

FREESTONE PEACH
MANAGEMENT STUDY
SOLANO COUNTY

SECOND ANNUAL REPORT
CROP YEAR
1951

STUDY CONDUCTED BY
AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF CALIFORNIA
In Cooperation with
SOLANO COUNTY PEACH GROWERS

Issued by
Agricultural Extension Service
County Library Building
Fairfield, California

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INTRODUCTION

This report covers the second year of the Solano County Freestone Peach Management Study. During the first year, only four growers took part in the study. This year, thirteen growers cooperated. We plan to continue this study for four more years. Our purpose is to learn the management practices which will enable Solano County Freestone peach growers to reduce their costs and improve their management practices. In addition, the study will furnish information regarding current production costs in Solano County.

This study is based on monthly reports of labor and material costs furnished by the cooperators. These, combined with an income report and a final inventory made with the assistance of the Farm Advisor, furnish the material from which each individual record is computed. These individual records are then averaged and this average serves as a standard with which the individual grower may compare his yields, costs and returns. This furnishes a good opportunity for him to learn which management practices are most efficient.

The 1951 crop year was profitable for those in this study. The average management income per acre was \$230.71 while the average for the 1950 study was only \$204.85. This was due chiefly to an increased average production per acre. In 1950 the average production was 8.5 tons per acre, while in 1951 the average was 9.83 tons per acre. The average price per ton received in 1951 was actually \$2.32 less than the average price received by cooperators in the 1950 study.

We wish to express our appreciation to the thirteen growers who cooperated in this study and urge that they continue to cooperate for the four remaining years of this study.

DEFINITION OF TERMS
Peach Management Study

COSTS

CULTURAL LABOR COSTS are composed of the cost of hired labor and the value of the operator's actual labor at the going wage rates, and the value or cost of tractor and truck work for all orchard operations prior to harvesting. Tractor and truck work, termed field power, are charged at hourly rates figured to cover the overhead, maintenance and operating costs.

CULTURAL MATERIAL COSTS are for pumping power, fertilizer, spray material and other materials used in producing the crop.

HARVESTING includes picking and hauling labor. This also includes field power equipment costs of tractors and trucks.

CASH OVERHEAD COSTS include all cash costs not listed under labor and material costs. They cover taxes, machinery repairs (other than tractors and trucks), compensation insurance and general expense. The general expense item is computed at 5 per cent of the total labor and material costs and covers miscellaneous unreported costs such as interest on operating capital, use of family car in conjunction with the enterprise and office expenses.

TOTAL CASH AND LABOR COSTS are a sum of all labor, material and cash overhead costs as indicated above.

DEPRECIATION is that part of the original cost of trees, improvements and equipment which is charged to each year of operation in order to absorb the cost of such facilities during their period of usefulness.

INTEREST on investment is figured at 5 per cent of the average values ($\frac{1}{2}$ of original costs) of trees, improvements and equipment. The land values used in calculating an interest on investment charge were conservative and below current market values.

TOTAL COST includes all of the above costs.

INCOME

TOTAL INCOME PER ACRE OR AVERAGE NET RETURNS PER TON reflects the returns for the naked fruit at the first delivery point after the deduction of marketing expenditures. Costs of drying were deducted from returns for the dried fruit in order to show a comparable net income to the fruit which was sold fresh.

MANAGEMENT INCOME is the amount by which total income exceeds total costs, as indicated above. It represents the operator's income for management after he has already paid himself wages for his work and interest on invested capital at 5 per cent. When total income fails to cover total costs, a loss occurs which is indicated by a minus sign (-).

TABLE 1 - GENERAL SUMMARY OF COSTS, INCOME AND EARNINGS PER ACRE - INDIVIDUAL ORCHARDS - 1951

Record Number	Av. Age of Trees	Yield, tons per Acre	Av. Net returns per ton	Costs per Acre								Total income per acre	Management income per A.
				Cult-ural labor	Har-vest labor	Mat-erial	Cash over-head	Total cash & labor	Deprec-iation	Inter-est on invest.	Total		
13	18	17.36	55.53	91.37	107.53	22.86	24.77	246.53	28.38	30.11	305.02	964.06	659.04
7	14	14.85	60.73	88.10	204.42	31.55	33.72	357.79	33.52	32.25	423.56	901.86	478.30
11	21	17.62	53.97	119.13	206.83	41.21	34.83	402.05	39.83	35.65	477.53	951.11	473.58
10	15	16.87	54.80	126.22	260.33	28.53	37.25	452.33	45.44	38.63	536.40	924.48	388.08
12	30	9.91	67.02	90.57	95.85	15.62	21.44	223.48	30.06	30.72	284.26	663.90	379.64
17	23	15.05	42.91	61.21	213.17	27.06	29.97	331.41	31.67	25.78	388.86	645.56	256.70
16	15	9.79	57.69	102.39	97.99	15.33	21.75	237.46	43.93	33.00	314.39	564.90	250.51
3	18	10.09	57.31	99.19	128.76	20.27	24.47	272.69	38.67	24.94	336.30	578.06	241.76
4	21	9.22	50.74	61.46	83.36	23.79	20.86	189.47	42.07	32.20	263.74	467.83	204.09
2	15	7.72	53.28	61.80	93.95	14.00	19.17	188.92	34.09	29.96	252.97	411.59	158.62
9	18	8.05	56.41	73.85	125.27	16.84	23.73	239.69	34.69	30.89	305.27	454.25	148.98
5	11	8.70	52.42	107.04	65.16	38.57	25.40	236.17	53.46	40.49	330.12	456.18	126.06
15	22	4.98	50.84	51.89	85.66	13.87	18.01	169.43	41.95	34.13	245.51	253.44	7.93
1951 Av.	19	9.83	54.99	78.13	117.10	20.80	23.37	239.40	38.83	31.70	309.93	540.64	230.71
1950 Av.	16	8.50	57.31	87.76	90.28	16.19	22.44	216.67	38.89	26.76	282.32	487.17	204.85

Average net returns per ton of fresh fruit produced by peach orchards in the study this year were slightly lower than for those in the 1950 study. However, income above total costs of production (management income) averaged about \$25. per acre more in 1951 due to the higher average yield.

A wide range in yields, costs and net earnings between individual growers will be noted in the above table. Yield varied from approximately 5 tons to over 17 tons per acre and management income from less than \$10. to over \$650. per acre.

Most costs averaged higher in 1951 than the previous year. Total cultural labor costs, however, were down a bit due to lower thinning and propping costs as will be seen in Table 3. Wage rates and costs per unit for materials purchased were higher in 1951.

Records are arranged in Tables 1 to 5 (inclusive) in order of decreasing management income per acre as shown in the extreme right column above.

TABLE 2 - COSTS, RETURNS AND EARNINGS PER FRESH TON - INDIVIDUAL ORCHARDS - 1951

Record Number	Total yield tons per A.	Per cent of fruit			Av. net returns per fresh ton				Picking cost per ton**	Hauling cost Per T.	Total cash & labor costs	Deprece. and int. costs	Total cost per ton	Management income per T.
		Sold to can- nery	Sold retail	Dried*	Cannery fruit	Retail fruit	Fruit* dried	All fruit						
13	17.36	60.2	-	39.8	65.00	-	41.25	55.53	5.18	1.01	14.20	3.37	17.57	37.96
7	14.85	78.4	-	21.6	65.00	-	45.25	60.73	9.80	3.97	24.09	4.43	28.52	32.21
11	17.62	62.8	-	37.2	64.52	-	36.17	53.97	7.98	3.76	22.82	4.28	27.10	26.87
10	16.87	75.6	2.3	22.1	64.50	64.92	20.62	54.80	10.46	4.98	26.82	4.98	31.80	23.00
12	9.91	62.7	18.0	19.3	65.00	104.00	39.15	67.01	7.41	2.27	22.56	6.13	28.69	38.32
17	15.05	51.1	.7	48.2	64.55	90.90	19.21	42.91	11.94	2.23	22.03	3.82	25.85	17.06
16	9.79	49.1	1.7	49.2	66.52	80.00	48.09	57.69	8.04	1.97	24.25	7.86	32.11	25.58
3	10.09	59.9	-	40.1	67.00	-	42.86	57.31	10.56	2.21	27.04	6.30	33.34	23.97
4	9.22	61.3	-	38.7	64.69	-	29.16	50.74	8.33	.71	20.55	8.05	28.60	22.14
2	7.72	50.8	16.0	33.2	67.00	44.66	36.45	53.28	9.38	2.78	24.46	8.29	32.75	20.53
9	8.05	74.7	1.1	24.2	64.50	100.00	29.42	56.41	12.74	2.82	29.76	8.15	37.91	18.50
5	8.70	63.3	1.1	35.6	64.77	88.50	29.36	52.42	6.13	1.36	27.14	10.79	37.93	14.49
15	4.98	36.6	-	63.4	67.00	-	41.51	50.84	13.32	3.87	33.99	15.26	49.25	1.59
1951 Av.	9.83	61.3	1.1	37.6	65.28	94.54	37.09	54.99	9.44	2.47	24.35	7.17	31.52	23.47
1950 Av.	8.50	72.8	0.1	27.1	60.60	77.69	48.40	57.31	8.82	1.80	25.49	7.72	33.21	24.10

* Includes fruit sold for drying as well as that dried by the grower. ** Includes some sorting in a few cases.

Total costs of production per ton ranged from a little under \$18. to over \$49. for orchards in this year's study. The majority of the orchards had total costs between about \$27. and \$33. per ton. Average total costs per ton for all orchards this year was slightly lower than for 1950 due to the higher average yield. No. 13, the most profitable orchard in the study, showed exceptionally low costs per ton not only due to the high yield, but also to very low harvesting costs as well as reasonably low cultural costs per acre in relation to yield.

The proportion of fruit sold for canning was an important factor affecting average returns for all fruit produced. Canning fruit this year returned an average of about \$28. more per fresh ton net than the fruit which was dried. In 1950 cannery fruit brought less while dried fruit was enough higher than in 1951 to bring the average returns for all fruit slightly higher than this year.

Net returns for the fresh fruit which was dried varied from about \$19. to \$48. per ton. The drying ratio and drying costs as well as the price received for the dried fruit affected the net returns for the fresh fruit dried. See Table 6 for analysis of drying ratios and costs. Grower No. 12 sold a substantial portion of his crop retail at a relatively high price which accounts for him having the highest average returns per ton for all fruit. No. 17 showed the lowest average returns for all fruit because of the low net returns received for the nearly one-half of his crop which was dried.

TABLE 3 - CULTURAL COSTS PER ACRE - INDIVIDUAL ORCHARDS - 1951

Record Number	Pruning	Brush disposal	Cover crop labor & seed	Fertilizing labor & material	Spraying		Cultivation, furrow, etc.	Irrigation		Thinning	Proping and tying	Other cultural L & M	Total cultural labor & material
					Labor	Material		Labor	Power				
13	40.40	1.41	-	-	4.93	13.88	17.01	4.24	8.98	21.86	1.52	-	114.23
7	30.50	1.42	-	11.56	9.66	15.98	15.20	2.98	3.83	20.00	6.22	2.30	119.65
11	40.15	7.46	-	19.29	3.83	14.54	18.98	6.55	9.45	30.67	9.42	-	160.34
10	37.35	4.88	-	2.13	8.26	16.64	11.77	23.38	10.40	14.30	16.37	9.27	154.75
12	22.98	6.60	-	5.84	7.09	5.79	16.81	6.70	5.43	21.40	4.15	3.40	106.19
17	14.45	1.18	-	-	3.31	13.56	29.52	7.23	13.50	2.97	2.55	-	88.27
16	24.42	4.08	-	5.73	5.87	6.29	15.31	14.66	3.84	36.60	.92	-	117.72
3	33.27	1.07	-	14.29	2.87	3.79	6.66	5.81	2.19	41.21	4.24	4.06	119.46
4	15.22	3.52	-	9.00	9.27	7.23	8.75	2.96	8.33	16.83	4.14	-	85.25
2	18.00	.57	-	7.01	2.27	4.11	9.42	2.70	3.92	15.18	12.62	-	75.80
9	23.49	3.40	2.10	6.08	6.79	6.58	15.61	16.32	2.17	-	4.69	3.46	90.69
5	22.43	2.33	.92	6.30	9.24	12.59	20.54	23.70	4.92	16.73	4.64	21.27	145.61
15	14.43	1.17	-	2.50	4.90	5.88	13.68	8.26	5.88	7.55	1.51	-	65.76
1951 Av.	23.16	2.70	1.96	7.97	6.16	7.76	12.48	7.94	5.61	20.71	5.14	4.87	98.93
1950 Av.	22.36	1.42	1.64	7.40	3.25	4.50	8.48	6.54	5.01	28.73	11.80	5.39	103.95

The above table is presented mainly for use by cooperators in the study in comparing their cultural operational costs with other growers. Such comparisons often indicate where changes in practices can lead to more efficient production and thus increased profits. In the above table it will be seen that some growers spent three times or more as much for most of the operations than others. In some instances, differences in costs can be explained by differences in orchard conditions. Also, it should be kept in mind that some operations are of a nature that require greater expenditures in some years than in others.

Total cultural labor and material costs ranged from about \$65. to \$160. per acre for orchards in the study this year. The average total this year was about \$5. less than for orchards in the 1950 study due to lower thinning and propping costs. Averages at the bottom of the table for the various items are based upon the acreage reporting such costs. Since all orchards did not report costs for all items, the average total cultural labor and material cost is less than sum of the various items.

TABLE 4 - CASH OVERHEAD AND DEPRECIATION COSTS PER ACRE - INDIVIDUAL ORCHARDS - 1951

Record Number	Cash overhead costs per acre					Depreciation costs per acre							
	General Expense	County Taxes	Repairs except field pr.	Comp. insur-ance	Total	Trees	Build-ings	Irrig-ation system	Tillage equip-ment	Spray equip-ment	Props, etc.	Other equip-ment	Total ex.field power
13	11.09	7.91	1.19	4.58	24.77	20.00	4.32	1.99	.28	.35	.35	1.09	28.38
7	16.20	8.59	3.72	5.21	33.72	20.00	1.77	4.36	.58	1.30	.86	4.65	33.52
11	18.35	8.82	1.39	6.32	34.88	20.00	.51	11.60	1.44	4.76	-	1.52	39.83
10	20.76	9.17	1.16	6.16	37.25	20.00	-	8.72	2.15	-	2.14	12.43	45.44
12	10.10	8.15	.64	2.55	21.44	20.00	.47	4.45	.47	-	1.05	3.62	30.06
17	15.07	8.15	1.25	5.50	29.97	20.00	1.07	6.46	1.02	.67	.77	1.68	31.67
16	10.79	7.09	.40	3.47	21.75	20.00	3.53	1.91	.89	1.28	3.20	13.12	43.93
3	12.40	6.99	1.12	3.96	24.47	20.00	3.53	2.99	.49	1.26	2.35	8.05	38.67
4	8.43	8.44	.91	3.08	20.86	20.00	2.47	13.97	.94	2.70	.83	1.16	42.07
2	8.49	7.03	.75	2.90	19.17	20.00	1.34	2.35	.45	.59	1.67	7.69	34.09
9	10.80	8.22	.67	4.04	23.73	20.00	3.70	4.56	.40	1.58	.48	3.97	34.69
5	10.54	9.19	2.03	3.64	25.40	20.00	2.90	6.86	.97	2.85	-	19.88	53.46
15	7.57	7.37	.25	2.82	18.01	20.00	.12	8.95	1.17	1.25	1.20	9.26	41.95
1951 Av.	10.80	7.89	.98	3.70	23.37	20.00	2.22	7.01	.82	1.68	1.35	7.52	38.83
1950 Av.	9.71	7.91	1.79	3.03	22.44	20.00	2.92	5.40	.57	1.25	1.82	7.01	38.89

Cash overhead costs as shown above include all cash costs not classified under labor and material costs. Interest paid on mortgaged indebtedness is not included as a cash cost since an interest on investment charge, as shown in Table 5, is included for all orchards in the study and would normally cover any interest paid on indebtedness. Interest paid on operating capital is covered by the general expense item which is explained on the page "Definition of Terms" at the fore part of this report.

Depreciation on buildings and equipment varies considerably between orchards depending upon individual situations. The size of the farm unit on which such facilities are used is an important factor influencing depreciation costs per acre. Depreciation on trees was figured the same for all orchards at \$20. per acre. This is based upon an original cost to bring trees to bearing age of \$400. per acre and a productive life thereafter of 20 years. Depreciation on field power equipment is not included in the total depreciation cost in this table since it is included in the hourly rate charged for the use of such equipment in the labor record.

Averages at the bottom of the table for the various items are based upon the acreage reporting such costs. Since all orchards did not report investment in all items, the average total depreciation cost is less than a sum of the various items.

TABLE 5 - INVESTMENT PER ACRE - INDIVIDUAL ORCHARDS - 1951

Record Number	Trees	Buildings	Irrigation System	Tillage equipment	Spray equipment	Props, etc.	Other* equipment	Land	Total except field power	Field power equipment	Total investment	Interest at 5% excludng field power
13	200.00	62.07	24.97	2.88	3.45	3.45	5.40	300.00	602.22	16.21	618.43	30.11
7	200.00	31.00	47.60	6.30	13.00	6.44	40.63	300.00	644.97	56.00	700.97	32.25
11	200.00	10.19	98.15	10.37	33.33	-	10.92	350.00	712.96	53.05	766.01	35.65
10	200.00	-	53.63	10.77	-	15.22	93.04	400.00	772.66	-	772.66	38.63
12	200.00	11.84	64.28	5.26	-	7.89	25.15	300.00	614.42	34.21	648.63	30.72
17	200.00	13.40	73.58	5.93	6.67	5.00	10.98	200.00	515.56	35.40	550.96	25.78
16	200.00	14.19	12.43	5.76	12.84	32.00	82.80	300.00	660.02	45.68	705.70	33.00
3	200.00	17.65	26.06	2.45	6.28	5.88	40.52	200.00	498.84	21.10	519.94	24.94
4	200.00	16.75	94.19	8.07	13.52	4.13	7.39	300.00	644.05	10.40	654.45	32.20
2	200.00	10.66	25.74	3.12	4.41	12.50	42.79	300.00	599.22	25.32	624.54	29.96
9	200.00	28.85	54.57	3.82	6.27	2.40	21.86	300.00	617.77	36.48	654.25	30.89
5	200.00	28.97	70.78	6.50	21.39	-	182.14	300.00	809.78	60.11	869.89	40.49
15	200.00	.31	88.39	8.76	9.38	6.00	69.76	300.00	682.60	21.88	704.48	34.13
1951 Av.	200.00	17.49	59.64	6.14	10.43	8.25	52.81	293.97	634.07	27.40	661.47	31.70
1950 Av.	200.00	19.12	38.84	3.78	7.19	8.20	33.68	224.82	535.15	21.97	547.12	26.76

* Includes harvesting equipment, drying standby equipment and miscellaneous tools.

The investment figures shown in the above table are calculated at one-half of the original cost except for land values. Such values are maintained throughout the life of facilities and equipment as a basis for calculating an equitable interest on investment charge against each year's crop.

As pointed out in Table 4, tree values were considered the same for all orchards with an original cost of \$400. per acre. Average tree values, thus, are shown at \$200. per acre. The land values used in this study are conservative agricultural values for the purpose of calculating a nominal interest on investment charge.

The above table should not be used as indicative of the amount of capital required to go into the peach growing business at the present time. Current values are considerably higher than those shown. Interest on investment in field power equipment is excluded from the interest charge shown above since this cost is included in the hourly rate charged for the use of this equipment in the labor record.

Averages at the bottom of the table for the various items are based upon acreages reporting such items.

TABLE 6 - DRYING COSTS PER FRESH TON - INDIVIDUAL ORCHARDS - 1951

Record Number	Total fresh tons dried	Drying ratio to 1	Costs per fresh ton								Per dried cwt.			
			Tray wash, store	Cut-ting	Shed & yard work	Total labor	Sulfur & other material	Other cash costs	Depreciation on eqt.	Inter-est on invest.	Total cost	Av. price rec'd.	Dry-ing cost	Net returns
4	155	7.00	1.25	5.00	5.01	11.26	.59	.87	1.14	.50	14.36	15.23	5.03	10.20
7	39	6.00	.70	5.94	4.40	11.04	.42	.85	1.41	1.51	15.23	18.15	4.57	13.58
13	58	6.00	1.31	7.19	5.37	13.87	.32	1.09	.38	.27	15.93	17.15	4.78	12.37
11	47	6.10	1.76	7.02	4.11	12.89	.63	1.02	.96	.75	16.25	15.99	4.96	11.03
16	72	5.34	2.17	6.00	5.34	13.51	.62	1.07	1.33	.66	17.19	17.43	4.59	12.84
17	14	6.58	-	6.86	6.15	13.01	.58	.96	1.65	1.04	17.24	12.00	5.68	6.32
10	32	7.34	.51	8.10	4.32	12.93	.68	1.03	2.01	.78	17.43	13.97	6.40	7.57
9	43	6.57	1.66	7.50	4.14	13.30	1.15	1.09	1.54	1.07	18.15	15.62	5.96	9.66
3	17	7.29	3.27	7.25	3.48	14.00	.40	1.06	2.32	.75	18.53	15.20	6.75	8.45
5	10	6.38	3.41	6.25	2.82	12.48	1.36	1.03	3.12	1.50	19.49	15.59	6.22	9.37
15	94	5.09	2.38	6.67	4.22	13.27	.59	1.04	3.22	1.44	19.56	15.54	4.98	10.56
12	14	5.75	5.20	6.82	5.21	17.23	.59	1.34	1.36	.61	21.13	17.32	6.07	11.25
2	51	5.89	2.25	6.50	9.75	18.50	.26	1.39	1.84	.56	22.55	17.37	6.64	10.73
1951 Av.	648	6.15	1.74	6.35	5.11	13.20	.58	1.03	1.60	.81	17.22	16.11	5.25	10.86
1950 Av.	130	6.15	2.66	5.45	4.61	12.72	.31	.94	1.94	.57	16.48	19.94	5.06	14.88

All growers in the study this past year dried a portion of their fruit. In the above table, records have been arranged downwards in order of increasing total drying cost per fresh ton. This is different from the arrangement in the preceding tables.

Total drying costs ranged from \$14.36 to \$22.55 per fresh ton with the average of all at \$17.22. This was about 75¢ per ton higher than the average in 1950. Drying ratios ran from approximately 5 to 1 to 7 1/3 to 1. The average for all records was practically the same as the previous year. The drying costs shown in this table were deducted from the gross returns received for the dried fruit in arriving at the net income per fresh ton dried as shown in Table 2.

Total drying cost per dried pound ranged from about 4 1/2¢ to 6 3/4¢ with all records averaging 5 1/4¢. The average price received for dried fruit ranged from 12¢ to a little over 18¢ per pound. Net returns (after deducting drying costs) averaged about 4¢ per dried pound less this year than in 1950. Final returns for cooperators belonging to the California Prune and Apricot Growers' Association had not been received at the time of this report and were, therefore, estimated.