

We wish to express our appreciation for the cooperation of the nine Fresno County grape growers who made this Study a possibility.

RICHARD A. BREAK
Farm Advisor
Fresno County
Fresno, California

B. B. BURLINGAME
Extension Specialist in Farm Management
University of California
College of Agriculture
Berkeley, California

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UC COOPERATIVE EXTENSION

What's Inside

The records in this Study cover costs for all operations from November 1, 1949, through October 31, 1950. The records given by the nine growers have been broken down into six tables, which in turn have been broken down into logical headings. Please read "Explanation of Terms" before studying this report.

1. Table I - gives costs, income, and earnings per acre figures, and the last three years' averages for these items.
2. Table II - gives costs, income, and earnings per ton figures, and the last three years' averages for these items.
3. Table III - gives cultural costs per acre and the three years' averages.
4. Tables IV, V, and VI - give average cash overhead, depreciation, and investment and depreciation costs per acre for those in the Study.
5. Tables IV and VI have been prepared with space left for the reader to compare his records with those given as the average.

EXPLANATION OF TERMS USED IN THIS REPORT

Costs

Cultural labor and material: The cost of labor and material for all operations up to harvesting. Includes hired labor, value of operator's labor at going wage rates, use of tractors, trucks, and horses charged at an hourly rate to cover operating and overhead costs; cost of irrigation water (irrigation district tax, pumping power or water purchased); sulphur and other pest control materials, cover crop seed, fertilizer, stakes and wire for trellis repair, twine, and vines for replanting.

Harvesting and Drying: The cost of picking and hauling for all varieties; for Thompsons and Muscats made into raisins, the additional costs of turning, rolling, boxing, dehydration (if any), and paper trays. Boxing costs for some growers are included in hauling costs.

Cash overhead: All cash costs not included in labor and material except interest paid on mortgaged indebtedness. Includes general expense, county taxes, compensation insurance, and repairs on facilities and equipment except tractors and trucks. The general expense item is calculated at 5 per cent of total labor and material cost and covers such miscellaneous cash costs as interest on operating capital, office expenses, and use of family car in conjunction with the enterprise.

Depreciation: That portion of the original cost of facilities and equipment which is chargeable to the current year's operations. Depreciation on tractors and trucks is included in the hourly rate charged in the labor record for their use and therefore is excluded from total depreciation costs shown in the tables.

Interest on Investment: A charge of 5 per cent on the average value of facilities and equipment. Average values, except for land, are figured at one-half of the original cost or replacement cost as the case may be. Land values are based upon estimated long-term agricultural values. Interest on investment in tractors and trucks is excluded from the total interest charge in the tables for the reason explained under depreciation.

Total Cash and Labor: Includes all costs except depreciation and interest on investment.

Total All Costs: Includes all of the above items. It includes all cash outlay, the value of the operator's own labor, depreciation and interest charges. It does not, however, include an allowance for the operator's management.

INCOME.

Total Income: The returns from all grapes sold or the estimated value as of the close of the record year if unsold or delivered to a cooperative winery or processing plant.

Management Income: The income above total costs of production which includes: (1) All cash costs; (2) Value of operator's own labor, both as manager and laborer; (3) Depreciation and interest in investment. If total income fails to pay total costs, the resulting loss is indicated by a minus sign (-).

Introduction

The year 1950 was the best price year for the grape grower since 1946. There are several causes for this price increase, but among these the following four seem to be most outstanding:

1. A smaller crop of grapes than has been experienced in recent years.
2. Good distribution of crop into the market outlets, which are:
 - a. table
 - b. wine
 - c. raisin
 - d. canneries
3. Moderate inventories of wine on hand at the beginning of the 1950 season and also moderate raisin inventory--both low inventories probably due to the effect of the Raisin Marketing Agreement.
4. Increased employment in the nation, and with it the increased consumer purchasing power, with good demand for raisins and table fruit and an exceptionally good demand for wine.

The 1950 Grape Management Study

As a service to the grape growers who participated in this Study and as a benefit to the growers of Fresno County as a whole, the following tables and information have been assembled. The figures given are those of the cooperators and it is expected that average costs per ton given in this report will be somewhat different from the average costs for all growers in the County. Less efficient growers will have costs exceeding the averages given and the more efficient growers will undoubtedly have costs much lower.

TABLE I

Table I presents a general summary comparing individual records in the Study in 1950 and also shows averages for the Thompson vineyards producing raisins during the three years of the Study. An average for all three years is also given. Records in the different groups in the table are arranged downward in order of decreasing management income per acre as shown in the last column.

The 1950 crop year was by far the most profitable of the three years of the Study. In the 1948 and 1949 crop years the Thompson vineyards producing raisins showed relatively small incomes above total costs of production, but in 1950 the much higher average price received resulted in a considerable improvement in profits. This high management income in 1950 brought the average for the three years up to a little over \$85 per acre. Costs per acre in 1950 for those in the Study were somewhat lower than in the two previous years. This was due to lower yields and thus lower harvesting costs as well as lower preharvest cost for the vineyards in this Study.

Total costs of production per ton, as shown in Table II, were higher in 1950 because of the lower yield per acre. A considerable variation in costs, income and earnings will be noted between the different vineyards in the Study this year. The most profitable record was a high-yielding Muscat vineyard which sold to the winery. The least profitable record in the Study this year was a Thompson vineyard in which the grapes were produced for shipping. The low net income on this vineyard can be attributed to a low yield and high cultural costs, as will be noted in Table III.

Over the three years the Thompson raisin vineyards averaged a yield of 1.78 dry tons per acre, and total costs per acre averaged a little over \$201.

TABLE II

Total costs of production per ton in 1950 averaged the highest of the three years of the Study, as will be noted in Table II, due principally to the lower yield per acre. Even so, the much higher average price received this year more than offset the increased costs. Wide variations will be noted between individual operational costs per ton, which accounted for some of the differences in the total costs of production between vineyards. Picking costs for the Thompson raisin vineyards ranged from \$16.60 for #42 to \$20.78 for #40. Under "Tray Cost" no figure is shown for #42 since this operator used wooden trays and the cost for the use of the wooden trays is included in the investment overhead of interest and depreciation as well as in additional handling costs.

The two Thompson records in which the grapes were produced for fresh sale were the same vineyard except that 6-A grapes were produced for the winery whereas 6-B grapes were produced for shipping. It is interesting to note that the portion of the vineyard in which the grapes were produced for the winery was considerably more profitable than that portion of the vineyard where the grapes were produced for shipping. Yield per acre for the winery block was nearly 2 1/2 times that of the other block and even though the average price per ton was quite a bit lower than for the shipping grapes, the costs were sufficiently lower so that the management income per ton was higher than for the shipping block, with a higher profit per ton as well as more tons per acre. This block showed an income above all costs of production, as indicated in Table I, of \$325 as compared to \$116 for the shipping block.

TABLE III

Table III is presented primarily for use by cooperators in the Study in analyzing their cultural operations and costs. Considerable variation will be noted between individual operators which indicates that some growers may have an opportunity to make adjustments in practices which would increase their efficiency of production. In the Thompson vineyards producing raisins pruning costs ranged from \$11.72 for #13 up to \$18.67 for #42. Tillage and hoeing costs in this group ranged from \$8.84 for #29 up to \$27.73 for #13. Total cultural labor and material costs for the Thompson raisin vineyards ranged from a very low figure for #29 of about \$36 per acre up to approximately \$70 per acre for #13. On the average the 5 Thompson raisin vineyards in this year's Study showed a total cultural labor and material cost of \$62 per acre, which is somewhat below the 1948 and 1949 Study averages. Part of this lower average total cultural labor and material cost in 1950 can be attributed to the vineyards included in this year's Study as compared with the vineyards in the two previous years' studies. The cultural costs of 1950 in general were slightly lower than in the two previous years. Also, because of the lower prices received in 1949 growers tended to spend less for fertilizing and some of the other cultural operations in 1950. The difference in total cultural labor and material costs between 1949 and 1950, as shown by the averages in this Study, should not be considered as representative of actual cost changes between the two years for the industry as a whole. Two of the Muscat vineyards showed exceptionally high total cultural labor and material costs, #12-A principally because of high pruning and high tillage and hoeing costs. Quite a bit of weed spraying was done in this vineyard and this cost was included in the tillage and hoeing. Vineyard #11 had an exceptionally high fertilizing cost due to the application of a large amount of manure and soil sulphur. These two records should not be considered typical of cultural costs on Muscat vineyards. The relatively high total cultural costs for #6-B, as compared to the other Thompson vineyards, was because of the added cost of girdling and thinning for shipping grapes.

Average operational costs shown for the raisin vineyards are based upon the number of acres on which such costs were reported. Therefore, the average total cultural labor and material cost shown for all records is less than a sum of the various items.

Table I - Summary of Costs, Income, and Earnings per Acre - 1950 and 3 year Averages

Serial Number	Number of Acres	Avg. Age of Vines	Yield, tons per Acre	Avg. Price per Ton ^{1/}	Total Income per Acre	Cultural Labor & Material	Pick & Haul per A.	Turn, Roll, Box, Trays	Cash Over-head	Total Cash Labor per A.	Depreciation Cost per A.	Interest Cost per A.	Total All Costs per A.	Management Income per A.
Vineyards Producing Thompsons for Raisins:														
29	5.0	32	1.77	250.00	443.50	35.64	42.23	11.83	19.26	108.96	21.11	29.84	159.91	283.59
13	9.5	12	1.86	220.00	409.89	69.79	54.39	14.19	19.49	157.86	23.49	23.86	205.21	204.68
5	6.5	17	1.70	225.00	383.19	49.85	34.48	32.20	16.89	133.42	23.05	28.66	185.13	198.06
42	15.0	10	1.21	300.00	363.60	61.14	41.51	6.32	17.58	126.55	34.56	26.10	187.21	176.39
40	23.0	20	1.43	250.00	358.69	68.11	34.18	15.68	18.16	136.13	25.81	25.04	186.98	171.71
Av. 1950	59.0	17	1.51	251.14	378.07	61.85	40.01	14.55	18.18	134.59	26.95	25.93	187.47	190.60
Av. 1949	72.0	23	1.92	120.00	230.45	80.58	44.25	12.47	18.28	155.58	21.78	28.18	205.54	24.91
Av. 1948	200.7	27.	1.91	131.44	250.94	76.34	49.56	16.29	21.82	164.01	21.98	25.20	211.19	39.75
3 yr. Av.	110.6	22	1.78	160.95	286.49	72.92	44.61	14.44	19.42	151.39	23.57	26.44	201.40	85.09
Vineyards Producing Thompsons for Fresh Sale - 1950: ^{2/}														
6A	7.0	37	10.35	50.00	517.43	76.32	56.63	--	18.37	151.32	16.24	24.36	191.92	325.51
6B	11.0	37	4.24	78.96	334.79	91.63	66.31	--	19.61	177.55	16.24	24.36	218.15	116.64
Vineyards Producing Muscats - 1950: ^{3/}														
12	6.0	42	9.65	92.50	892.17	135.38	102.00	--	26.23	263.61	26.51	25.56	315.68	576.49
11	13.0	42	6.78	88.00	596.64	137.51	43.39	--	27.60	208.50	28.27	37.72	274.49	322.15
41	20.0	50	.96	300.00	288.75	56.63	22.02	4.58	16.13	99.36	24.31	24.04	147.71	141.04

^{1/} Estimated for those selling through co-ops.

^{2/} 6A sold to winery and 6B grapes shipped.

^{3/} 12 and 11 sold fresh to winery and 41 produced raisins.

Table II - Yield, Costs, Income, and Earnings per Ton - 1/ 1950 and 3 Year Averages

Serial Number	Yield Tons Per A. <u>1/</u>	Picking Cost Per Ton	Hauling Cost Per Ton	Turn, Roll, Box	Tray Costs Per Ton	Total Harvest & Dry Per Ton	Cultural Labor & Material	Cash Over-head Per Ton	Total Cash & Labor Per Ton	Depreciation Cost Per Ton	Interest Cost Per Ton	Total All Costs Per Ton	Average Returns Per Ton	Management Income Per Ton
Vineyards Producing Thompsons for Raisins:														
29	1.77	19.16	4.64	4.22	2.45	30.47	20.09	10.86	61.42	11.90	16.82	90.14	250.00	159.86
13	1.86	18.14	11.05	5.93	1.69	36.81	37.46	10.46	84.73	12.61	12.80	110.14	220.00	109.86
5	1.70	16.62	3.63	16.73	2.17	39.15	29.27	9.92	78.34	13.53	16.83	108.70	225.00	116.30
42	1.21	16.60	17.65	5.22	--	39.47	50.45	14.50	104.42	28.51	21.53	154.46	300.00	145.54
40	1.43	20.78	3.04	8.07	2.86	34.75	47.47	12.66	94.88	17.99	17.45	130.32	250.00	119.68
Av. 1950	1.51	18.72	7.86	7.76	1.91	36.25	41.08	12.08	89.41	17.90	17.22	124.53	251.14	126.61
Av. 1949	1.92	15.27	7.77	4.51	1.98	29.53	41.96	9.52	81.01	11.35	14.67	107.03	120.00	12.97
Av. 1948	1.91	18.51	7.45	6.41	2.12	34.49	39.99	11.43	85.91	11.51	13.20	110.62	131.44	20.82
3 yr. Av.	1.78	17.40	7.67	6.10	2.00	33.17	40.97	10.91	85.05	13.25	14.85	113.15	160.95	47.80
Vineyards producing Thompsons for Fresh Sale - 1950: <u>3/</u>														
6A	10.35	3.30	2.17	--	--	5.47	7.38	1.77	14.62	1.57	2.36	18.55	50.00	31.45
6B	4.24	10.02	5.62	--	--	15.64	21.61	4.63	41.88	3.83	5.74	51.45	78.96	27.51
Vineyards producing Muscats - 1950: <u>3/</u>														
12	9.65	8.57	2.00	--	--	10.57	14.04	2.72	27.33	2.75	2.65	32.73	92.50	59.77
11	6.78	5.40	1.00	--	--	6.40	20.28	4.07	30.75	4.17	5.56	40.48	88.00	47.52
41	.96	15.79	7.08	4.76	--	27.63	58.84	16.76	103.23	25.26	24.97	153.46	300.00	146.54

1/ Dry tons for raisins; fresh tons for winery and others.

2/ Includes boxing of raisins when boxing was done in hauling-out operation.

3/ See Table I for explanation.

Table III - Cultural Costs per Acre - 1950 and 3 Year Averages

Serial Number	Pruning	Brush Disposal	Tying and Twine	Stake & Trellis Work L. & M.	Sucker, Top, Girdle & Thin	Fertilize & Cover C. L. & M.	Mildew and Pest Control		Irrigation			Tillage and Hoeing	Other Labor & Material	Total Cultural Labor & Material
							Labor	Material	Acre Inches per A ^{1/}	Labor Cost	Water Cost			
Vineyards Producing Thompsons for Raisins:														
29	13.44	1.00	4.00	.40	---	---	.47	.63	12.9	2.37	3.69	8.84	.80	35.64
13	11.72	---	6.76	---	---	7.02	2.31	1.92	22.7	4.42	6.26	27.73	1.65	69.79
5	15.26	1.50	2.31	---	---	---	.86	.47	26.6	2.59	3.15	16.02	7.69	49.85
42	18.67	1.25	8.85	---	---	6.73	3.41	1.34	---	4.36	1.68	14.00	.85	61.14
40	12.36	1.34	3.56	.79	---	8.29	.63	2.32	---	5.03	6.70	23.47	3.62	68.11
Av. 1950	14.27	1.30	5.32	.72	---	7.54	1.62	1.66	21.6	4.27	4.71	19.57	2.74	61.85
Av. 1949	16.93	1.22	4.88	7.60	13.92	13.07	2.00	3.55	31.3	7.22	5.67	20.30	4.36	80.58
Av. 1948	15.79	1.30	4.65	4.68	1.40	16.32	1.80	2.56	29.7	9.29	5.86	21.71	6.28	76.34
3 yr. Av.	15.66	1.27	4.95	4.33	5.11	12.31	1.81	2.59	27.5	6.93	5.41	20.53	4.46	72.92
Vineyards Producing Thompsons for Fresh Sale - 1950: 2/														
6A	20.30	1.39	5.63	---	---	4.98	1.20	2.20	28.1	4.47	5.76	29.09	1.30	76.32
6B	20.29	1.39	5.62	---	15.34	4.98	1.20	2.20	28.1	4.47	5.75	29.08	1.31	91.63
Vineyards Producing Muscats - 1950: 2/														
12	38.67	---	---	---	---	---	.41	1.60	21.1	11.67	4.28	72.63	6.12	135.38
11	13.50	---	---	---	---	81.54	.83	.50	25.8	6.62	7.04	26.87	.61	137.51
41	11.96	.87	---	---	---	1.98	.18	1.50	---	5.94	7.43	24.32	2.45	56.63

1/ For pumped water only. Does not include water from any irrigation district.

2/ See Table I for explanation.

Table IV - Cash Overhead Costs per Acre - 1950 and 3 year Averages

An analysis of cash overhead costs is shown in the following table for the average of the raisin vineyards in this year's study. Spaces are provided for inserting individual figures for comparison. Costs for the various items are based upon the acreage reporting such costs. Since all records did not report costs for all items, the average totals are less than the sum of the various items. For further information on cash overhead see page on Explanation of Terms.

Thompson Seedless Vineyards (Raisins only)

	Your Record	Your Record	Average 1950	Average 1949	Average 1948	3-year Average
General Expense			5.82			
County taxes			10.18			
Repairs, except tractors & trucks			1.62			
Compensation insurance & misc.			.56			
Average total cash overhead			18.18			

Table V - Vine, Stake and Trellis Values and Depreciation per Acre:

The following schedule was applied to all records in the Study:

	Land \$100 - \$175		Land \$200 - \$275		Land \$300 - \$375	
	Orig. Value	Deprec.	Orig. Value	Deprec.	Orig. Value	Deprec.
Thompson Seedless	\$340	\$11.50	\$370	\$12.50	\$400	\$13.50
Muscat	300	10.00	330	11.00	360	12.00

Table VI - Investment and Depreciation Cost per Acre - 1950

Details of investment overhead costs are given in the table below. Spaces are provided for inserting individual figures for comparison with the averages. Investment values shown in this table are not intended to represent the amount of capital required to enter the grape growing business, since all figures except land are based upon one half of the original cost. (See page of Explanation of Terms for additional discussion.) Average investment and depreciation figures for the various items are based upon the acreages reporting such facilities. Average totals are less than a sum of the items, since all records did not have all items.

Thompson Seedless Vineyards (Raisins Only)

	Investment per Acre			Depreciation per Acre		
	Average	Your Record	Your Record	Average	Your Record	Your Record
Vines, stakes & trellises	\$187.92			\$12.69		
General improvements	21.30			2.40		
Irrigation system	42.94			3.19		
Tillage equipment	4.80			.72		
Dust and spray equipment	8.44			1.21		
Drying equipment	27.35			5.60		
Miscellaneous equipment	8.32			1.44		
Land	219.49			----		
Average total per acre	518.50			26.95		
Tractors, trucks, horses	16.57			2.64		

THE IMMEDIATE AND FUTURE OUTLOOK

The outlook for the grape industry for the immediate future is good. With an increase in government spending and efforts toward preparedness, greater employment will probably result. When a greater percentage of the population is working, consumer demand will then probably increase.

The long term picture cannot be so readily predicted. On the other hand--if past history can be used as a criterion--good prices will probably encourage further new plantings of grapes. It should be pointed out that the acreage of grapes now in bearing is still large enough that if several full crops were produced in succession it would be difficult to move this potential supply through the customary outlets, even with high consumer purchasing power. A good period may also encourage the owners of marginal producing vineyards to "take another ride".

The experienced farmer has learned, and the newcomer should also recognize that to stay in the grape business through all economic extremes he must be able to:

1. Produce large tonnages per acre.
2. Produce an above average quality product.
3. Produce efficiently.
4. Market efficiently.

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