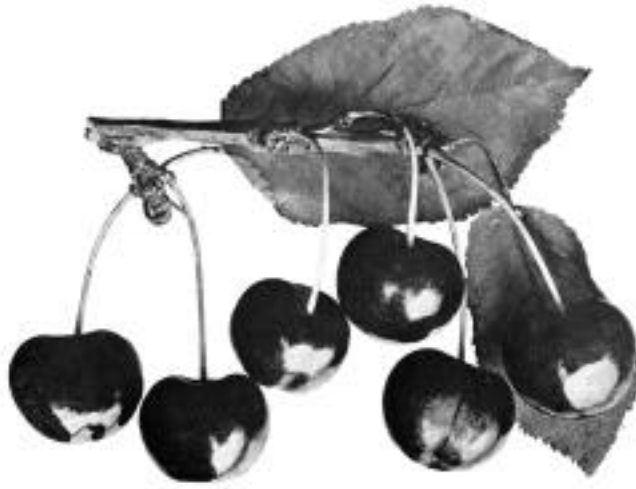

2000

UNIVERSITY OF CALIFORNIA - COOPERATIVE EXTENSION

SAMPLE COSTS
TO PRODUCE

SWEET CHERRIES



SIERRA NEVADA FOOTHILLS

Five acre orchard

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SAMPLE COSTS TO PRODUCE SWEET CHERRIES

Sierra Nevada Foothills – 2000

INTRODUCTION

The sample costs to produce sweet cherries in the Sierra Nevada foothills are presented in this study. The hypothetical farm in this report consists of a total of 20 acres, five are a producing cherry orchard and fifteen acres are in forest, farmstead, roads, and/or other fruit crops.

This study is intended as a guide only, and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans. The practices described in this cost study are considered typical for this crop and area. 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. The use of trade names is not an endorsement or a recommendation. A blank Your Cost column is also provided to enter your actual costs on Tables 1 and 2..

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For an explanation of calculations used in the study refer to the Assumptions, call the Department of Agricultural and Resource Economics, Cooperative Extension, University of California, Davis, California, (530) 752-3589 or call the Amador or El Dorado County farm advisors.

Sample Cost of Production studies are available for many commodities and can be ordered from the Department of Agricultural and Resource Economics, UC Davis, (530) 752-1515. Current studies, those prepared during the last five years, can be downloaded from their website (www.agecon.ucdavis.edu) or obtained from selected county Cooperative Extension offices.

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ASSUMPTIONS

The following assumptions pertain to sample costs to produce sweet cherries in the Sierra Nevada foothills. Practices described should not be considered recommendations by the University of California, but rather represent production procedures considered typical for this crop and area. Some of these costs and practices may not be applicable to your situation nor used during every production year. Additional ones not indicated may be needed. Establishment and cultural practices for the production of cherries can vary significantly amongst growers and regions. The practices and inputs used in this cost study serve only as a sample or guide. The costs are presented 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.**

Land. The orchard is owned, managed, and operated by the grower. The orchard is located in the Sierra Nevada foothills and is situated on previously unfarmed land. The farm is comprised of 20 acres, five which are planted with cherries. The other 15 acres are occupied by forest, roads, irrigation systems, farmstead and/or other fruit crops. Land is valued at \$10,000 per acre. This study assumes that the land was purchased primarily for a homesite and the orchard was planted on unused acres.

Trees. Because of the various microclimates and elevations in the area, cherries are harvested from late May to early July with the majority being harvested in June. Cherries require cross pollination, therefore varieties must be chosen accordingly, No specific variety was chosen in this study. Varieties grown are Burlatin, Bing, Van, Rainier, Montmorency, and Lambert. Cherry trees are planted on various spacings. In this study the trees are planted on a 15' x 18' spacing with 161 trees per acre. The life of the orchard in this study is 25 years.

Irrigation System. The water is purchased from the local irrigation district. The delivered cost of the water from the district is \$42.00 per acre foot or \$3.50 per acre inch. No assumption is made about effective rainfall. It is assumed in this study, that producing orchards will use 2.5 acre feet per year. A booster pump, and filtration station was installed along with the sprinkler irrigation system prior to planting. The 5 hp booster pump, filtration station, sprinkler lines, and the labor to install these components is included in the irrigation system cost. The irrigation system is considered an improvement to the property and has a 25 year lifespan. It is shown in the non-cash overhead sections of the tables as a capital recovery cost and in the investment portion of Table 4.

Cultural Practices and Material Inputs

Pruning. Pruning is done by hand in the winter months. Spurs on the trees produce fruit for up to ten years, so light pruning is done each year to open up the tree. The prunings are placed in the row middles and shredded with a flail mower. In years of heavy pruning, the prunings are placed in the row middles and pushed out of the orchard by a tractor equipped with a front loader and brush rake. The prunings are piled at the edge of the orchard and burned.

Fertilization. Tree nitrogen status is determined by leaf analysis; sampling for analysis is important for proper applications of nitrogen. Over-fertilization of trees can cause excessive shoot growth and undesirable characteristics for fresh market cherries. Urea at 0.92 pounds of N per tree or 148 pounds per acre is applied to the orchard every three years. In this study, one-third of the cost is charged to production each year.

Pest Management. Pesticides, rates, and cultural practices mentioned in this cost study are a few of those listed in the *UC IPM Pest Management Guidelines, Cherries*. Written recommendations are required for many pesticides and are made by licensed pest control advisors. For information and pesticide use permits, contact the local county Agricultural Commissioner's office. For additional production information contact the Sierra Nevada foothills horticulture farm advisors.

Weeds. The cultural practices for weed control in mature orchards are the same as the establishment years. The tree rows are sprayed as needed during the season with a contact herbicide (Roundup-). The cover crop planted in the orchard middles during the second year of establishment is maintained by mowing five times during each season.

Insects and Diseases. Dormant and post-dormant sprays of dormant oil and a copper compound are applied to control overwintering insects and blight, respectively. In years of low rainfall, high humidity, and warm temperatures (70° to 80° F), one to two applications (one application in this study) of wettable sulfur are made to control powdery mildew (*Pososphaera clandestina*). Rovral 50WP is applied in March and again fourteen days later to control brown rot (*Monilinia fructicola*). Guthion is applied post-harvest to control leafhoppers to prevent the spread of cherry buckskin (Mycoplasmalike organism), a disease which is a major cause of cherry decline.

Harvest. Harvest starts in the fifth year after the orchard is planted. During the first few production years, cherries are picked once. At orchard maturity, cherries are usually picked twice. The grower uses his own picking crew. The pickers may use bags for picking, or place fruit directly into a small plastic tote. When filled, the plastic tote is dropped to the bottom of the tree and picked up by the swamper for delivery to the packing shed. The totes are loaded on an ATV with a trailer or a pickup for delivery to the packing shed. Fruit for the fresh market is packed into 18 pound lugs (boxes), palletized, and placed in cold storage.

Yields and Returns. Typical annual yields are measured in tons per acre, but fresh market roadside sales are sold by the pound. The gross field yield in this study is 1.25 tons with a 20% loss due to sub-standard fruit and foreign material. Cherries in the area are sold mainly on the fresh market. Some growers have a specialty market for the portion of the fruit that does not meet fresh market standards, but revenue from these sales is not included in the study. Cherry production in the area is not consistent from year to year which causes the yearly returns to vary considerably (Table A). In this study we are using an estimated return of \$1.45 per pound and a 1,000 pound (0.5 ton) net yield.

Table A Cherry Yields and Returns for Sierra Nevada Foothills¹

YEAR	TON/ACRE	DOLLARS/TON	DOLLARS/POUND
1990	0.30	\$2,000	\$1.00
1991	0.70	\$2,000	\$1.00
1992	2.00	\$2,500	\$1.25
1993	0.05	\$2,500	\$1.25
1994	1.33	\$2,500	\$1.25
1995	0.26	\$2,500	\$1.25
1996	0.80	\$4,000	\$2.00
1997	1.40	\$3,500	\$1.75
1998	0.35	\$3,600	\$1.80
1999	1.50	\$3,800	\$1.90

¹Ag Commissioner Annual Crop Reports 1990 - 1999

Packing and Sales. Packing costs will vary, depending upon the grower setup. Cherries are usually packed and marketed with the growers other fruit crops, to maximize the income and labor. In this study, packing costs include labor, 18 lb containers, cold storage, and palletizing. Selling costs are 5% of the gross and are usually subtracted from the gross sale to yield a net return to the farm. In this study, the selling cost is considered a harvest expense.

Assessments. The California Cherry Advisory Board (CCAB) assesses all commercially grown cherries to pay for promotions and research. CCAB's assessment is \$0.36 per 18 pound packed box.

Labor. Hourly wages for workers are \$8.23 and \$6.00 per hour for machine and non-machine workers, respectively. Adding 34% for the employers share of federal and state payroll taxes, and other possible benefits gives the labor rates shown of \$11.02 and \$8.04 per hour for machine labor and non-machine labor, respectively. Labor time 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 a manager are not included as a cost. Returns above total costs are considered a return to management.

Risk. Risk is caused by various sources of uncertainty including production, price, and financial. Examples of these are disease damage, a decrease in price, and/or increase in interest rates. The risks associated with producing cherries in the Sierra Nevada foothills should not be underestimated.

While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent agronomic, market, and financial risks which affect the profitability and economic viability of cherry production. Additionally, establishment of orchards and the equipment required to properly handle the fruit is capital intensive. Growers should consider all of the agronomic and economic risks before committing resources to establishing an orchard in this region.

Overhead Costs

Cash Overhead. Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm, not to a particular operation. These costs include property taxes, interest on operating capital, office expense, liability and property insurance, and equipment repairs.

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.

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 10.41% per year. A nominal interest rate is the typical market cost for borrowed funds.

Insurance. Insurance for farm investments vary depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.723% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs \$367 for the entire farm.

Office Expense. Office and business expenses for the five acres are estimated at \$1,500 annually or \$300 per acre. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, road maintenance, etc.

Non-cash Overhead. Non-cash overhead is calculated as the capital recovery cost for equipment and other farm investments. Although farm equipment used on farms in the Sierra Nevada foothills may be purchased new or used, this study shows the current purchase price for new equipment. The new purchase price is adjusted to 40% to indicate a mix of new and used equipment. Annual ownership costs (Equipment and Investments) are shown in Tables 1 to 4. They represent the capital recovery cost for investments on an annual per acre basis.

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). Put another way, 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. The calculation for the annual capital recovery costs is as follows.

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

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (e.g., 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 wearout 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 equal to the purchase price because land does not depreciate. The purchase price and salvage value for certain equipment and investments are shown in Table 4.

Capital Recovery Factor. Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 1. It is the function of the interest rate and years of life of the equipment.

Interest Rate. The interest rate of 7.08% 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. In other words, the next best alternative use for these resources is in another agricultural enterprise.

Establishment Costs. The establishment costs are the sum of cash costs for land preparation, planting, tree, production expenses, and cash overhead for growing cherry trees through the first year fruit is harvested minus any returns from production. The total accumulated net cash cost in the fifth year (first year of fruit production) represents the establishment cost per acre. For this study, the estimated cost is \$9,500 per acre or \$47,500 for the five acres planted to cherries. Establishment cost is amortized over the remaining 20 years the orchard is assumed to be in production. The amortized value is used to determine the non-cash overhead, orchard capital recovery expense for the production years. For a guideline of establishment costs, see Table 1 in *Sample Costs to Establish an Orchard and Produce Sweet Cherries, Northern San Joaquin Valley, 1999*, University of California – Cooperative Extension.

Equipment Cash Costs. 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 fuel, lubrication, and repairs. In allocating the equipment costs on a per acre basis, the hourly charges shown in Table 5 are calculated first. The fuel, lube, and repair cost per acre for each operation in Table 1 is determined by multiplying the total hourly operating cost in Table 5 for each piece of equipment used for the cultural practice by the number of hours per acre for that operation. Tractor time is 10% higher than implement time for a given operation to account for setup time.

Fuel, Lube, Repair. Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by the American Society of Agricultural Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum PTO hp, and type of fuel used. Prices for on-farm delivery of diesel and gasoline are \$1.09 and \$1.49 per gallon, respectively.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

Acknowledgment. Appreciation is expressed to Ron Mansfield of Goldbud Farms, growers and other cooperators who provided support.

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Table 1

UC COOPERATIVE EXTENSION
COSTS PER ACRE TO PRODUCE CHERRIES
SIERRA NEVADA FOOTHILLS - 2000

Operation	Operation	Cash and Labor Costs per acre				Total Cost	Your Cost
	Time (Hrs/A)	Labor Cost	Fuel,Lube & Repairs	Material Cost	Custom/Rent		
Cultural:							
Pest Control - Dormant	0.25	3	2	21	0	26	
Train & Prune - Dormant	80.50	647	0	0	0	647	
Brush Disposal	1.00	19	6	0	0	25	
Pest Control - Delayed Dormant	0.25	3	2	34	0	39	
Pollination	0.00	0	0	0	90	90	
Pest Control - Brown Rot 2X	0.50	7	4	96	0	107	
Weed Control - Mow 5X	3.00	40	19	0	0	59	
Irrigate 8X	2.00	16	0	105	0	121	
Weed Control - Spot Spray 2X	0.60	8	3	8	0	19	
Pest Control - Powdery Mildew 1X	0.25	3	2	3	0	8	
Pest Control - Leaf Hopper	0.26	3	2	24	0	29	
Fertilize - 1/3 per yr	0.25	3	1	12	0	17	
Pickup Truck Use	2.85	38	14	0	0	52	
TOTAL CULTURAL COSTS	91.71	791	55	303	90	1,238	
Harvest:							
Pick	133.66	1,075	0	0	0	1,075	
Load & Haul	13.36	177	19	0	0	196	
Packing/Selling	3.93	32	0	278	0	310	
Assessment CCAB	0.00	0	0	20	0	20	
TOTAL HARVEST COSTS	150.95	1,283	19	298	0	1,600	
Interest on operating capital @ 10.71%						50	
TOTAL OPERATING COSTS/ACRE		2,074	74	600	90	2,888	
CASH OVERHEAD:							
Office Expense						300	
Liability Insurance						18	
Sanitation Fees						32	
Property Taxes						197	
Property Insurance						143	
Investment Repairs						211	
TOTAL CASH OVERHEAD COSTS						901	
TOTAL CASH COSTS/ACRE						3,789	
NON-CASH OVERHEAD:							
Investment		Per producing acre		Annual Cost		Capital Recovery	
Buildings		2,235		212		212	
Shop Tools		632		67		67	
Sprinkler System		2,588		224		224	
Hand Tools		919		98		98	
Ladders - 10 each		280		38		38	
Land		10,000		708		708	
Cherry Establishment		9,500		902		902	
Picking Bags		59		14		14	
Equipment		2,791		286		286	
TOTAL NON-CASH OVERHEAD COSTS		29,004		2,550		2,550	
TOTAL COSTS/ACRE						6,339	

Table 2

UC COOPERATIVE EXTENSION
COSTS AND RETURNS PER ACRE TO PRODUCE CHERRIES
SIERRA NEVADA FOOTHILLS - 2000

	Rate/acre	Unit	Cost/Unit	Cost/Acre	Your Cost
GROSS RETURNS					
Cherries	1,000	lb	1.45	1,450	
TOTAL GROSS RETURNS				1,450	
OPERATING COSTS					
Fungicide:					
Kocide 101	4.00	lb	2.55	10	
Rovral 50WP	4.00	lb	23.43	94	
Sulfur - Wettable	15.00	lb	0.18	3	
Insecticide:					
Supreme Oil	8.50	gal	2.80	24	
Diazinon 50W	4.00	lb	5.65	23	
Guthion 50W	2.00	lb	12.00	24	
Contract:					
Pollination Fee	2.00	hive	45.00	90	
Adjuvant:					
K-27 Spreader	6.00	oz	0.21	1	
Irrigation:					
Water-El Dorado	30.00	acin	3.50	105	
Herbicide:					
Roundup Ultra	1.20	pint	6.64	8	
Packaging:					
Container 18 lb	55.00	each	3.00	165	
Palletizing	55.00	each	0.25	14	
Marketing:					
Cold Storage	55.00	each	1.00	55	
Sales 5% net return	55.00	each	0.81	44	
Assessment:					
Cherry Advisory Board	55.00	box	0.36	20	
Fertilizer:					
46-0-0 (Urea)	49.37	lb N	0.24	12	
Labor (machine)	27.08	hrs	11.02	298	
Labor (non-machine)	220.84	hrs	8.04	1,776	
Fuel - Gas	15.99	gal	1.49	24	
Fuel - Diesel	21.29	gal	1.09	23	
Lube				7	
Machinery repair				20	
Interest on operating capital @ 10.71%				50	
TOTAL OPERATING COSTS/ACRE				2,888	
NET RETURNS ABOVE OPERATING COSTS				-1,438	
CASH OVERHEAD COSTS:					
Office Expense				300	
Liability Insurance				18	
Sanitation Fees				32	
Property Taxes				197	
Property Insurance				143	
Investment Repairs				211	
TOTAL CASH OVERHEAD COSTS/ACRE				901	
TOTAL CASH COSTS/ACRE				3,789	

UC COOPERATIVE EXTENSION

Table 2 continued

NON-CASH OVERHEAD COSTS (CAPITAL RECOVERY)	
Buildings	212
Shop Tools	67
Sprinkler System	224
Hand Tools	98
Ladders - 10 each	38
Land	708
Cherry Establishment	902
Picking Bags	14
Equipment	286
TOTAL NON-CASH OVERHEAD COSTS/ACRE	2,550
TOTAL COSTS/ACRE	6,339
NET RETURNS ABOVE TOTAL COSTS	-4,889

Table 3

UC COOPERATIVE EXTENSION
MONTHLY CASH COSTS PER ACRE TO PRODUCE CHERRIES
SIERRA NEVADA FOOTHILLS - 2000

Beginning NOV 99	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
Ending OCT 00	99	99	00	00	00	00	00	00	00	00	00	00	L
Cultural:													
Pest Control - Dormant	26												26
Train & Prune - Dormant			647										647
Brush Disposal			25										25
Pest Control - Delayed Dormant				39									39
Pollination							90						90
Pest Control - Fungicide					53	54							107
Weed Control - Mow 5X						12	12	12		12	12		59
Irrigate 8X						13	16	16	32	32	13		121
Weed Control - Spot Spray						10			10				19
Pest Control - Powdery Mildew							8						8
Pest Control - Leaf Hopper								29					29
Fertilize - 1X/3 yrs								17					17
Pickup Truck Use	5	5	5	5	5	5	5	5	5	5	5		52
TOTAL CULTURAL COSTS	31	5	677	44	57	182	40	78	46	48	29		1,238
Harvest:													
Pick							1,075						1,075
Load & Haul							196						196
Packing/Selling							310						310
Assessment CAB							20						20
TOTAL HARVEST COSTS							1,600						1,600
Interest on oper. capital	0	0	6	7	7	9	23	-1	-1	-1	0		50
TOTAL OPERATING COSTS/ACRE	32	5	683	50	65	191	1,664	77	45	48	29		2,888
OVERHEAD:													
Office Expense	27	27	27	27	27	27	27	27	27	27	27		300
Liability Insurance				18									18
Sanitation Fees							32						32
Property Taxes			99						99				197
Property Insurance			71						71				143
Investment Repairs	18	18	18	18	18	18	18	18	18	18	18	18	211
TOTAL CASH OVERHEAD COSTS	45	45	215	63	45	45	77	45	215	45	45	18	901
TOTAL CASH COSTS/ACRE	76	50	898	114	109	236	1,741	121	260	93	73	18	3,789

Table 4

UC COOPERATIVE EXTENSION
WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
SIERRA NEVADA FOOTHILLS - 2000

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead		Total
						Insur- ance	Taxes	
00	62 HP 2WD Tractor	28,850	15	5,617	2,961	125	172	3,258
00	ATV 4WD	4,219	7	1,600	601	21	29	651
00	Bin Trailer #1	979	15	94	104	4	5	114
00	Brush Rake - 10'	2,245	25	64	193	8	12	213
00	Front End Loader	4,852	15	466	517	19	27	563
00	Mower - Flail 10'	8,380	10	1,482	1,091	36	49	1,176
00	Orch.Sprayer 500 G	19,741	20	1,029	1,850	75	104	2,029
00	Pickup 1/2 ton	16,500	7	1,650	2,880	66	91	3,036
00	Spin/Spreader -3PT	1,565	20	82	147	6	8	161
00	Weed Sprayer 100 G	3,424	15	342	364	14	19	397
TOTAL		90,755		12,426	10,708	373	516	11,597
40% of new cost*		36,302		4,970	4,283	149	206	4,639

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

ANNUAL INVESTMENT COSTS

Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead			Total
					Insur- ance	Taxes	Repairs	
INVESTMENT								
Cherry Establishment	47,500	20		4,512	172	238	0	4,921
Buildings	44,693	20		4,245	162	223	894	5,524
Hand Tools	4,595	15	460	489	18	25	92	624
Ladders - 10 each	1,400	10	140	190	6	8	28	231
Land - Cherries	50,000	25	50,000	3,540	362	500	0	4,401
Picking Bags	296	5		72	1	1	0	75
Shop Tools	12,637	15	1,264	1,344	50	70	253	1,717
Sprinkler System	12,940	25		1,118	47	65	647	1,877
TOTAL INVESTMENT	174,061		51,864	15,511	817	1,130	1,914	19,371

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Liability Insurance	20	acre	18.35	367
Office Expense	5	acre	300.00	1,500
Sanitation Fees	5	acre	32.20	161

Table 5

UC COOPERATIVE EXTENSION
HOURLY EQUIPMENT COSTS
SIERRA NEVADA FOOTHILLS - 2000

Yr	Description	COSTS PER HOUR							Total Costs/hr
		Actual Hours Used	Cash Overhead			Operating			
			Capital Recovery	Insur- ance	Taxes	Repairs	Fuel & Lube	Total Oper.	
00	62 HP 2WD Tractor	335.00	3.54	0.15	0.21	0.81	3.82	4.63	8.52
00	ATV 4WD	216.80	1.11	0.04	0.05	0.20	1.14	1.34	2.54
00	Bin Trailer #1	66.80	0.62	0.02	0.03	0.09	0.00	0.09	0.77
00	Brush Rake - 10'	5.00	15.44	0.67	0.92	0.20	0.00	0.20	17.23
00	Front End Loader	5.00	41.36	1.54	2.13	0.45	0.00	0.45	45.48
00	Mower - Flail 10'	80.00	5.45	0.18	0.25	1.20	0.00	1.20	7.08
00	Orch.Sprayer 500 G	7.50	98.28	3.99	5.52	2.02	0.00	2.02	109.81
00	Pickup 1/2 ton	185.30	6.22	0.14	0.20	0.80	4.28	5.08	11.64
00	Spin/Spreader -3PT	41.30	1.42	0.06	0.08	0.38	0.00	0.38	1.94
00	Weed Sprayer 100 g	78.00	1.87	0.07	0.10	0.59	0.00	0.59	2.63

Table 6

UC COOPERATIVE EXTENSION
RANGING ANALYSIS
SIERRA NEVADA FOOTHILLS - 2000

COST PER ACRE AT VARYING YIELDS TO PRODUCE CHERRIES

	YIELD (lb/acre)						
	700	800	900	1,000	1,100	1,200	1,300
OPERATING COSTS/ACRE:							
Cultural Cost	1,238	1,238	1,238	1,238	1,238	1,238	1,238
Harvest Cost w/assessment	1,249	1,366	1,483	1,600	1,717	1,834	1,950
Interest on operating capital	46	47	49	50	51	52	53
TOTAL OPERATING COSTS/ACRE	2,534	2,652	2,770	2,888	3,006	3,124	3,241
TOTAL OPERATING COSTS/LB	3.62	3.31	3.08	2.89	2.73	2.60	2.46
CASH OVERHEAD COSTS/ACRE	901	901	901	901	901	901	901
TOTAL CASH COSTS/ACRE	3,435	3,553	3,671	3,789	3,907	4,025	4,143
TOTAL CASH COSTS/LB	4.91	4.44	4.08	3.79	3.55	3.35	3.19
NON-CASH OVERHEAD COSTS/ACRE	2,547	2,548	2,549	2,550	2,551	2,552	2,553
TOTAL COSTS/ACRE	5,981	6,101	6,220	6,339	6,458	6,577	6,695
TOTAL COSTS/LB	8.54	7.63	6.91	6.34	5.87	5.48	5.15

UC COOPERATIVE EXTENSION

Table 6 continued

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR CHERRIES

PRICE \$/lb	YIELD (lb/acre)						
	700	800	900	1,000	1,100	1,200	1,300
1.01	-1,827	-1,844	-1,861	-1,878	-1,895	-1,912	-1,928
1.16	-1,722	-1,724	-1,726	-1,728	-1,730	-1,732	-1,733
1.31	-1,617	-1,604	-1,591	-1,578	-1,565	-1,552	-1,538
1.45	-1,519	-1,492	-1,465	-1,438	-1,411	-1,384	-1,356
1.60	-1,414	-1,372	-1,330	-1,288	-1,246	-1,204	-1,161
1.74	-1,316	-1,260	-1,204	-1,148	-1,092	-1,036	-979
1.89	-1,211	-1,140	-1,069	-998	-927	-856	-784

NET RETURNS PER ACRE ABOVE CASH COSTS FOR CHERRIES

PRICE \$/lb	YIELD (lb/acre)						
	700	800	900	1,000	1,100	1,200	1,300
1.01	-2,728	-2,745	-2,762	-2,779	-2,796	-2,813	-2,830
1.16	-2,623	-2,625	-2,627	-2,629	-2,631	-2,633	-2,635
1.31	-2,518	-2,505	-2,492	-2,479	-2,466	-2,453	-2,440
1.45	-2,420	-2,393	-2,366	-2,339	-2,312	-2,285	-2,258
1.60	-2,315	-2,273	-2,231	-2,189	-2,147	-2,105	-2,063
1.74	-2,217	-2,161	-2,105	-2,046	-1,993	-1,937	-1,881
1.89	-2,112	-2,041	-1,970	-1,899	-1,828	-1,757	-1,686

NET RETURNS PER ACRE ABOVE TOTAL COSTS FOR CHERRIES

PRICE \$/lb	YIELD (lb/acre)						
	700	800	900	1,000	1,100	1,200	1,300
1.01	-5,274	-5,293	-5,311	-5,329	-5,347	-5,365	-5,382
1.16	-5,169	-5,173	-5,176	-5,179	-5,182	-5,185	-5,187
1.31	-5,064	-5,053	-5,041	-5,029	-5,017	-5,005	-4,992
1.45	-4,966	-4,941	-4,915	-4,889	-4,863	-4,837	-4,810
1.60	-4,861	-4,821	-4,780	-4,739	-4,698	-4,657	-4,615
1.74	-4,763	-4,709	-4,654	-4,599	-4,544	-4,489	-4,433
1.89	-4,658	-4,589	-4,519	-4,449	-4,379	-4,309	-4,328