

SHIPPING MARKET

TOMATOES

ENTERPRISE EFFICIENCY STUDY

IMPERIAL COUNTY, CALIFORNIA

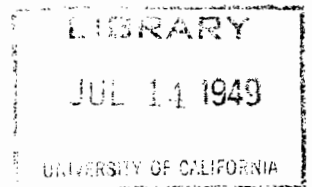
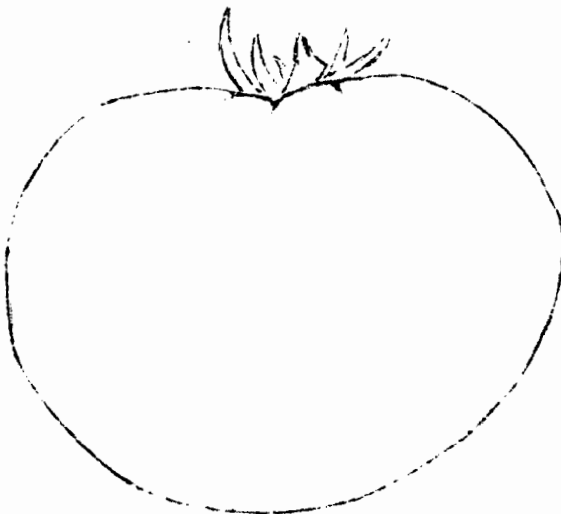
1947 - 1948

An analysis of costs, inputs of labor and material, income and profits as reported by four growers of shipping market tomatoes, covering 90.5 acres and two growers of canning tomatoes, covering 90 acres.

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INTRODUCTION

This is the first study made on the cost of producing market tomatoes in Imperial County. Four records covering 90.5 acres were obtained from growers who harvested, packed and sold the crop in late winter and early spring. Two records covered 90 acres from growers who planted in March, harvested in June and July and sold to the cannery. These records should not be taken as an average, or typical of tomato production in the county, since it is such a small sample of the acreage. It is thought, however, that growers will be interested in the method of analyzing the factors and in the breakdown of costs as shown in these particular records.

In all these records, the seed was planted directly in the field and thinned to the desired spacing. Blank spaces in the row were filled in by transplanting. One market tomato grower used hot caps to protect plants from frost and wind. The other three used brush and paper for this purpose.

Winter tomatoes are especially hazardous because of weather and the wide fluctuations in market prices. Management income varied from \$134.41 per acre, to a loss of \$269.13 per acre. Costs per flat (20-25#) varied from \$1.99 to \$4.60.

A study of the following tables shows what happened to production, costs and income in these particular records.

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Table 1. Main Profit Determining Factors - Income and Costs per Acre.

Serial No.	Acres	Yield per Acre		Total Income per Acre	Pre-plant Labor per Acre	Plant to Harvest Labor	Harvest and Pack Labor	Material Costs	Cash Over-head Costs	Decreciation Costs	Interest on Inv. and Rent	Total all Costs	Management Income
		Pounds*	Flats 20# & 25#										
Market													
1	24	4930	197	526.47	15.63	105.40	97.15	139.76	23.10	7.36	3.66	392.06	134.41
2	17	4120	206	568.01	26.50	185.98	104.08	130.82	26.20	5.22	60.81	539.81	28.20
3	13.5	18681	747	1356.97	**	203.43	549.68	386.50	59.57	2.19	177.50	1378.87	-21.90
4	40.	#(1541 (c) (2891 (m))	116	262.31	15.75	93.63	106.17	244.75	24.27	--	46.87	531.44	-269.13
** land was prepared by land owner and was included in share rent.													
Canning													
			Tons										
5	40	20530	10.26	298.37	7.00	44.46	110.05	68.40	11.49	1.67	20.21	263.25	35.12
6	50	5115	2.55	74.74	5.20	22.23	29.13	27.40	4.70	1.10	35.09	124.85	-50.11

* Pounds marketed. Does not include culls or portion of crop unharvested.

c = cannery. m = market.

The above table presents the main profit determining factors in tomato production for six individual records in Imperial County. The first four were planted in the late fall and harvested in the early spring and sold as shipping market tomatoes. Serial numbers 5 and 6 were planted in March and sold to the cannery.

In all cases the seed was planted in the field. No averages were made because of the small number of records. Records 2, 4, 5, 6 were cash rent. No. 4 had a disastrous year because of weather and market conditions. No. 3 lost money because of unfavorable leasing arrangement and excessively high costs. No. 6 was able to sell only a portion of the crop.

These records are not to be taken as typical of tomato production in the Imperial Valley. They do show what happened in these particular cases and will give growers some idea of the breakdown in costs, and the importance of high yields of marketed tomatoes in reducing costs per unit.

Subsequent tables show further breakdown and analysis of costs.

Table 2. Costs and income per hundred weight, per flat and per ton.

Serial No.	Income		Preharvest Labor and field power		Harvesting and Packing Labor		Materials		Cash Overhead		Depreciation		Land - Rent & Int.		Total all Costs		Management Income		
	Cwt.	Flat	Cwt.	Flat.	Cwt.	Flat	Cwt.	Flat	Cwt.	Flat	Cwt.	Flat	Cwt.	Flat	Cwt.	Flat	Cwt.	Flat	
Market																			
1	10.68	2.67	2.45	.61	1.98	.49	2.83	.71	.47	.12	.15	.04	.07	.02	7.95	1.99	2:76	.68	
2	13.79	2.76	5.16	1.03	2.53	.51	3.17	.63	.64	.13	.13	.03	1.48	.29	13.11	2.62	.68	.14	
3	7.26	1.82	1.09	.27	2.94	.74	2.07	.52	.32	.08	.01	--	.95	.24	7.38	1.86	-.12	-.03	
4	8.24	2.11	3.87	.94	3.68	.92	8.46	2.12	.84	.21	--	--	1.62	.41	18.38	4.60	9.31	2.33	
Canning																			
	per cwt.	per ton	per cwt.	per ton	per cwt.	per ton	per cwt.	per ton	per cwt.	per ton	per cwt.	per ton	per cwt.	per ton	per cwt.	per ton	per cwt.	per ton	
5	1.45	29.07	.25	5.01	.54	10.72	.33	6.66	.05	1.12	.01	.16	.10	2.00	1.28	25.65	.17	3.42	
6	1.45	29.00	.53	10.64	.57	11.30	.53	10.63	.09	1.82	.02	.43	.68	13.58	2.42	48.44	-.97	19.44	

Table 2 is set up the same as table 1 and cost and income are calculated on a per hundred weight, per flat and per ton basis. Flats varied in weight from 20 to 25 pounds. Costs per flat varied from \$1.86 to \$4.60 per flat. Canning tomatoes sold for \$29 per ton and market tomatoes varied from \$1.82 to \$2.76 per flat. Costs per unit varied widely, primarily because of variation in yield. Costs per acre are pretty much the same up to harvest, therefore a high yield per acre is very important in reducing costs per pound or per flat.

Table 3. Costs per acre for labor and material for some important operations and practices.
Harvesting costs per hundred weight.

Serial No.	Thinning and Hoeing per Acre	Brushing per Acre		Pest Control per Acre		Irrigation per Acre		Planting per Acre		Fertilizing per Acre		Harvesting Pick, Pack, Haul	
		Labor	Material	Labor	Material	Labor	Material	Labor	Seed	Labor	Material	Labor per cwt	Material per cwt
Market													
1	25.00	20.63	28.13	2.40	3.52	15.00	7.50	1.02	10.87	15.06	52.26	1.98	.76
2	109.33	28.42	84.11	6.54	11.26	13.70	--	.71	2.51	9.21	32.94	2.53	.51
3	27.96	79.20	41.62	2.22	21.99	21.98	--	7.78	4.17	2.67	39.14	2.94	1.49
4	83.29	--	126.88*	5.10	10.62	16.78	9.28	1.91	11.08	4.62	42.30	3.68	1.52
Canning													
5	8.90	--	--	7.07	24.36	11.57	4.32	2.00	8.50	2.00	31.22	.54	--
6	14.40	--	--	1.00	5.00	--	1.40	1.58	7.50	.45	13.50	.57	--

* Includes cost of paper caps.

Table 3 shows an analysis of the costs of labor and materials for certain important operations. The tomato seed was planted directly in the field and thinned to the proper spacing. Excess plants were used to replant places in the row where seed failed to germinate. The wide variation in costs was due to poor germination and difference in amount of weeds. Records 1, 2, 3 used brush and paper for wind break and frost protection on a part or all acreage. No. 4 used paper caps on entire acreage. Rate of seeding varied from 1/2 to 1-1/4 pounds per acre. Pest control varied greatly depending on location and seriousness of disease and pests.

Table 4. Showing important items in relation to management practices.

Serial No.	Plant in field date	Harvest dates	Variety	Soil type	Method plant in field	Fertilizer		Plant distance	Number Hoe and thin	Number of Irrigations	Number times post control	% picked but not sold	Per cent est. unharvested
						Kind	Pounds per acre						
Market													
1	Aug. 18-24	Jan. to June	Pearson Pennheart Earliana	Sandy	seed	Steer 17% Phos 8-6-4	5,000 525 771	5 1/2' x 10"	2	--	6	10%	--
2	Oct. 20 to Nov. 1	Apr. 22 to June 10	Pearson Earliana	Medium	Seed	Steer 10-12-10	30,588 941	7' x 30"	2	13	--	20%	35%
3	Oct. 29	Apr. 24 to June 16	Colorado Special	Fine sandy loam	Seed	Potash 10-12-10 Am. S. 48% Phos.	296 296 148 74	--	1	--	--	--	--
4	Dec. 1	May 26	Pennheart	Med. Loam	Seed	Sup. Phos NH ₃	612 159	--	--	--	--	--	--
Canning													
5	Mar. 1	June 20 to July 29	Pennheart	Medium	Seed	8-6-4 Am. Nit.	600 75	--	--	--	--	10%	--
6	Feb. 2 to Mar. 9	June 22 to July 9	Pennheart	Medium	Seed	48% Phos.	300	6' x 12"	2	--	1	10%	40%

Note that field planting for market tomatoes ranged from the middle of August to December 1, and canning tomatoes about the first of March. Market tomatoes were harvested from January to the middle of June. All growers used commercial fertilizers. Distance between rows varied from 5 1/2 feet to 7 feet and spacing in row from 10 to 30 inches. The varieties planted were Pennheart, Pearson, Earliana, and Colorado Special.