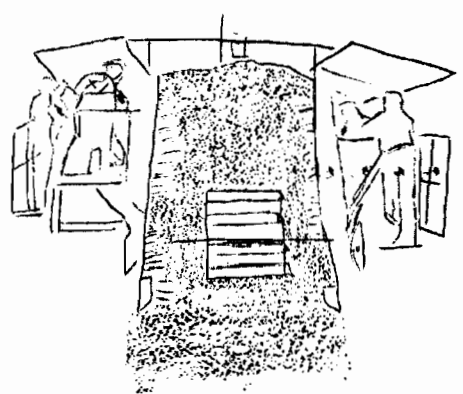
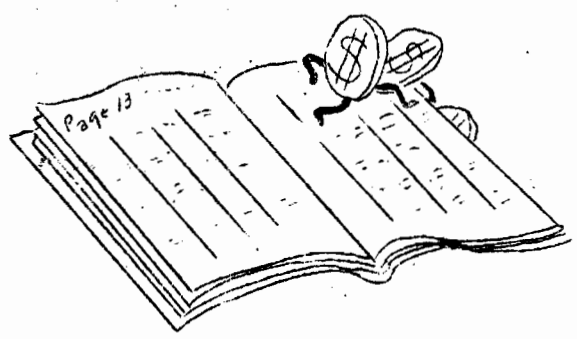


COSTS OF PRODUCTION PROCESSING TOMATOES



YOLO
COUNTY
1977



FARM & HOME ADVISORS OFFICE
Yolo County
70 Cottonwood Street
Woodland, California 95695

* * * * *

* For those who use this study -

* In developing this study, certain assumptions had to be made.
* Vagaries of weather, insects, or manmade problems of quotas, tonnage
* restrictions, labor shortages, etc. cannot be predicted.

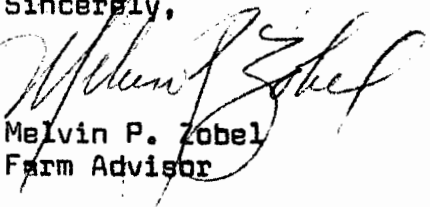
* It was assumed that -

- * 1. It was an uninterrupted harvest - No quota situation;
* good planting scheduling, no labor problems.
- * 2. No acreage was lost due to tonnage restrictions, weather,
* or management mistakes.
- * 3. A good job of herbicide applications and insecticide
* application was done and effective controls were obtained.
- * 4. Excessive, not needed or insurance type applications were
* not used.

* This study was designed to represent an average, rather than an
* individual situation.

* I trust you will find the study of value when you compare your
* costs with it.

* Sincerely,


* Melvin P. Zobel
* Farm Advisor

* MPZ/kmg

* 500c □ - 11/77

* * * * *

Cooperative Extension Work in Agriculture and Home Economics. U.S. Department of Agriculture, University of California, and Yolo County cooperating.

* * * * *

To simplify information, when trade names of products have been used, no endorsement of named products is intended, nor criticism implied of similar products which are not mentioned.

* * * * *

"The University of California Cooperative Extension in compliance with the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and the Rehabilitation Act of 1973 does not discriminate on the basis of race, creed, religion, color, national origin, sex, or mental or physical handicap in any of its programs or activities. Inquiries regarding this policy may be directed to: Affirmative Action Officer, Cooperative Extension, 317 University Hall, University of California, Berkeley, California 94720, (415) 642-0903."

* * * * *

FROM: Agricultural Extension Service, University of California, Yolo County, 70 Cottonwood (P.O. Box 879) Woodland, California 95695 666-8435.

* * * * *

1

COSTS OF PRODUCTION PROCESSING TOMATOES

This cost study based on 240 acres of machine harvested tomatoes, is assumed to be part of a 2640 acre multi-crop farming operation. The basic cost information was developed using 1974 costs of equipment, supplies, labor use, etc. The 2640 acre farm enterprise base was used to develop realistic figures for equipment usage and costs for the crops in the farm enterprise.

In November, 1976, it was revised to reflect recent increases in costs. Now, in November, 1977, the study is again being updated to incorporate cost increases during the 1977 tomato season.

The rotation shown of tomatoes following corn or wheat is commonly used in Yolo County. Tomatoes in Yolo County may be and are grown following all crops. However, a wheat-tomato rotation is increasing in popularity. Cost would change slightly under different rotations because management practices would change. Cost variation, however, would be only minor.

The operations shown in the study are not fixed procedures. Different situations call for different operations. In general, however, operations would follow a general pattern of those shown. It is not uncommon to encounter special problems which would require special applications or operations.

Equipment costs as shown in the original study were based on 1974 costs for equipment and parts supplies. By 1977, equipment costs increased about 15%. Some items of equipment have increased more, others less. By late 1977, equipment cost increased about an additional 10%. This study includes both the 15% and 10% increases.

Labor charges used include the basic hourly cash wage plus an hourly benefits package. The benefit package amounts to 32¢ per hour. The hourly wage rates used were similar to the union rates in labor union contracts. In addition to the hourly wages, there would be the usual social security and workmen's compensation insurance costs. Also, it was assumed there would be no overtime paid or night work charges. To cover the 240 acres with one machine, two shifts would probably be used for part of the harvest season. Night time crews usually are paid at a higher rate per hour.

Labor was charged at \$3.24 per hour plus benefits package for common labor--sorters, weed crew, etc. Irrigator wages were \$3.28 plus benefit package. Tractor driver labor was charged according to skills and experiences--heavy equipment operator at \$4.15 plus package, skilled driver at \$4.05 plus package, semi-skilled at \$3.95 plus package and trailer puller at \$3.49 plus package.

The foremen and/or supervisors wages would be above those paid for hourly work. The long-time employees would receive vacations, bonuses, and frequently free transportation and housing. Allowances for these costs are included under miscellaneous labor costs.

For seasonal and part-time labor--weeding crews, sorters, etc.--an additional charge is made at 15% of the cash hourly wage per day per man. This charge covers labor supervision and includes bookkeeping, field supplies, transportation to field, and subsidizing housing.

Your costs should be used to figure costs of production for your operation and conditions. This study was developed and is intended to be used as a guide to compare your costs. For more detailed information on how the original cost study was developed, see "Sample Costs Of Production," Yolo County, 1975, Woodland Area.

TOMATOES
Yield - 25 Ton
(240 Acres - Following Corn and/or Wheat)

	Hours/ Acre	Cash & Labor Costs Per Acre				Total
		Labor	Fuel & Repairs Tractor	Implt.	Materials	
SEED BED PREPARATION						
<u>Fall</u>						
Plow (½ acreage)(.50/2)	.25	1.09	1.77	1.51	--	4.37
Subsoil (½ acreage)(.40/2)	.20	.89	2.01	.42	--	3.32
Landplane 2X	.40	1.79	2.78	.31	--	4.88
Chisel	.40	1.79	3.37	.69	--	5.85
<u>Spring</u>						
Disc 2X	.24	1.07	2.02	2.12	--	5.21
Springtooth 2X	.16	.70	1.35	.52	--	2.57
Swede Harrow & Roll 2X	.16	.70	1.11	1.09	--	2.90
List/ridge & app. starter	.30	1.31	1.99	.31	--	3.61
Fertilizer @ 10 gal/ac @ \$1.25/gal					12.50	12.50
Saddle Tanks	.30	--	--	.23	--	.23
Move equip., setup & service @ 10% of operating time	<u>.21</u>	<u>.94</u>	<u>--</u>	<u>.11</u>	<u>--</u>	<u>1.05</u>
Total	2.32	10.28	16.40	7.31	12.50	46.49
PLANTING						
<u>Sled, Shape & Incorporate Herbicide & Plant (2 men)</u>						
Herbicide (comb.) 30" band on 60" row (½ acreage)	.30	2.56	1.99	6.60	--	11.15
Seed - 1#/acre @ \$18.00/lb.					14.31	14.31
Saddle Tanks	.30	--	--	.23	--	.23
Move equip., setup & service @ 20% of operating time	<u>.12</u>	<u>.54</u>	<u>--</u>	<u>.07</u>	<u>--</u>	<u>.61</u>
Total	.42	3.10	1.99	6.90	32.31	44.30
GROWING COSTS						
Cultivate - Sled & imp.	.50	2.19	2.05	.50	--	4.74
Thin - mechanical	.25	1.09	1.66	2.19	--	4.94
Cultivate & furrow 3X	.75	3.20	4.97	.75	--	8.92
Rolling Cultivate 2X	.40	1.71	1.63	2.27	--	5.61
Layby Herbicide - ½ lb @ \$30.50/gal (4#/gal)					2.54	2.54
Hoe (trim & hoe, hoe 2X)	7.3	25.99	--	--	--	25.99
Ditch (open & close) 3X	.15	.67	1.25	.19	--	2.11
Irrigate 7X @ 1.5 hr/ac						
Labor	10.50	37.80	--	--	--	37.80
Water - 5 ac ft @ \$10.75/ac ft.					53.75	53.75
Misc. irrig. equip.--shovels, siphons, dams, etc. @ 75¢/ac					.75	.75
Fertilizer - sidedress						
Tractor & sled	.25	1.09	1.66	.24	--	2.99
Fertilizer - Nitrogen 80# N/ac @ 20¢/lb.					16.00	16.00
Saddle Tanks	.25	--	--	.19	--	.19

TOMATOES - Continued

	Cash & Labor Costs Per Acre					Total
	Hours/ Acre	Labor	Fuel & Repairs Tractor	Implt.	Materials	
<u>GROWING COSTS - Continued</u>						
Insect Control						
Seedling stage (flea beetle, grd beetle)						
Tractor & sprayer	.16	.68	.55	.76	--	1.99
Insecticide - 2 pts @ \$14.95/gal					3.74	3.74
Fruit worm control - 2 1/2 X Air @ \$3.15/ac/time					7.88	7.88
Materials - 1 qt/app/ac/treatment @ \$14.90/gal						
+ 2 qts/app/ac @ \$15.90/gal					29.21	29.21
Cutworm control - 1X Air @ \$3.15/ac/time - 2/5 acreage					1.26	1.26
Materials - 2/5 acreage - bait - 30#/ac @ .35/lb					4.20	4.20
Russet mite Air @ 9¢/lb/ac/time					3.14	3.14
Sulfur Dust - 35#/ac @ 6.5¢/lb					2.28	2.28
Misc. Insect - air @ \$3.15/ac/time - 2/3 acreage					2.10	2.10
Materials (armyworms, stinkbug, etc.) 2/3 ac.						
- 1 qt @ \$14.90/gal.					2.48	2.48
Mold Control 2X - 3/4 ac	.16	.68	.55	.76	--	1.99
Materials - 2#/ac @ \$10.75/gal (4#/gal)					8.10	8.10
Ethephon - 2/5 acreage	.06	.26	.22	.30	--	.78
Materials - .8#/ac or 3 1/4 pts @ \$50.85/gal					8.26	8.26
Move equip., setup & service						
@ 15% of operating time	.44	1.97	--	.07	--	2.04
Total	21.17	77.33	14.54	8.22	145.69	245.78
<u>MISC. OPERATION AND GROWING COSTS</u>						
Misc. Production & Operation costs						37.02
@ 11% of cultural costs						
Soc. Sec., comp. ins., bonuses, vac., etc. @ 20% of hourly wage						18.14
Additional charges for seasonal and part time labor @ 15% of cash wage (includes transportation, bookkeeping, crew supervision, etc.)						9.57
Pickup & truck use						2.00
Total						66.73
Total Growing Costs						394.21
Management charge @ 5% of Gross Income						68.75
- 25 Ton @ \$55/ton (1977 price)						
Taxes (land)						20.00
Total Costs Pre-Harvest						482.96
Pre-Harvest Cost Per Ton						(19.32)

TOMATOES - Continued

	Hours/ Acre	Cash & Labor Costs Per Acre				Total
		Labor	Fuel & Repaire Tractor	Implt.	Materials	
<u>HARVEST COSTS</u>						
Machine - 4 ac/day	2.5	--	--	42.98	--	42.98
Driver @ \$4.05 + pkg	2.9	12.67	--	--	--	12.67
Sorters - 14 @ \$3.24 + pkg	2.5	124.60	--	--	--	124.60
Trailers (3)	2.5	--	--	.76	--	.76
Drivers (3) @ \$3.49 + pkg	2.7	30.86	--	--	--	30.86
Tractors (3)	2.6	--	38.53	--	--	38.53
Forklift	2.9	--	--	8.99	--	8.99
Driver @ \$4.05 + pkg	2.9	12.67	--	--	--	12.67
Other Labor						
Swampers (2) @ \$3.24 + pkg	2.5	8.90	--	--	--	8.90
Mechanics @ \$5.38 (½ time)	1.3	6.99	--	--	--	6.99
Gen. Super. @ \$7.13 (½ time)	1.3	9.27	--	--	--	9.27
Misc. equip. (disc, scraper, wash equip., etc.) @ \$30/day						7.50
Misc. supplies (drinking water, sodas, goggles, etc.) @ \$25/day						6.25
Toilet facilities - 2 units						1.00
Inspection - 18¢/ton - 25 Ton						4.50
Container rental - 40¢/ton - 25 Ton						10.00
Rejected loads - 1.7% of harvested - 25% sort out						1.80
Misc. dues & charges -(Assoc., Mkt. order, leafhopper, etc) @ 15¢/ton						3.75
Soc. Sec., comp. ins., bonuses, vac., etc. @ 20% of cash wage						41.19
Additional charges for seasonal & part time labor (sorters, swampers, 1 trailer man, @ 15% of cash wage)						21.57
Misc. Production & Operation costs @ 11% of harvest cost						43.98
Pickup & truck use						<u>2.50</u>
Total Harvest Costs						441.26
Harvest Cost Per Ton						(17.65)
<u>INVESTMENT COSTS</u>						
Land - \$2200 @ 8%						176.00
Buildings						4.48
Irrigation Wells and Equipment						28.84
Tractors and Equipment						<u>151.60</u>
Total Investment Costs						<u>360.92</u>
TOTAL COSTS PER ACRE						\$1285.14
COST PER TON						\$51.41

COSTS OF PRODUCTION OF THE SHARE-RENT OR CASH RENT TOMATO GROWER

The share-rent or cash rent tomato grower would have the same annual cash costs as an owner-operator, except for the land tax and the rent paid. Fixed or overhead costs would be different. Investments in land, wells and pumps, and buildings need not be considered by the rent grower. These are the landlords costs. However, the rent operator does have to consider and include tractor and equipment fixed costs as part of his operational cost.

There is no set rental rate (share or cash) for tomatoes. The rental rates depend on many things such as the amount of costs or services shared or supplied, length of term of the lease, working agreement or relationship between landlord and rentor, productivity of soil, reliability of the grower, reputation of the landlord, competition between growers for available land, company for whom the tomatoes are grown, etc. The share rental rates vary from less than 15% to over 20%. The most common rates are in the 16% to 17% range.

The accompanying table presents the per ton costs of production, with four prices per ton and three rental rates for several yields. The cost per ton varies because at different yields the rent charges are different, management charges are different, and harvest efficiencies are different.

To show a few examples, the share-rent grower would have to figure his costs as follows (Cash rent growers would use the cash rent paid):

	20 TON @ \$55		25 TONS @ \$55/TON		30 TON @ \$55	
	17%	15%	17%	20%	17%	
Growing Cost to Harvest	\$414.21	\$414.21	\$414.21	\$414.21	\$414.21	\$414.21
+ Mgmt. charges @ 5% of Gross Income	55.00	68.75	68.75	68.75	68.75	82.50
- Land Tax	20.00	20.00	20.00	20.00	20.00	20.00
	<u>\$449.21</u>	<u>\$462.96</u>	<u>\$462.96</u>	<u>\$462.96</u>	<u>\$462.96</u>	<u>\$476.71</u>
+ Tractor & Equip. Cost	151.60	151.60	151.60	151.60	151.60	151.60
+ Harvest Costs	437.61	441.26	441.26	441.26	441.26	444.91
+ Rent	187.00	206.25	233.75	275.00	275.00	280.57
Total Costs Per Acre	<u>\$1225.42</u>	<u>\$1262.07</u>	<u>\$1289.57</u>	<u>\$1330.82</u>	<u>\$1330.82</u>	<u>\$1353.79</u>
Cost Per Ton	\$61.27	\$50.48	\$51.58	\$53.23	\$53.23	\$45.13

PER TON COSTS TO GROW TOMATOES

Under 4 Prices, 3 Rental Rates and Several Yields

Yield Tons/ Acre	\$45.00 Per Ton			\$50.00 Per Ton			\$55.00 Per Ton			\$60.00 Per Ton		
	15% Rent	17% Rent	20% Rent	15% Rent	17% Rent	20% Rent	15% Rent	17% Rent	20% Rent	15% Rent	17% Rent	20% Rent
10	106.61	107.51	108.86	107.61	108.61	110.20	108.61	109.71	111.36	109.61	110.81	112.61
15	74.32	75.22	76.57	75.32	76.32	77.82	76.32	77.42	79.07	77.32	78.52	80.32
20	58.17	59.07	60.42	59.17	60.17	61.67	60.17	61.27	62.92	61.17	62.37	64.17
23	51.85	52.75	54.10	52.85	53.85	55.35	53.85	54.95	56.60	54.85	56.05	57.85
25	48.48	49.38	50.73	49.48	50.48	51.96	50.48	51.58	53.23	51.48	52.68	54.48
28	44.33	45.23	46.58	45.33	46.33	47.83	46.33	47.43	49.08	47.33	48.53	50.33
30	42.02	42.92	44.27	43.02	44.02	45.52	44.02	45.13	46.77	45.02	46.22	48.02
35	37.41	38.31	39.66	38.41	39.41	40.91	39.41	40.51	42.16	40.41	41.61	43.41
40	33.95	34.85	36.20	34.95	35.95	37.45	35.95	37.05	38.70	36.95	38.15	39.95
45	31.26	32.16	33.51	32.26	33.26	34.76	33.26	34.36	36.01	34.26	35.46	37.26