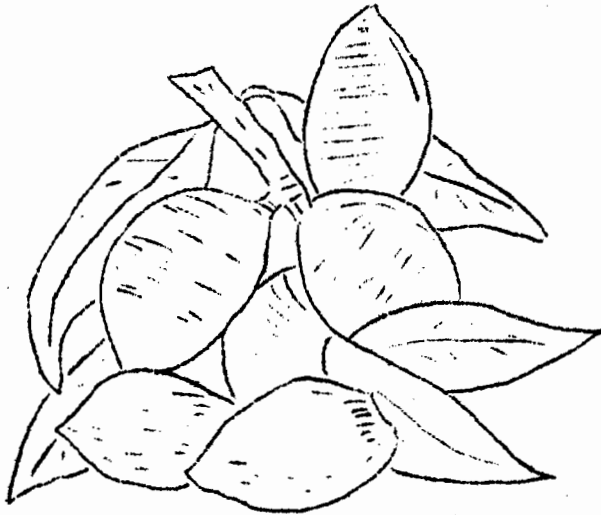


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THIRD ANNUAL ALMOND EFFICIENCY STUDY

SUTTER 1948 COUNTY



COMPILED BY

AGRICULTURAL EXTENSION SERVICE

UNIVERSITY OF CALIFORNIA

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SUTTER COUNTY 1948 ALMOND MANAGEMENT STUDY INTRODUCTION

This is the third annual report of the Sutter Almond Management Study covering the 1948 crop year and with comparisons for 1946 and 1947. This study is conducted by the Agricultural Extension Service in cooperation with a group of local almond producers for the purpose of disclosing current management practices under the various production conditions existing in the county and to help individual growers with their management problems under changing economic conditions.

The figures in this study apply only to the orchards and period covered and must not be considered as average for the county. This study includes only 270 acres of a bearing acreage of over 4000 acres.

SITUATION

Almond production in California has been increasing as a result of larger acreages and increased yields due to improved cultural care and planting of new orchards on better quality land.

The 1948 production amounted to 29,600 tons with an average yield of 600 pounds per acre. The non-bearing acreage in 1947 amounted to nearly 16,000 acres and will probably result in further increases in production unless decreased income results in abandonment of lower producing acreages.

Prices received by growers vary from year to year according to total production, but the general level of prices will depend largely on consumer purchasing power, and competition from other nuts.

The price level will follow very closely with the general level of agricultural prices which are tending downward at the present time. Costs are also tending downward but at a slower rate than agricultural prices, and therefore rapidly decreasing the net income of farmers. Growers may find some of their present operations unprofitable and producers with small acreages may find their income insufficient for a satisfactory standard of living.

TABLE 1. Yield, Income and Expenses per Acre for Cooperators in the 1948 Sutter Almond Management Study. Records arranged in Order of Management Income.

Serial No.	Acres	Yield lbs	Av. Age	Av. Price	Total Lb. Income	Cultural and Harvest Costs	Miscellaneous Expenses					Total Cost	Mgt Income	Farm Income	Investment per acre
							Taxes	Repairs & Misc.	Insur-ance	Dep. Trees & Misc.	Int. on Trees & Land				
1	11.4	2306	12	23.6	543.22	245.90	4.38	-	5.26	10.26	17.58	283.38	259.84	291.49	420.85
5	30.0	1669	47	20.6	343.13	151.29	13.01	1.00	1.66	11.12	17.93	196.01	147.12	187.27	440.26
2	21.1	2360	10	21.4	504.11	318.00	8.53	2.37	3.13	13.09	18.90	364.02	140.09	185.69	520.61
13	5.3	1414	16	23.9	337.84	161.71	10.38	-	1.89	10.40	17.55	201.93	135.91	155.00	381.82
3	19.9	1824	13	24.5	447.40	273.91	8.78	-	3.07	10.93	20.39	317.08	130.32	190.91	490.45
6	85.0	1582	33	14.3	226.39	106.58	1.65	6.57	3.29	17.76	10.56	146.41	79.98	104.68	404.57
7	8.4	1148	9	21.3	244.65	118.40	11.91	-	-	14.71	19.71	164.73	79.92	115.14	418.66
10	38.7	1002	21	22.1	221.37	117.02	11.47	7.49	2.35	11.47	18.29	168.09	53.28	85.86	449.83
12	17.0	686	8	26.6	182.33	135.48	4.85	.74	.56	11.76	17.94	171.33	11.00	77.27	428.83
8	13.0	1569	20	22.8	357.12	299.13	23.26	-	6.65	12.22	21.42	362.68	- 5.56	70.00	532.60
14	3.4	914	16	20.2	184.50	168.64	13.24	-	2.94	10.40	17.55	212.77	-28.27	49.64	381.82
9	18.0	533	17	21.9	116.94	111.88	5.67	-	1.13	11.45	18.51	148.64	-31.70	- 2.12	469.75
Av	270.20	1465	24	19.6	287.60	160.80	7.61	3.48	2.74	13.57	16.15	204.35	83.25	121.50	442.50
1947	312.50	1211		27.4	331.08	148.59	6.81	11.78	1.64	12.11	18.94	196.00	135.08		447.43
1946	282.07	1645		24.5	403.16	180.82	6.48	9.92	2.28	12.00	19.01	228.87	174.29		427.51

Yield is given in terms of hulled, unshelled nuts. Meats and sticktights have been converted to this basis. Taxes includes all taxes chargeable to the orchard - land, trees, equipment, and improvements.

Farm Income is the Management Income plus value of family labor and all interest.

Investment includes land, trees, equipment, and improvements. All items except land are valued at half the original cost.

The low price at No. 6 resulted from having 42% sticktights.

The above records illustrate the importance of high yields in the profitability of orchards but also show, in Record No. 8, that high yields must not be accompanied by high costs. In some cases it may be more profitable to settle for a lower yield and reduce expenditures for fertilizer, water, and other items. In other cases land with a low yielding orchard which is showing some profit may be making more money than if the land were in any other available use. Growers must not generalize that yield is the only factor to consider in production

TABLE 2. Cultural and Harvest Costs per Acre by Operations for Cooperators in the 1948 Sutter Almond Management Study. Records arranged in Order of Management Income per Acre.

Serial No.	Pre-Harvest Costs									Harvest Costs			Total Cultural and Harvest Costs	
	Prune & Brush Disposal	Cover Crop	Fertilize	Spray Pest Control	Culti-vate	Check gate	Irri-gate	Misc. Cultural	Total	Knock & Haul to Huller	Hull & Dry	Haul to Mrkt		Total Harvest
1	28.55	5.07	14.50	19.13	7.40	3.63	10.94	4.82	94.04	71.82	69.26	10.78	151.86	245.90
5	4.65	-	14.73	18.35	7.68	2.86	19.77	3.78	71.82	43.84	33.38	2.25	79.47	151.29
2	11.00	-	26.08	29.15	28.24	3.68	31.71	5.77	135.71	106.64	74.40	1.25	182.29	318.00
13	5.47	-	15.09	9.81	7.44	-	40.43	-	78.24	48.40	30.54	4.53	83.47	161.71
3	17.18	-	29.42	10.49	14.94	3.77	32.71	5.35	113.86	52.74	103.50	3.81	160.05	273.91
6	7.36	-	18.31	11.15	9.48	1.12	9.89	-	57.31	31.17	17.14	.96	49.27	106.58
7	-	-	-	3.57	19.05	3.81	25.04	-	51.47	34.55	31.19	1.19	66.93	118.40
10	8.89	-	5.70	14.06	9.64	2.05	18.72	1.31	60.37	34.46	21.54	.65	56.65	117.02
12	23.35	-	18.07	5.58	11.85	3.81	22.51	1.54	86.71	25.23	23.54	-	48.77	135.48
8	31.63	3.10	23.24	47.28	27.84	1.83	26.39	9.77	171.08	82.86	43.33	1.86	128.05	299.13
14	6.76	-	11.18	12.65	8.46	-	44.17	-	83.22	54.12	26.00	5.30	85.42	168.64
9	11.35	-	18.71	13.20	10.72	1.65	11.11	.72	67.46	21.85	21.90	.67	44.42	111.88
Av.	11.31	36	16.86	15.34	12.42	1.51	18.77	2.97	79.54	44.39	35.08	1.79	81.26	160.80
1947	7.66	55	15.13	14.54		14.97	17.28	.98	75.27	47.18	24.97	1.17	73.32	148.59
1946	9.27	64	18.60	16.46		13.80	21.35	1.77	81.89	57.86	39.65	1.42	98.93	180.82

The above costs include labor, tractor or truck, material, and interest and depreciation on equipment. Tractor and truck was charged at an hourly rate sufficient to cover gas, oil, repairs, interest, depreciation, taxes, and other costs. Miscellaneous cultural includes replanting trees, rolling and floating, prop and tie, and other miscellaneous. Most of the labor was valued at \$1.00 per hour except for some hired labor which was as low as 85¢. Pruning and Brush Disposal are lumped together because some records did not separate the two because of the method of payment made. Brush disposal averaged \$1.82 per acre for those who had it separate. Material costs per acre were as follows: fertilizer, \$15.44, Sprays 7.68. Irrigation water was obtained from wells and the average cost per acre was \$3.67 for power and \$4.08 interest and depreciation on facilities, a total of \$7.75 per acre. Knocking payments varied from \$1.00 per hour to 40¢-75¢ per tree to 3¢ per pound. Knocking usually included hauling to huller. See Table 3 for costs of hulling per cwt. These costs should be compared with the management practices shown on Table 3.

TABLE 3. Expense and Income per Hundredweight and Management Practices Used by Cooperators in the 1948 Sutter Almond Management Study. Records arranged in Order of Management Income Per Acre.

Serial No.	Pre Harvest	Harvest Expense					Total Harvest Cost	Total Cost	Av. Price	Net Income	Management Practices					No. Cultivations
		Misc.	Pick & Haul to Dry & Huller	Hull, Crack	Haul to Mrkt	Total					No. Sprays & Dusts	No. Irrigations	Acre inches water	Lbs Nitrogen Applied	Cost lb Nit.	
1	4.08	1.62	3.12	3.00	.47	6.59	12.29	23.56	11.27	2	3	-	92	15.2	3	
5	4.30	2.68	2.63	2.00	.13	4.76	11.74	20.56	8.82	2	4	-	107	12.8	3	
2	5.75	1.95	4.52	3.15	.05	7.72	15.42	21.36	5.94	3	3	-	178	13.9	5	
13	5.53	2.85	3.42	2.16	.32	5.90	14.28	23.89	9.61	1	-	-	-	-	-	
3	6.24	2.37	2.89	5.67	.21	8.77	17.38	24.53	7.15	1	3	-	176	16.5	4	
6	3.62	2.52	1.96	1.09	.06	3.11	9.25	14.31	5.06	2	-	9.5	52	33.6	-	
7	4.48	4.04	3.01	2.72	.10	5.83	14.35	21.31	6.96	1	-	7.9	0	-	-	
10	6.03	5.10	3.44	2.15	.06	5.65	16.78	22.10	5.32	3	-	-	41	12.5	-	
12	12.64	5.22	3.68	3.43	-	7.11	24.97	26.57	1.60	1	3	28.5	263	5.2	3	
8	10.90	4.05	5.28	2.76	.12	8.16	23.11	22.76	-.35	4	2	36.8	68	31.6	3	
14	9.10	4.83	5.92	2.84	.58	9.34	23.27	20.18	-3.09	-	-	-	-	-	-	
9	12.66	6.89	4.10	4.11	.13	8.34	27.89	21.94	-5.95	3	-	22.2	56	32.2	-	
Av.	5.43	2.97	3.03	2.40	.12	5.55	13.95	19.64	5.69							
1947	6.22	3.91	3.90	2.06	.10	6.06	16.19	27.35	11.16							
1946	4.98	2.92	3.51	2.41	.09	6.01	13.91	24.50	10.59							

Miscellaneous costs include taxes, depreciation on trees and miscellaneous, and interest on trees, land and misc. Expenses on a hundredweight basis are useful largely as they apply to harvesting costs, particularly hulling. Costs other than harvesting are relatively fixed regardless of the yield except as cultural practices may affect the yield. Picking costs are also somewhat fixed and are not affected much by the yield unless payment is made on a per pound basis.

The hulling expenses include custom hulling and owned hullers. Two growers reported separate drying costs and two separate cracking costs. The wide variations in costs of hulling shown above result largely from the interest and depreciation on the hullers. Seven growers reported their own hullers.

The net income per cwt follows very closely the net income per acre. The management practices used are somewhat incomplete but give an indication of the operations performed.

The low cost of nitrogen for No. 12 results from a large amount of poultry manure for which there was no charge except the labor of hauling.

TABLE 4. Yield and Income per Acre by varieties for Cooperators in the 1948 Sutter Almond Management Study and Comparisons with 1946 and 1947. Records arranged in Order of Management Income per Acre

Serial No.	Nonpareil		IXL		Ne Plus		Peerless		Drake		Texas		All Varieties	
	Yield lbs	Gross Income	Yield lbs	Gross Income	Yield lbs	Gross Income	Yield lbs	Gross Income	Yield lbs	Gross Income	Yield lbs	Gross Income	Yield lbs	Gross Income
1	1439	388.53	-	-	2511	628.87	-	-	-	-	3081	462.19	2306	543.22
5	2741	744.39	1904	424.78	1613	374.47	2032	353.19	1220	199.61	2885	426.30	1669	343.13
2	1960	564.34	-	-	2586	603.03	-	-	2450	335.18	2946	408.62	2360	504.11
13	1340	399.38	-	-	109	248.75	197	315.84	-	-	-	-	1414	337.84
3	1913	520.59	-	-	1636	384.30	-	-	-	-	2169	322.76	1824	447.40
6	2293	327.83	-	-	1192	211.75	952	143.31	967	131.78	1565	186.86	1582	226.39
7	1502	427.33	-	-	-	-	1443	271.57	1362	214.62	865	134.07	1148	244.65
10	1201	315.95	265	53.40	598	139.28	-	-	1086	179.24	857	125.49	1002	221.37
12	548	154.33	464	107.28	1231	297.02	-	-	-	-	-	-	686	182.33
8	1362	372.19	2034	479.07	1367	310.00	2156	398.75	1727	264.75	2274	324.12	1569	357.12
14	-	-	1019	223.24	650	148.07	-	-	950	143.70	-	-	914	184.50
9	432	110.06	-	-	-	-	1009	181.60	-	-	-	-	533	116.94
Av.	1549	350.15	1129	253.00	1364	294.17	1413	244.90	1155	175.51	1796	238.25	1465	287.60
1947	997	338.90	942	257.08	1745	474.28	1873	381.41	823	168.94	1776	384.47	1211	331.08
1946	1442	443.35	2075	505.83	1862	454.66	2113	416.26	1815	333.75	1523	285.67	1645	403.16
Av 46-48	1329	377.47	1382	338.64	1657	407.70	1804	347.52	1264	226.07	1698	302.80	1440	340.61

1948 Cron		
Variety	Acres	Av. Price
Nonpareil	113.9	22.6
NePlus	42.9	21.6
Texas	33.4	13.3
IXL	8.5	22.4
Drake	53.2	15.2
Peerless	12.4	17.3
Misc.	5.9	22.4
Total	270.2	19.6

For the three year period 1946-48, the Ne Plus variety averaged the highest gross income per acre, but was actually highest only in 1947. The Ne Plus was only the third highest producer for the three years. The satisfactory income resulted from a better than average price and yield. The Nonpareil with a high price, was second in gross income because of a below average yield. Factors such as soil and planting arrangements may affect these yields and incomes, but most of the varieties are fairly well scattered through the records.

Average Price 1946-48	
Nonpareil	28.4
IXL	24.5
Ne Plus	24.6
Peerless	19.2
Drake	17.9
Texas	17.9
Average	23.7