

GR-CC-90

# **SAMPLE COSTS TO ESTABLISH AND PRODUCE WINE GRAPES IN MONTEREY COUNTY**

1990



**UNIVERSITY OF CALIFORNIA  
COOPERATIVE EXTENSION**

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# Sample Costs to Establish and Produce Wine

## Grapes in Monterey County - 1990

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Monterey County

This publication shows sample costs to establish and produce wine grapes in Monterey County. This information should be only used as a guide to help analyze costs, production practices and determine potential returns. Some costs or practices in this study may not be applicable to your situation. The costs are based on current dollars - no inflationary factors over the 3-year establishment period have been considered.

Costs have been calculated on the basis of a 300 acre vineyard. Establishment and production costs have been calculated for two vineyard spacings:

7x12 foot. These figures reflect the costs for the older vineyards trained on a two-wire vertical trellis which are still typical of many of the established vineyards in Monterey County.

6x10 foot. These figures reflect the costs associated with the closer vine and row spacing which have been planted in recent years. The vines are trained on a vertical trellis with two pairs of movable foliage wires.

Land: The land value of \$4,000 per acre used in this study represents bare irrigated benchlands near the foothills. Bare land suitable for vineyards may range from \$1500 to \$6000 per acre.

Irrigation: In this study water is applied by a drip system. Water costs of \$60 per acre-foot are used in this study. Actual pumping costs can vary from \$30 to \$200 per acre-foot depending on pumping depth and efficiency.

Frost Protection: Some areas south of Greenfield may require frost protection. Protection can be provided by a properly designed permanent set sprinkler system. Costs are higher for such systems and are not incorporated in this publication.

Labor: Hourly wages for workers are \$10.00 and \$12.00 per hour for field labor and machine operators, respectively. Rates include SDI, FICA, insurance and other benefits.

**Cultural Practices:** Operations such as shoot thinning and leaf removal can improve the fruit quality of wine grapes by reducing disease incidence and altering fruit composition. The cost of these operations can vary from \$50 to \$300 per acre depending on the winegrape variety and the amount of the foliage removed. These costs have not been included in this study.

**Pest Management:** Pest management includes materials and application for control of insect, mite, weed and disease problems. The costs of pest management can vary widely depending on pest pressure, vineyard location, variety, pesticides selected, and many other factors. Actual costs are often lower than the budgeted amount in this study.

**Harvest:** Harvest costs are based on custom or contract rates. Machine harvesting is used in mature vineyards.

**Yield:** Yield is the most important factor affecting costs per ton and profit per acre. The yield per acre used is an average for a well managed vineyard. Yield will vary due to variety, vine spacing and cultural practices.

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SAMPLE COSTS TO ESTABLISH A VINEYARD IN MONTEREY COUNTY - 1990  
7 X 12 SPACING

	Cost per acre		
	1st Year	2nd Year	3rd Year
Yield: ton/acre			1/2
<b>PRE-HARVEST COSTS:</b>			
Land preparation: Custom			
Rip	200		
Disc, 3x	75		
Fumigation (if needed)	450		
Certified benchgrafts 519 @ \$3.25/vine (25, 2nd year)	1687	81	
Machine plant: \$0.15/vine (+1.5 hrs labor 2nd year)	78	15	
Metal stakes: 519 7-ft @ 1.55		804	
End posts: 11 8-ft at \$5.50		60	
Stake and set endposts: \$0.25 and \$4.00		174	
Wire: 170 lbs, 13 ga. high tensile @ \$0.36/lb		61	
String 2 wires and attach: 5 hrs labor + materials (\$25)		75	
Train, prune and tie: 40hrs 2nd yr; 25 hrs 3rd yr		400	250
Irrigation: 4 hrs labor	40	40	40
Water: 20 in @ \$60 per acre-ft	100	100	100
Cultivation 3 times and hand hoeing: 8 hrs labor, 1.5 hrs. tractor	100	100	100
Fertilization: 25 lbs N @ \$0.30	8	8	8
Pest and disease control	20	40	200
Herbicides: materials and application	40	40	40
Misc. labor, materials, 1 hr. tractor	60	60	60
<b>TOTAL CULTURAL COSTS</b>	<b>\$2858</b>	<b>\$2058</b>	<b>\$798</b>
<b>HARVESTING COSTS</b>			
Pick: \$120/ton			60
Haul: \$12/ton			6
Supervision: 2 hrs			20
<b>TOTAL HARVESTING COSTS</b>			<b>\$86</b>
<b>OVERHEAD COSTS:</b>			
County taxes	65	65	65
Office and business costs	200	144	56
Management @ 10/acre/month	120	120	120
<b>TOTAL OVERHEAD COSTS</b>	<b>\$385</b>	<b>\$329</b>	<b>\$241</b>
<b>TOTAL CASH COSTS</b>	<b>\$3243</b>	<b>\$2387</b>	<b>\$1125</b>

<b>ACCUMULATED CASH COSTS</b>	<b>\$3243</b>	<b>\$5630</b>	<b>\$6755</b>
<hr/>			
	<u>Cost per acre</u>		
	1st Year	2nd Year	3rd Year
<hr/>			
<b>DEPRECIATION</b>			
Buildings, equipment, irrigation	75	75	75
<hr/>			
<b>TOTAL DEPRECIATION</b>	<b>\$75</b>	<b>\$75</b>	<b>\$75</b>
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<b>INTEREST ON INVESTMENT @ 12%</b>			
Buildings, equipment, irrigation	68	68	68
Land, 4,000	480	480	480
Interest on accumulated costs	389	676	811
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<b>TOTAL INTEREST ON INVESTMENT</b>	<b>\$937</b>	<b>\$1224</b>	<b>\$1359</b>
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<b>TOTAL COST FOR THE YEAR</b>	<b>\$4255</b>	<b>\$3686</b>	<b>\$2559</b>
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<b>CREDIT FOR PRODUCTION \$700/TON</b>			<b>\$350</b>
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<b>NET COST FOR THE YEAR</b>	<b>\$4255</b>	<b>\$3686</b>	<b>\$2209</b>
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<b>ACCUMULATED NET COST</b>	<b>\$4255</b>	<b>\$7941</b>	<b>\$10150</b>
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SAMPLE COSTS TO PRODUCE WINE GRAPES IN MONTEREY COUNTY - 1990  
7 X 12 SPACING

OPERATION	HOURS PER ACRE	CASH AND LABOR COSTS PER ACRE				TOTAL COST	YOUR COST
		LABOR	FUEL & REPAIRS	—MATERIALS— KIND AND QUANTITY	COST		
<b>PRE-HARVEST CASH COSTS:</b>							
Pruning: 519 vines	16	160				160	
Tying canes	8	80				80	
Brush disposal	0.5	6	6			14	
Trunk Shoot removal	5	50				50	
Cultivation, 3X	1.5	18	18			36	
Irrigation	4	40				40	
Water: 20" @ \$60 per acre-ft						100	
Fertilization				30 lbsN @ .30/lb	9	9	
Disease and pest control	2.0	24	23	materials	200	247	
Herbicides	0.6	7	6	materials	40	53	
Misc. labor, materials	4	40		materials	60	100	
Misc. tractor	1		8			8	
Interest on operating capital @ 12%						72	
<b>Total Pre-Harvest Costs</b>						<b>\$969</b>	
<b>HARVEST COSTS:</b>							
Picking - 4 tons @ \$180/acre contract (machine)						180	
Haul to Winery - 4 tons @ \$12/ton						48	
Supervision, 2 hrs						20	
<b>Total Harvest Costs</b>						<b>\$248</b>	
<b>CASH OVERHEAD:</b>							
Office and business costs						85	
County taxes						90	
<b>Total Cash Overhead</b>						<b>\$175</b>	
Management 10/acre/month						\$120	
<b>Total Cash Costs</b>						<b>\$1,512</b>	
<b>ANNUAL COST</b>							
<b>INVESTMENT COSTS:</b>	<b>PER ACRE</b>	<b>DEPRECIATION</b>		<b>INTEREST @12%</b>			
Equipment & buildings, irrigation	1,143	75		68		143	
Vineyard	10,150	508		609		1,117	
Land	4,000			480		480	
<b>Total Investment Costs</b>						<b>\$1,740</b>	
<b>Total Cost Per Acre</b>						<b>\$3,252</b>	

**COST TO PRODUCE WINE GRAPES AT VARYING YIELDS**

Yield, tons per acre:	2	3	4	5	6	7	8
Total cost per ton:	1,626	1,084	813	650	542	465	406

**EQUIPMENT AND BUILDING LIST FOR VINEYARDS  
7X12 SPACING**

ITEM	ORIGINAL COST	ANNUAL USE PER (ACRES)	COST PER ACRE	LIFE (HRS)	YEARS TO TRADE	OVERHEAD		TAR	HOURLY COSTS		
						DEPRECIATION	INTEREST @ 12%		FUEL	REPAIRS	TOTAL
<b>TRACTORS</b>											
2-80 hp wheel diesel	\$70,000	300	\$233	12,000	10	\$23.30	\$13.98	%120	\$4.59	\$3.50	\$8.09
1-30 HP wheel diesel	15,000	300	50	12,000	10	5.00	3.00	120	1.72	1.50	3.22
Disc, 8'	7,500	300	25	2,500	15	1.67	1.50	120		3.60	
Chisel, 8'	4,000	300	13	2,500	10	1.30	0.78	120		1.92	
Chopper, 7'	12,000	300	40	2,000	10	4.00	2.40	120		7.20	
Sprayer	10,000	300	33	2,500	10	3.30	1.98	80		3.20	
Sulfur Duster	4,000	300	13	2,000	10	1.30	0.78	80		1.60	
Pickup	14,000	300	47		5	9.40	2.82				
ATV 4WD	4,500	300	15		5	3.00	0.90				
Cane Cutters	6,000	300	20		10	2.00	1.20				
Drip Irrigation system	300,000	300	1,000		20	50.00	60.00				
Well, pump	70,000	300	233		20	11.65	13.98				
Misc tools and equipment	15,000	300	50		10	5.00	3.00				
Buildings	40,000	300	133		30	4.43	7.98				
<b>Total Costs:</b>	<b>\$576,000</b>		<b>\$1,905</b>			<b>\$125</b>	<b>\$114</b>				
<b>60% of New Costs</b>	<b>\$343,200</b>		<b>\$1,143</b>			<b>\$75</b>	<b>\$68</b>				

LIFE IN HOURS-----Derived from the "American Society of Agricultural Engineers' Yearbook of Standards"

YEARS TO TRADE----- The projected life of the machine in years adjusted for excessive annual use.

OVERHEAD----- Per acre per year

DEPRECIATION----- "COST PER ACRE" divided by "YEARS TO TRADE"

INTEREST----- ("COST PER ACRE" X "INTEREST RATE") divided by 2 = average interest cost per acre per year

TAR----- Total accumulated repairs. The total cost of repairs during the machine's life expressed as a percent of "NEW COST". Calculated from equations based on equipment type and annual use.

HOURLY COST OF FUEL----- Diesel fuel, oil and lube costs per hour = HP x cost of diesel fuel/gal X 0.0667.  
Gasoline fuel, oil and lube costs per hour = HP x cost of gasoline/gal X 0.0889.

HOURLY COST OF REPAIRS----- ("NEW COST" X "TAR") divided by ("LIFE IN HOURS").

60% OF NEW COSTS----- Used to reflect a mix of new and used equipment.

SAMPLE COSTS TO ESTABLISH A VINEYARD IN MONTEREY COUNTY - 1990  
6 X 10 SPACING

	Cost per acre		
	1st Year	2nd Year	3rd Year
Yield: ton/acre			3/4
<b>PRE-HARVEST COSTS:</b>			
Land preparation: Custom			
Rip	200		
Disc, 3x	75		
Fumigation (if needed)	450		
Certified benchgrafts 726 @ \$3.25/vine (35, 2nd year)	2360	114	
Machine plant: \$0.15/vine (+2 hrs labor 2nd year)	109	20	
Metal stakes: 242-7.5-ft. @ \$1.65 484-5.5 ft @ \$1.29		1,024	
Moveable wire clips: 484 @ \$0.20 attach to stakes, 5 hrs labor		147	
End posts: 13 8-ft. @\$5.50		72	
End post anchors: 13 @ \$4.00		52	
Stake and set endposts: \$0.25 and \$4.00		234	
Set anchors: 2 hrs labor & materials (\$5)		25	
Wire: 600 lbs 13 ga high tensile @ .36/lb 200 2nd yr, 400 3rd		72	144
String 2 wires and attach: 6 hrs labor + materials (\$35)		95	
String 4 moveable wires and attach: 6 hrs labor			60
Train, prune and tie: 50 hrs 2nd yr; 30 hrs 3rd year		500	300
Irrigation: 4 hrs labor	40	40	40
Water: 20 in @ 60 per acre-ft	100	100	100
Cultivation 3 times and hand hoeing: 10 hrs labor, 2 hrs tractor	127	127	127
Fertilization: 25 lbs N @ \$0.30	8	8	8
Pest and disease control	30	50	200
Herbicides: materials and applications	40	40	40
Misc. labor, materials, 1 hr. tractor	65	65	65
<b>TOTAL CULTURAL COSTS</b>	<b>\$3604</b>	<b>\$2785</b>	<b>\$1084</b>
<b>HARVESTING COSTS:</b>			
Pick: \$120/ton			90
Haul: \$12/ton			9
Supervision: 2 hrs			20
<b>TOTAL HARVESTING COSTS</b>			<b>\$119</b>