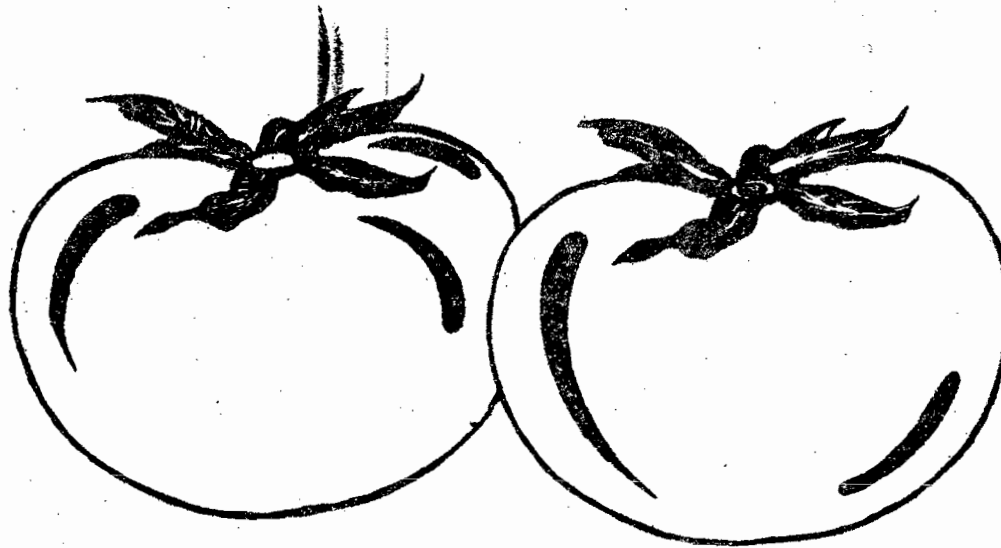


SAMPLE COSTS OF TOMATO PRODUCTION
in
Contra Costa, San Joaquin, and Stanislaus Counties
December 1980



University of California Agricultural Extension

**Cooperative Extension Work in Agriculture and Home Economics, U. S. Department of Agriculture,
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SAMPLE COSTS OF TOMATO PRODUCTION
IN CONTRA COSTA, SAN JOAQUIN, AND STANISLAUS COUNTIES

Introduction

Processing tomatoes constitute a large percentage of the vegetable production in the three-county area. Many questions have been asked about the economics of producing this crop.

This study was initiated in order to answer the questions received and to pinpoint the inputs required to produce a crop of tomatoes.

Costs vary from farm to farm because of individual differences in soil, rotations, equipment, size of units and management. This study represents estimated costs and yields for the area. Equipment costs are computed using new (1980) prices. While this may not be representative of the typical tomato operation in the area, it does provide a detailed breakdown of the investment required for a new grower. Certain cultural operations included in this study may not be universal in their application. Growers are invited to use the "your costs" column of the study in order to develop the true costs of their operation for management decisions.

For specific assumptions (as marked by footnotes ()), please refer to the notes on page 6.

The authors are indebted to and wish to thank a group of growers and associated farm service and supply personnel from the area for their help in developing this study. These people provided the basic information on machinery, operations, and size of operation. Their comments and guidance are greatly appreciated.

INDEX

<u>Item</u>	<u>Page</u>
Seedbed Preparation	1
Planting	1
Growing	2
Bulk Harvest	3
Buildings and Additional Equipment for Bulk Harvest	4
Equipment Inventory	5
Notes	6

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SAMPLE COSTS OF TOMATO PRODUCTION
RENTED LAND BASIS

Contra Costa, San Joaquin, Stanislaus Counties - 1980
Based on 350 acres of tomatoes on a 1000-acre farm. Yield: 28 tons per acre.

Operation	Hours Per Acre	Labor (3)	Fuel & Repairs (2)	Materials		Per Acre Total	Your Cost
				Kind and Quantity	Cost		
SEEDBED PREPARATION							
Fall (1)							
Disc, plow & subsoil (150 acres) 3/7 of 1.60	.69	\$ 2.69	\$21.60			\$24.29	
Disc 2x, subsoil 2x (200 acres) 4/7 of .90 x 2	1.03	4.02	22.72			26.74	
Landplane 2x (350 acres)	.75	2.93	11.04			13.97	
Spring							
Disc 2x	.60	2.34	10.11			12.45	
Springtooth	.12	.47	1.58			2.05	
Harrow & roll	.17	.66	1.80			2.46	
List or ridge, (fumigate) (13)	.25	.98	3.03			4.01	
Move equipment, set-up, and service at 7% of oper. time	.25	.98				.98	
TOTALS		\$15.07	\$71.88			\$86.95	
PLANTING							
Sled, shape, incorporate herbicide	.40	\$1.56	\$ 6.69	Tillam @ 6# + Devrinol @ 2#	\$56.50	\$ 64.75	
Plant (2 men), starter fertilizer	.33	2.60	4.83	1# seed @ \$24/lb starter fertilizer	24.00 30.00	31.43 30.00	
Move equipment, set-up and service at 10% of oper. time	.04	.16				.16	
TOTALS		\$4.32	\$11.52		\$110.50	\$126.34	

Operation	Hours Per Acre	Labor ⁽³⁾	Fuel & Repairs ⁽²⁾	Materials		Per Acre Total	Your Cost
				Kind and Quantity	Cost		
GROWING							
Roll, cultivate--sled & implements	1.00	\$ 3.90	\$14.21			\$ 18.11	
Thin-machine blocker	.30	1.17	3.48			4.65	
Tiller & lay-by herbicide	.50	1.95	17.25	Lay-by herbicide	\$ 16.00	35.20	
Cultivate & furrow 1x	.25	.98	3.49			4.47	
Hoe (trim & hoe)	15.25	53.38				53.38	
Ditch - open & close 3x	.12	.47	1.72			2.19	
Irrigate 10x ⁽⁴⁾	15.00	54.00		4 ac. ft. @ \$10	40.00	94.00	
				Siphon, dams, shovels	2.75	2.75	
Fertilize-tractor & sled (side-dress)	.25	.98	4.03	100 lbs. N @ 19¢	19.00	24.01	
Insect control, seedling stage				Ground rig appl.	6.00	6.00	
				Materials	11.50	11.50	
Insect control (worm control)				Air appl. 2x	10.00	10.00	
Fungicide (applied with worm control)				Insecticide mtl.	22.60	22.60	
				Fungicide material	14.00	14.00	
Ethephon (87.5 acres) 1/4 acreage ⁽⁵⁾				Air appl.	3.00	3.00	
				Materials	12.00	12.00	
Vine train (150 acres) 1/3 acreage ⁽⁵⁾	.33	.43	.48			.91	
Whitener (87.5 acres) 1/4 acreage ⁽⁵⁾				Contract @ \$36/A	9.00	9.00	
TOTALS		\$117.26	\$44.66		\$165.85	\$327.77	
Misc. Operating and Growing Costs							
Labor transportation, supervision, records, office, pick-up truck, interest on operating capital & roadways.			20% of above		(\$541.06)	\$108.21	
Soc. Sec., Workmen's Compensation, transportation, bonuses, unemployment, housing, medical.			20% of cash wages		(\$136.65)	27.33	
TOTAL						\$135.54	
TOTAL CULTURAL COSTS						\$676.60	
Rent ⁽⁹⁾						200.00	
TOTAL PREHARVEST COSTS						\$876.60	

Operation	Hours Per Acre	Labor ⁽³⁾	Fuel & Repairs ⁽²⁾	Materials		Per Acre Total	Your Cost
				Kind and Quantity	Cost		
BULK HARVEST⁽⁶⁾							
Machine (harvester), based on \$25.29/hr. operating charge	1.67		\$42.23			\$42.23	
Driver @ \$4.50	2.00	\$ 9.00				9.00	
Sorters ⁽¹¹⁾							
Electronic, 6 @ \$3.50	1.67	35.07				35.07	
(Manual, 12 @ \$3.50)		(70.14)				(70.14)	
Sorter, supervisor @ \$3.90	1.67	6.51				6.51	
Driver, 1-1/2 @ \$3.90	2.00	11.70				11.70	
5th wheel dolly 1-1/2	1.67		2.62			2.62	
Tractor, 1-1/2 @ \$11.36 ⁽⁷⁾	1.67		18.97			18.97	
Mechanic & supervisor @ \$7.50	2.00	15.00				15.00	
Misc. equip., disc, scraper, water trailer, pick-up truck @ \$35.00/10-hr. day or shift	1.67		5.84			5.84	
Misc. supplies, drinks, goggles, etc., @ \$20.00/day					\$3.33	3.33	
		\$77.28	\$69.66		\$3.33		
(Cost for manual harvest & extra sorters)		(\$112.35)					
Inspection @ 17¢/ton, 28 tons						4.76	
Unemployment, Soc. Security, Workmen's Comp., bonus, transportation, etc., @ 20% of cash wages of steady employees (\$42.21)						8.44	
Unemployment, Soc. Security, Workmen's Comp. insurance on sorters--20% of \$35.07 (\$70.14)						7.01	
Addit. charges for seasonal labor, bookkeeping, etc., \$4/day/man; 6 men x \$4 = \$24÷6 ac/day (10 men x \$4 = \$40÷6 ac/day)						(14.02)	
Toilets						4.00	
						(6.67)	
						2.00	
TOTAL BULK HARVEST COSTS						\$176.48	
						(Electronic sorter)	
						(Manual sorter)	
						(\$221.23)	
Taxes on bulk harvest equipment \$1,140 x .65 = \$741 x 25% = \$185.25 assessed value x .1200						\$22.23	
San Joaquin County tax rate ⁽¹²⁾						6.16	
Assessments (association dues, CTRI, leafhopper, etc.) @ 22¢/ton							
TOTAL						\$28.39	

		Per Acre	
		Total	Your Cost
TOTAL CASH COSTS--Preharvest + Bulk Harvest + Taxes on Equipment		Electronic harvest	\$1,081.47
		(Manual harvest)	(\$1,126.22)
Management--5% of 28 tons at \$50.00			\$ 70.00
Investment			
		Annual Cost	
	Per Acre	Depreciation	Interest
Buildings	\$ 61.00	\$ 2.03	\$ 3.66
Equipment, bulk harvest	1,140.03	158.95	68.41
	\$1,201.03	\$160.98	\$72.07
TOTAL COST PER ACRE BULK HARVEST		Electronic sort	\$1,384.52
		(Manual sort)	(\$1,429.27)
COST PER TON AT 28 TONS/ACRE YIELD, BULK HARVEST		Electronic sort	\$49.45
		(Manual sort)	(\$51.04)
COST PER TON AT 25 TONS/ACRE YIELD, BULK HARVEST		Electronic sort	\$55.38
		(Manual sort)	(\$57.17)
COST PER TON AT 30 TONS/ACRE YIELD, BULK HARVEST		Electronic sort	\$46.15
		(Manual sort)	(\$47.64)

INVESTMENT COSTS FOR TOMATOES - 1980

Based on 350 acres of tomatoes on 1000-acre farm

Item	Cost Incl. 6% Tax	Annual Use (acres)	Cost per Acre	Life (yrs.)	Depre.	Interest @ 12%	Cash Costs per Hour ⁽²⁾		
							Fuel	Repairs	Total
BUILDINGS									
Shop, 40' x 60'	\$39,000	1,000	\$39.00	30	\$1.30	\$2.34			
Shed, 4,000 sq. feet	22,000	1,000	22.00	30	.73	1.32			
TOTAL BUILDINGS	\$61,000		\$61.00		\$2.03	\$3.66			
ADDITIONAL EQUIPMENT FOR BULK HARVEST									
5th wheel convert. dollies ⁽³⁾	\$6,000	350	\$17.14	10	\$1.71	\$1.03		\$1.57	\$1.57

Item	Cost	Annual	Cost	Life	Interest	Cash Costs per Hour (2)		
	Incl. 6% Tax	Use (acres)	per Acre	(yrs.) Deprac.		Fuel	Repairs	Total
Tractor 125 C.D. H.P. (D6DSA)	\$ 91,500	800	\$ 114.38	10	\$ 6.86	\$4.08	\$ 7.79	\$11.87
Tractor 90 W.D. H.P. (4040)	31,800	800	39.75	10	2.39	4.73	3.50	8.23
Tractor 125 W.D. H.P.	48,800	800	61.00	10	3.66	6.00	4.17	10.17
Tractor, used (60 H.P. for bulk trailers)	15,000	800	18.75	4	1.13	1.61	2.71	4.32
Landplane 12 x 60	9,600	1,000	9.60	20	.58	--	4.55	4.55
Plow 4 - 16's 2-way	7,100	600	11.83	8	.71	--	8.59	8.59
Disc, 18' 24"-blade	12,000	1,000	12.00	10	.72	--	6.68	6.68
Spike harrow, 20' light	1,200	1,000	1.20	10	.07	--	.44	.44
Spike harrow, 20' heavy	1,800	1,000	1.80	12	.11	--	.70	.70
Smizer roller, 18' (2)	7,700	1,000	7.70	12	.46	--	1.65	1.65
Roller	2,200	500	4.40	10	.26	--	.26	.26
Sled (plant) incorporator	14,800	350	42.29	10	2.54	---	6.55	6.55
Sled (cultivating) complete	5,900	350	16.86	10	1.01	--	5.72	5.72
Planters (Flex)	3,850	350	11.00	10	.66	--	2.29	2.29
Ditcher, 54"	4,700	800	5.88	20	.35	--	.54	.54
Bedding Tool Bar	1,700	350	4.86	10	.29	--	.26	.26
Saddle tanks for fert. & herbicide	1,600	600	2.67	10	.16	--	2.17	2.17
Harvester, new with electronic sorter	151,000	350	431.43	7	25.88	3.91	21.38	25.29
Harvester, used (1976) without electronic sorter	55,000	350	157.14	5	9.43	3.91	21.38	25.29
Forklift	27,600	1,000	27.60	10	1.66	2.52	3.20	5.72
Pick-up, 3/4-ton (4 x 4)	9,000	1,000	9.00	3	.54	--	--	--
Pick-up, 1/2-ton (used)	2,000	350	5.71	2	.34	--	--	--
Springtooth, 30'	3,900	1,000	3.90	10	.23	--	4.93	4.93
Siphons, 1-1/2" (300)	950	350	2.71	10	.16	--	--	--
Canvas, 12 pcs.	475	350	1.36	5	.08	--	--	--
Tarps, 100 @ \$6.50	650	1,000	.65	2	.04	--	--	--
Truck, 1/2 share	4,500	500	9.00	8	.54	--	--	--
Water trailer, 1/2 share	1,100	350	3.14	5	.19	--	--	--
Electronic (blocker) thinner 6 row (3 bed)	16,500	350	47.14	6	2.83	--	3.36	3.36
Chisel, 12'	3,700	700	5.29	10	.32	--	2.08	2.08
Subsoiler, 10' (ripper)	4,900	500	9.80	10	.59	--	4.17	4.17
Ditch closer	5,600	800	7.00	15	.42	--	2.29	2.29
Sprayer--300 gal. tank, 10 gpm pump	2,650	1,000	2.65	10	.16	--	--	--
Toilets (3)	3,300	500	6.60	7	.40	--	--	--
Tool carrier	6,500	1,000	6.50	10	.39	--	--	--
Lo-Boy implement carrier	20,300	1,000	20.30	10	1.22	--	--	--
TOTALS	\$580,875		\$1,122.89		\$67.38			

NOTES

- 1) Fall operations are calculated on the basis of 350 acres total of tomatoes. (3/7 of 350 acres is 150 acres, etc.) Soil amendments (gypsum or manure applications) will add approximately \$20 per acre costs to the fall operation.
- 2) Fuel and repairs are calculated as the total of the tractor and the implement as taken from the equipment list multiplied by the hours per acre.
- 3) Labor rates - Hourly labor rates are:

Supervisor	\$7.50	Irrigator	\$3.60
Harvester operator	4.50	Regular	3.50
Skilled	3.90		
- 4) Irrigation water cost ranges from approximately \$4 per acre foot to \$12 per acre foot, depending on the location within the area. The figure used in this study (\$10) is within this range and represents a typical cost in the major tomato-growing areas of the three counties.
- 5) Costs for Ethephon, vine training and whitener are pro-rated over the entire 350 acres of tomatoes.
- 6) Harvest costs are calculated based on bulk handling. Harvest costs are based on good harvest conditions; circumstances which lead to overripe and mold conditions can effectively double costs of harvest.
- 7) Cost per hour on tractors for bulk harvest was an average of three large tractors $(10.17 + 8.23 + 4.32 \div 3 = 7.57 \times 1\frac{1}{2} = 11.36)$.
- 8) Approximately 1.5% of delivered loads are rejected at the inspection station, incurring losses from return freight, harvest costs and, in some instances, reconditioning of the loads.
- 9) Various rent arrangements are common in the area: cash figures are used for the study; share rents vary from 17-1/2 to 22-1/2% of the gross.
- 10) Health insurance for full-time employees will range from \$20-\$55 per month depending on family size. An average of approximately \$40 per month is assumed.
- 11) Harvest costs are based on an average of 12 sorters per machine for manual harvest and 6 sorters for a machine equipped with an electronic sorter.
- 12) The tax rate will vary with location; for example, Stanislaus County will average \$10/\$100 assessed value.
- 13) Fumigation should only be practiced if there is a serious nematode population and/or if weed infestation is quite a problem. Due to the loss of DBCP, most fumigation involves use of DD or Telone, and if these are used, preharvest costs will be increased \$40-\$60 per acre.