



# SAMPLE COST OF

# PRODUCTION

1982

WOODLAND AREA

U.C. COOPERATIVE EXTENSION  
YOLO COUNTY  
70 COTTONWOOD STREET  
WOODLAND, CALIFORNIA 95695



## ACKNOWLEDGEMENTS

This Sample Cost of Production Study, Woodland Area - 1982, is developed in consultation with a group of Yolo County farmer cooperators. Their advice and counsel on crops to be considered, acreages, equipment needs and usage, and production practices formed the foundation upon which the enterprise study was based. We are grateful to each of them for volunteering their time and knowledge for making the study as practical as possible.

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Prepared by  
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## INTRODUCTION

This 1982 cost study provides information on estimated costs of growing crops of major importance in Yolo County. Five field and vegetable crops commonly grown in the Woodland area were chosen for study. For purposes of the study, a hypothetical farming operation was developed based on the minimum acreage of each crop that might be considered an efficient unit, for that crop, as part of the total enterprise.

### Hypothetical Farming Enterprise

<u>Crops</u>	<u>Acres</u>
Alfalfa	400
Corn	600
Sugar Beets	300
Tomatoes	700
Wheat	900
<hr/>	
Total	2,900

The study is aimed at answering questions on production costs and potential returns using local production practices. Figures given represent estimates, not actual costs. Actual costs will vary from farm to farm because of differences in soil, size of operation, equipment used, crop rotations, wage rates, water costs, etc. Growers are urged to use their own data in arriving at true costs for their own farming operations.

### EQUIPMENT:

Tractors and implements used in this farming operation are listed on page 24. Equipment costs are divided into cash and non-cash costs.

Cash costs include: Fuel and oil, repairs, insurance and taxes.

Non-cash costs include: Depreciation and interest on investment in equipment.

The equipment table includes: Original cost, hours of operation, cash, non-cash and total hourly charges for tractors and implements. Generally speaking, the more hours a piece of equipment is used, the lower will be its cost per hour of operation. Some farming operations (i.e. alfalfa harvesting) are done on a custom basis at prevailing custom rates in the Woodland area. A few pieces of rental equipment are utilized in the operation.

### COUNTY EQUIPMENT TAX:

The tax rate used is 1.167% of the assessed value. For this cost study, assessed value is 65% of original cost.

Original cost x 65% x 1.167% = tax on equipment

Note: In practice, county assessed value is more accurately determined by the use of tables.

EQUIPMENT INSURANCE:

Insurance is charged at \$7.00 per \$1,000 of insured value. Insured value is estimated at 65% of original cost.

Original cost x 65% of 0.7% = insurance cost

INTEREST ON INVESTMENT IN EQUIPMENT:

Interest on equipment investment is charged at 16.5% simple annual interest. The study uses average interest over the life of equipment.

$\frac{\text{Original cost} \times 16.5\%}{2} = \text{interest on equipment}$

Interest charges are divided equally into cash and non-cash costs. Cash interest charges represent the operator's equipment loan costs; non-cash interest charges represent interest on the operator's equity or investment in equipment. Cash interest charges appear as "Equipment Loan Interest Cost"; non-cash interest charges appear under "Investment Costs" as interest and depreciation.

EQUIPMENT REPAIRS:

Repair costs are taken from University of California publication "Farm Machinery Costs" leaflet 2263 (revised May 1981). Costs are adjusted to 1982 prices. Average repair costs for machinery life are used. When available and appropriate, local grower repair costs are used.

FUEL COSTS:

Fuel requirements are calculated from University of California publication AXT 336, "Machinery Costs and Performance."

Type Tractor	Gallons Fuel Per Hour Per Drawbar Horsepower at 75% Maximum Rating
Diesel wheel engine	.065
Diesel tracklayer	.075

Flywheel HP x 86% = PTO HP (approximation)

PTO HP x 86% = drawbar HP

Fuel price + 10% (for lube + oil + filters) = fuel costs

Diesel                    \$1.04 + \$0.10 = \$1.14/gallon

Unleaded gasoline      \$1.27 + \$0.13 = \$1.40/gallon

Example: 144 drawbar HP tracklayer:

$$144 \times 75\% \text{ max. pull} = 108 \text{ HP} \times \frac{0.075 \text{ gal.}}{\text{hr.} \times \text{HP}} = \frac{8.1 \text{ gal.}}{\text{hr.}} \times \$1.14 = \$9.23/\text{hr.}$$

150 HP wheel engine (PTO):

$$150 \times 86\% \times 75\% \times 0.065 = 6.29 \times \$1.14 = \$7.17/\text{hr.}$$

Pickup and truck fuel requirements are taken from University of California leaflet 2263.

WATER COSTS:

Water costs for this 2,900 acre farm are computed on the basis of using 1/2 irrigation district water (canal delivery system) and 1/2 well water.

Irrigation district water - \$8.50/acre foot

Well water pumped - \$19.16/acre foot (power & standby charge)

The average cost is \$13.83 per acre foot on 1/2 canal and 1/2 well usage.

Power cost for pumped water is based on a 405' well, a 125' lift, and a 75 HP turbine operating at 65% efficiency.

In the study, no investment costs for the wells and pumps are charged because all land is rented (landowner cost).

Note: Total costs of pumping for an operator owning his own pumps and wells would be:

\$19.16 power (including demand charge)

1.50 taxes, insurance, and repairs

8.52 interest and depreciation (20 year life)

\$29.18 per acre foot

These costs are based on pumping 570 acre feet per year.

BUILDINGS:

A \$155,000 investment in farm buildings is assumed for the study. The primary building is a fully equipped farm shop with storage for chemicals, fertilizer and seed. A used \$5,000 forklift is included in the shop.

Building costs are equally distributed over 2,900 acres.

\$155,000 original cost:

\$ 7,750 - depreciation (20 year life)  
11,625 - interest on average investment at 15%  
1,176 - taxes: original cost x 65% x 1.167%  
705 - insurance: original cost x 65% x 0.7%  
1,550 - repairs and maintenance: 1% of original cost

$\$22,806 / 2,900 \text{ acres} = \$7.86/\text{acre}$   
 $\$1.18 \text{ cash cost}$

\$6.68 fixed (depreciation and interest)

LAND RENT:

All ground is leased. No charges are made for land taxes, investment costs of land or pumps and wells.

Rental charges are listed as percent of gross income to the landlord:

<u>Crop</u>	<u>Percent</u>
Alfalfa	25
Barley	40 (33-40)
Beans	25 single crop
Beans	20 double crop
Corn	25 + 25% share drying costs
Corn	20 double crop + share drying
Milo	25 single or double crop
Safflower	25
Sugar beets	20
Tomatoes	17 (15-18)
Wheat	40 (33-40)

These are estimated share rent charges, actual rental charges may vary.

LABOR COSTS:

The labor rates are estimated to be representative of the Woodland area. Actual labor rates vary from farm to farm. All labor costs, wages and benefits, are charged directly to operations.

	Wages + Benefits	Total Cost Per Hour
General labor	3.75 + 1.28 =	\$5.03
Type A tractor driver (precision work)	4.70 + 1.60 =	6.30
Type B tractor driver (general tractor skills)	4.35 + 1.48 =	5.83
Irrigators	4.00 + 1.36 =	5.36
Tomato harvester operator	5.25 + 1.79 =	7.04
Benefits:		
Social Security	)	
Workman's Compensation	)	
Holidays	)	
Unemployment Insurance	) Estimated at 34% of cash wages	
Health Insurance	)	
Bonuses	)	
Pensions	)	

PRODUCTION LOAN INTEREST COST:

All cash costs are funded by production loans. Production loans are reduced, during the year, as income is received from crop sales. It is assumed that income is received 30 days after crop harvest. Loan interest is charged at 16.5% simple annual interest. Loan interest calculations are made on an independent, crop by crop basis. Production loan costs would be less (for the overall enterprise) if the cash flow among crops had been integrated and if a beginning cash reserve had been used. On the other hand, production loan costs will be much higher for those operators who store crops for later sale or for those operators whose crop income payments are withheld for several months.

COMMON COSTS:

The miscellaneous equipment, miscellaneous labor and supplies, trucks and pickups are needed for the overall farm operation. Costs are spread to specific crops on a percentage of gross income basis.

Crops	Yield	Price/ Unit	Acres	Gross Farm Income	% of Gross
Alfalfa	7 tons	x \$80.00	x 400 =	\$224,000	\$224,000/\$2,066,000 = 10.8%
Wheat	55 cwt	x \$ 7.00	x 900 =	\$346,500	\$346,500/\$2,066,000 = 16.8%
Corn	90 cwt	x \$ 6.00	x 600 =	\$324,000	\$324,000/\$2,066,000 = 15.7%
Sugar beets	25 tons	x \$33.00	x 300 =	\$247,500	\$247,500/\$2,066,000 = 12.5%
Tomatoes	24 tons	x \$55.00	x 700 =	\$924,000	\$924,000/\$2,066,000 = 44.7%
TOTAL:				\$2,066,000	100%

Expenses that were distributed by this spread method were:

A. Supervisory labor and office expenses:

2 foremen (salaries and benefits)  
 Bookkeeping and tax reports  
 Office supplies, telephone, postage, etc.  
 Liability insurance  
 Attorney's fees and association fees, etc.

B. Miscellaneous Equipment:

Low bed and tractor (used)  
 Equipment carrier  
 Small "cleanup" disc  
 Angle blade

C. Pickups and truck:

2-ton truck  
 (2) 3/4 ton pickups  
 (2) Economy-size pickups

RETURN TO MANAGEMENT:

Return to management should be a consideration. However, costs may not be cash costs unless a professional manager was hired. Returns for management generally are figured at 5% of the gross income.



Alfalfa Hay (Cost to Establish and Destroy)  
 100 Acres/Year - following wheat  
 (Wheat straw baled or burned - One stubble discing charged to wheat)  
 (50 acres sprinkled up in Fall + 50 acres germinated by Fall rains)

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Impls.
		Labor	Tractor	Implt.	Material	TOTAL	
<b>COSTS TO ESTABLISH:</b>							
<b>Seed Bed Preparation:</b>							
Disc 1X	.13	.76	2.19	.86	--	3.81	2.92
Chisel 1X	.40	2.33	7.56	2.22	--	12.11	5.52
Tri-plane 1X	.17	.99	2.86	.45	--	4.30	3.51
Furrow	.25	1.46	2.83	.33	--	4.62	2.07
Pull & close ditch 1X	.05	.29	.84	.09	--	1.22	1.11
Pre-irrigate 8" water (1/2 surface 1/2 pump)	1.25	6.70	--	--	9.22	15.92	--
Springtooth 3X	.25	1.46	4.20	1.09	--	6.75	6.67
Tri-plane 2X	.34	1.98	5.71	.89	--	8.58	7.01
Pull checks 1X	.05	.32	.57	.29	--	1.18	1.99
Shape checks 2X (shaper rented)	.10	.63	1.13	1.00	--	2.76	.73
Tri-plane middles 1X	.17	.99	2.86	.45	--	4.30	3.51
Harrow & Roll 1X	.08	.47	1.34	.47	--	2.28	2.45
Plant brillion (planter rented)	.25	1.58	1.62	.50	--	3.70	1.17
Seed (20#/acre)	--	--	--	--	50.00	50.00	--
Sprinkle up 1/2 at \$72.30/acre	1.56	8.36	--	23.16	4.63	36.15	1.84
<b>Weed control:</b>							
Material	--	--	--	--	6.70	6.70	--
Aircraft	--	--	--	--	4.50	4.50	--
Misc. equipment use	--	.32	.35	.42	--	1.09	1.15
Move equip., setup & service @ 10% of labor cost	--	1.36	--	--	--	1.36	--
Pickup and truck use	--	--	--	3.77	--	3.77	3.61
<b>TOTAL:</b>		<b>\$30.00</b>	<b>\$34.06</b>	<b>\$35.99</b>	<b>\$75.05</b>	<b>\$175.10</b>	
Supervisors salaries, accounting, office expense						\$ 15.89	
Equip. loan interest cost						11.83	
<b>TOTAL CASH COSTS TO ESTABLISH:</b>						<b>\$202.82</b>	

	Hours/ Acre	Cash Costs Per Acre				TOTAL	Int. & Deprec. Trac. & Implt.
		Labor	Tractor	Implt.	Material		
<u>COSTS TO DESTROY:</u>							
Stubble disc border 1X	.06	.32	1.01	.56	--	1.89	1.55
Plow 1X	.40	2.33	4.53	2.80	--	9.66	5.88
Move equip., setup & service @ 10% of labor costs	--	.27	--	--	--	.27	
TOTAL:		\$ 2.92	\$ 5.54	\$ 3.36		\$ 11.82	
Equip. loan interest cost						1.91	
Cash Costs to Destroy:						\$ 13.73	
TOTAL CASH COSTS:						\$216.55	
<u>INVESTMENT COSTS:</u>							
Tractors & Impls. (Interest & Deprec.)						38.95	
TOTAL ALL COSTS TO ESTABLISH & DESTROY:						\$255.50	

Alfalfa Hay (4 year life)  
 400 Acres on a 2,900 Acre Farm  
 Lease Basis - 25% of Gross Sales to Landlord  
 Yield 7 Tons

	Hours/ Acre	Cash Costs Per Acre					TOTAL	Int. & Deprec. Trac. & Impls.
		Labor	Tractor	Implt.	Material			
<b>CASH GROWING COSTS:</b>								
Irrigate 8X @ \$5.36/hr	5.0	26.80	--	--	--	26.80	--	
Water (cash cost 4 ac. ft.) (1/2 pump @ \$19.16 (1/2 surface @ \$8.50)	--	--	--	--	55.32	55.32	--	
Ditch (open & close) 2X Insect control 2.5X	.10	.58	1.68	.18	--	2.44	2.23	
Materials	--	--	--	--	16.75	16.75	--	
Airplane apply	--	--	--	--	11.25	11.25	--	
Winter weed control								
Materials	--	--	--	--	29.00	29.00	--	
Ground application (custom)	--	--	--	--	6.00	6.00	--	
Misc. equipment use	--	.24	.26	.32	--	.82	1.15	
Pickup and truck use	--	--	--	2.83	--	2.83	2.71	
Move equip., setup & service @ 10% of labor costs	--	.08	--	--	--	.08	--	
<b>TOTAL:</b>		<b>\$27.70</b>	<b>\$ 1.94</b>	<b>\$3.33</b>	<b>\$118.32</b>	<b>\$151.29</b>		
Supervisors salaries, accounting, office expense						15.89		
Buildings (taxes, ins., repairs)						1.18		
Production loan interest cost						14.42		
Equipment loan interest cost						1.38		
<b>TOTAL PREHARVEST CASH COSTS:</b>						<b>\$184.16</b>		
Harvest costs (contract @ \$24/ton X 7 tons/acre)						168.00		
Total cash expenses per acre						352.16		
Landlord share - 25% of 7 tons @ \$80/ton						140.00		
<b>TOTAL CASH COSTS PER YEAR:</b>						<b>\$492.16</b>		

Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Implt.
	Labor	Tractor	Implt.	Material	TOTAL	
<u>INVESTMENT COSTS:</u>						
Buildings (interest & depreciation						6.68
Tractors & Implts. (interest & deprec.)						4.72
Stand establishment \$255.50 (depreciation \$63.88 - interest on investment \$21.08)						<u>84.96</u>
<u>TOTAL INVESTMENT COSTS:</u>						\$ 96.36
<u>TOTAL COSTS PER ACRE:</u>						<u>\$588.52</u>
<u>COSTS PER TON:</u>						\$ 84.07

<u>Cost Per Ton at Various Yields</u>	
5 tons	\$100.10
6 tons	90.75
7 tons	84.07
8 tons	79.07
9 tons	75.17

Management fee @ 5% of gross income: \$ 28.00  
 (usual charge for management not included in this study)

Field Corn  
 600 Acres Following Wheat, Corn, Alfalfa or Sugar Beets on a 2,900 Acre Farm  
 Lease Basis - 25% of Gross Sales to Landlord (Landlord pays 25% of Drying Costs)  
 Yield - 9,000 Lbs/Acre

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Implts.
		Labor	Tractor	Implt.	Material	Total	
<u>Seed Bed Preparation:</u>							
<u>Fall:</u>							
Plow (1/2 acreage)	.20	1.17	2.27	1.40	---	4.84	2.94
Subsoil & roll (1/2 acreage)	.20	1.17	3.78	1.11	---	6.06	2.76
Triplane 2X	.34	1.98	5.72	.89	---	8.59	7.01
<u>Spring:</u>							
Springtooth 2X	.16	.93	2.69	.70	--	4.32	4.26
List up beds	.25	1.46	2.38	.33	--	4.17	1.90
Rolling cultivator	.20	1.17	1.29	.57	--	3.03	1.62
Move equip., setup & service @ 10% of labor costs	.14	.79	--	--	--	.79	--
TOTAL:		\$8.67	\$18.13	\$5.00	--	\$31.80	
<u>Planting:</u>							
Plant	.33	2.08	2.71	1.93	--	6.72	3.04
Seed 18 lbs @ \$1.27/lb	--	--	--	--	22.86	22.86	--
Starter fertilizer @ 15 gals/acre @ 1.75 gal. + \$1.50 zinc	--	--	--	--	27.75	27.75	--
Move equip., setup & service @ 20% of labor costs	.07	.42	--	--	--	.42	--
TOTAL:		\$2.50	\$ 2.71	\$1.93	\$50.61	\$57.75	
<u>Growing Costs:</u>							
Rolling cultivator	.20	1.26	1.29	.57	--	3.12	1.62
Furrow & sidedress	.29	1.83	2.76	.53	--	5.12	2.35
200 lbs. N @ 23¢/lb	--	--	--	--	46.00	46.00	--
Ditch & close 2X	.10	.58	1.68	.18	--	2.44	2.23
Irrigate 6X @ 1.25 hrs/acre	--	40.20	--	--	--	40.20	--
Water 1½ ac. ft. @ \$8.50	--	--	--	--	12.75	12.75	--
1½ ac. ft. well @ \$19.16	--	--	--	--	28.74	28.74	--

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Impt.
		Labor	Tractor	Implt.	Material	TOTAL	
<u>Growing Costs - cont.</u>							
Herbicide - ground rig	.17	.99	1.10	.11	--	2.20	.88
2,4-D amine @ 8 oz.	--	--	--	--	1.33	1.33	--
Miticide - custom	--	--	--	--	4.50	4.50	--
Material	--	--	--	--	8.00	8.00	--
Move equip., setup & service @ 15% of labor costs	.11	.70	--	--	--	.70	--
TOTAL:		\$45.56	\$6.83	\$1.39	\$101.32	\$155.10	--
<u>Miscellaneous Costs:</u>							
Supervisors salaries, accounting, office expense	--	--	--	--	--	\$ 19.26	--
Production loan interest cost	--	--	--	--	--	23.67	--
Pickup and truck use	--	--	3.66	--	--	3.66	3.50
Misc. equipment use	--	.31	.34	.41	--	1.06	1.40
Equipment loan interest cost	--	--	--	--	--	15.10	--
Building (taxes, ins., repairs)	--	--	--	--	--	1.18	--
TOTAL:		.31	\$4.00	\$ .41	--	\$ 63.93	--
<u>Harvest Costs:</u>							
Combine	.29	1.83	9.09	1.76	--	12.68	18.43
Bankout wagon	.29	1.69	1.23	.21	--	3.13	1.69
Drying (custom)	--	--	--	--	11.25	11.25	--
TOTAL:		\$3.52	\$10.32	\$1.97	\$11.25	\$ 27.06	--
<u>Post Harvest Costs:</u>							
Stubble disc	.22	1.28	3.70	2.06	--	7.04	5.68
<u>TOTAL CULTURAL AND HARVEST COSTS:</u>						\$342.68	
Share rent - 25% of gross less 25% of drying costs - 90 cwt. @ \$6.00/cwt.						132.19	
<u>TOTAL CASH COSTS:</u>						\$474.87	

Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Implt.
	Labor	Tractor	Implt.	Material	TOTAL	
<u>Investment Costs:</u>						
Buildings (interest & deprec.)						6.68
Tractors & Implt. (interest & deprec.)						<u>46.22</u>
TOTAL:						\$ 52.90
TOTAL COST PER ACRE:						
Cost Per 100 wt.						5.86
Management fee @ 5% of gross income - 90 cwt. @ \$6.00/cwt. (usual charge for management not included in this study.)						\$ 27.00

Sugar Beets  
300 Acres - Following Wheat  
Spring Planting/Fall Harvest  
25 Tons/Acre - 15% Sugar

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Impls.
		Labor	Tractor	Implt.	Material	TOTAL	
<u>GROUND PREPARATION:</u>							
<u>Fall:</u>							
Subsoil with large roller 2X	.80	4.66	15.12	4.43	--	24.21	1.04
Tri-plane 2X	.34	1.98	5.72	.89	--	8.59	7.01
Disc 2X	.26	1.52	4.37	1.72	--	7.61	5.85
List beds	.25	1.58	2.38	.33	--	4.29	1.90
Paraquat by air	--	--	--	--	18.63	18.63	--
<u>Spring:</u>							
Rolling cultivator 2X	.40	2.33	2.59	1.13	--	6.05	3.23
Move equip., setup & service @ 10% of labor costs	--	1.21	--	--	--	1.21	--
TOTAL:		\$13.28	\$30.18	\$ 8.50	\$18.63	\$70.59	
<u>PLANTING:</u>							
Apply fert., incorporate herbicide & plant (2 people)	.40	4.53	4.53	1.60	--	10.66	6.33
Seed 3# @ \$3.50/#	--	--	--	--	10.50	10.50	--
Herbicide 10"x30" area	--	--	--	--	10.67	10.67	--
Starter fertilizer 10 gal. @ \$1.75/gal + \$1.50/A Zn	--	--	--	--	19.00	19.00	--
Move equip., setup & service @ 20% of labor costs	--	.91	--	--	--	.91	--
TOTAL:		\$5.44	\$ 4.53	\$ 1.60	\$40.17	\$51.74	
<u>GROWING COSTS:</u>							
Cultivate	.29	1.83	2.76	.38	--	4.97	2.20
Flat roll	.12	.70	.78	.22	--	1.70	1.80
Thin (electronic)	.33	2.08	2.14	2.04	--	6.26	5.25
Hoe @ \$5.03/hr.	15.00	75.45	--	--	--	75.45	--
Fertilize 100# N @ 23¢/lb.	.33	1.92	2.71	.61	23.00	28.24	2.35



	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Impls.
		Labor	Tractor	Implt.	Material	TOTAL	
<u>GROWING COSTS - cont.</u>							
Layby herbicide with rolling cultivator	.25	1.46	2.06	.85	7.50	11.87	2.39
Rolling cultivator	.20	1.17	1.64	.57	--	3.38	1.80
Irrigate 7X @ 1.25 hrs/acre	8.75	46.90	--	--	--	46.90	--
Water 4.5 acre/ft. @ \$13.83	--	--	--	--	62.24	62.24	--
Misc. equip. use (shovels, dams, etc.)	--	--	--	--	2.00	2.00	--
V ditch cut & fill 3X	.15	.95	2.52	.27	--	3.74	3.34
Insect & disease control							
Airplane 3-1/3 X @ \$4.85/acre	--	--	--	--	16.17	16.17	--
Cutworm bait (1/3 acres)	--	--	--	--	6.40	6.40	--
Worms	--	--	--	--	10.55	10.55	--
Mildew 2X sulfur	--	--	--	--	7.80	7.80	--
Move equip., setup & service @ 15% of labor costs (less hoeing, irrig.)	--	1.52	--	--	--	1.52	--
TOTAL:		\$133.98	\$14.61	\$ 4.94	\$135.66	\$289.19	
<u>MISC. GROWING COSTS:</u>							
Pickup and truck use	--	--	--	--	5.59	5.59	5.35
Supervisors' salaries, accounting, office expense	--	--	--	--	29.44	29.44	--
Building (taxes, ins., repairs)	--	--	--	--	1.18	1.18	6.68
Misc. equipment use	--	.47	.52	.54	--	1.53	2.14
Production loan interest cost	--	--	--	--	36.98	36.98	--
Equipment loan interest cost	--	--	15.41	--	--	15.41	--
TOTAL:		\$ .47	\$15.93	\$ .54	\$ 73.19	\$ 90.13	
TOTAL PRODUCTION COSTS:		\$153.17	\$65.25	\$15.58	\$267.65	\$501.65	
<u>HARVEST COSTS: (Custom)</u>							
Top & dig \$2.00/ton x 25 ton	--	--	--	--	--	50.00	--
Haul \$2.10/ton x 25 ton	--	--	--	--	--	52.50	--
TOTAL HARVEST COSTS:						\$102.50	

	Hours/ Acre	Cash Costs Per Acre				TOTAL	Int. & Deprec. Trac. & Implt.
		Labor	Tractor	Implt.	Material		
<b>TOTAL COST OF PRODUCTION &amp; HARVEST:</b>						\$604.15	
Land Rent - 20% x 25 ton @ \$33/ton						165.00	
<b>TOTAL:</b>						<u>\$769.15</u>	
<b>INVESTMENT COSTS:</b>							
Building (interest & depreciation)						6.68	
Tractors & Implts. (Int. & deprec.)						46.57	
<b>TOTAL INVESTMENT COST:</b>						<u>\$ 53.25</u>	
<b>TOTAL ALL COSTS/ACRE:</b>							<u>\$822.40</u>

<u>SUMMARY:</u>	<u>Cash Cost/A</u>	<u>Non-cash cost/A</u>	<u>Total</u>
Growing	\$501.65	\$ 53.25	\$554.90
Harvest	102.50	--	102.50
Landowner	165.00	--	165.00
<b>Total:</b>	<u>\$769.15</u>	<u>\$ 53.25</u>	<u>\$822.40</u>

	<u>\$/ton - 25 tons/acre - 15% sugar</u>		
Growing	\$ 20.07	\$ 2.13	\$ 22.20
Harvest	4.10	--	4.10
Landowner	6.60	--	6.60
<b>Total:</b>	<u>\$ 30.77</u>	<u>\$ 2.13</u>	<u>\$ 32.90</u>

	<u>\$/ton - 30 tons/acre - 15% sugar</u>		
Growing	\$ 16.72	\$ 1.78	\$ 18.50
Harvest	4.10	--	4.10
Landowner	6.60	--	6.60
<b>Total:</b>	<u>\$ 27.42</u>	<u>\$ 1.78</u>	<u>\$ 29.20</u>

Management fee @ 5% of gross income:  
(usual charge for management not included in this study)

\$41.25/Acre

Tomatoes  
 24 tons/acre (5 year historical county average)  
 700 acres in rotation following wheat or corn (1/2 each)  
 Two machine operation (both electronic)

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Impls.
		Labor	Tractor	Implt.	Material	TOTAL	
<u>Seed Bed Preparation:</u>							
<u>Fall Work:</u>							
Plow 1/2 acres @ .4 hr/acre	.20	1.26	2.27	1.40	--	4.93	2.94
Laserplane 10% acres @ \$143/A custom	--	--	--	--	14.30	14.30	--
Subsoil 1/2 acres 2X	.40	2.33	7.56	2.22	--	12.11	5.52
Tri-plane 2X	.34	1.98	5.72	.89	--	8.59	7.00
Disc 1/2X	.07	.41	1.18	.46	--	2.05	1.57
List 1/2 acres fall season bedded							
Without nematicide 1/4 acres	.06	.38	.57	.08	--	1.03	.46
With nematicide (1/4 acres) 3/5 area	.09	.57	.86	.12	12.84	14.39	.68
Fall applied herbicide 1/4 acres	.03	.17	.19	.04	3.17	3.57	.17
Contact herbicide 3/4 acres by air	--	--	--	--	18.63	18.63	--
<u>Spring Work:</u>							
Disc 1/2 acres 2X	.13	.76	2.19	.86	--	3.81	2.92
Swede harrow & roller 1/2 acres 2X	.08	.47	1.34	.47	--	2.28	2.45
List 1/2 acres @ .26 hrs/acre	.13	.82	1.24	.17	--	2.23	.99
Rolling cultivator 1/2 acres 2X	.17	.99	1.39	.48	--	2.86	1.54
Move equip., setup & service @ 10% of labor costs	--	1.01	--	--	--	1.01	--
TOTAL:		\$11.15	\$24.51	\$7.19	\$48.94	\$ 91.79	
<u>Planting:</u>							
Incorporate herbicide, 40% of bed	.04	2.52	4.53	1.60	26.80	35.45	6.33
Plant (double rows) two people	.33	3.74	3.14	2.58	--	9.46	4.20
Seed 40% hybrid @ \$180/# X 1/2#	--	--	--	--	36.00	36.00	--
60% standard @ \$25/# X 1.75#	--	--	--	--	26.24	26.25	--
Fertilizer 18 gal.	--	--	--	--	33.00	33.00	--
Move equip., setup & service @ 20% of labor costs	--	1.25	--	--	--	1.25	--
TOTAL:		\$7.51	\$7.67	\$4.18	\$122.05	\$141.41	

	Hours/ Acre	Cash Costs Per Acre					TOTAL	Int. & Deprec. Trac. & Implt.
		Labor	Tractor	Implt.	Material			
<b>GROWING COSTS:</b>								
Cultivate	.25	1.58	2.38	.33	--	4.29	1.90	
Thin (electronic) non-hybrid 60% @ .33 hr/acre	.20	1.26	1.29	1.23	--	3.78	3.19	
Hoe	--	60.00	--	--	--	60.00	--	
Fertilize 100# N @ 23¢/#	.33	2.08	2.71	.61	23.00	28.40	2.35	
V ditch (open & close) 3X	.15	.95	2.52	.27	--	3.74	3.35	
Irrigate 7X @ 1.25 hr/acre	8.75	46.90	--	--	--	46.90	--	
Water 4 acre ft. @ \$13.83	--	--	--	--	55.32	55.32	--	
Misc. equip. (shovels, dams)	--	--	--	--	2.00	2.00	--	
Sprinkle for germination 1/2 acres 2X	--	6.73	--	7.42	--	14.15	21.77	
Layby herbicide	.40	2.52	4.53	1.60	7.50	16.15	6.33	
Cultivate	.29	1.83	2.38	.38	--	4.59	1.92	
Cultivate w/hi crop	.33	2.08	2.71	.43	--	5.22	2.18	
Vine trainer	.13	.82	1.07	.11	--	2.00	1.26	
<b>Growing Costs-Insect Control:</b>								
Airplane application 3.5X @ \$4.85	--	--	--	--	16.98	16.98	--	
Flea beetle control 1/4 acres	--	--	--	--	1.36	1.36	--	
Bait cutworms 1/4 acres	--	--	--	--	4.80	4.80	--	
Worm control 2X	--	--	--	--	37.39	37.39	--	
Sulfur dust 35#	--	--	--	--	4.55	4.55	--	
Mold control applied with insecticide 1/3 acres 1X	--	--	--	--	5.84	5.84	--	
1/3 acres 2X	--	--	--	--	11.69	11.69	--	
Ethephon 1/5 acres	.01	.63	.65	.12	6.00	7.40	--	
Whitewash 1/5 acres (custom)	--	--	--	--	6.30	6.30	.57	
Move equip., setup & service @ 15% of labor costs (less hoeing & irrig.)	--	2.06	--	--	--	2.06	--	
<b>TOTAL</b>		<b>\$129.44</b>	<b>\$20.24</b>	<b>\$12.50</b>	<b>\$182.73</b>	<b>\$344.91</b>		
<b>Miscellaneous Costs:</b>								
Pickup and truck use	--	--	--	--	5.95	5.95	5.69	
Supervisors' salaries, accounting, office expense	--	--	--	--	31.33	31.33	--	

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Implt.
		Labor	Tractor	Implt.	Material	TOTAL	
<u>Misc. Costs - cont.</u>							
Misc. equipment use	--	.50	.55	.57	--	1.62	2.29
Building (taxes, ins., repairs)	--	--	--	--	.79	.79	4.45
Production loan interest cost	--	--	--	--	33.56	33.56	--
Equipment loan interest cost	--	--	21.45	--	--	21.45	--
TOTAL:		.50	\$22.00	\$ .57	\$ 71.63	\$ 94.70	
TOTAL PRODUCTION COSTS:		\$148.60	\$74.42	\$24.44	\$425.35	\$672.81	
<u>HARVEST EXPENSE:</u>							
New machine 3/4 (14 acres ) (525 acres) (2-10 hr. shifts)	1.07	--	25.97	--	--	25.97	64.40
2nd machine 1/4 (7 acres) (175 acres) (10 hrs.)	.36	--	20.73	--	--	20.73	32.54
Driver @ \$7.04/hr	1.43	10.07	--	--	--	10.07	--
6 Sorters @ \$5.03/hr	1.43	43.16	--	--	--	43.16	--
4 Dollies	1.43	--	--	.92	--	.92	.73
(2) tractor + driver 3/4 acres @ \$5.83	1.07	12.48	20.33	--	--	32.81	14.10
1 tractor + driver 1/4 acres @ \$5.83	.36	2.10	4.08	--	--	6.18	2.61
Avenue opener 7% of time - no additional tractor + driver	.10	--	--	.39	--	.39	3.53
Lighting system	.52	--	--	.35	--	.35	.96
Misc. equip. @ \$40/day x 18 A/day	--	--	--	--	2.22	2.22	--
Misc. supplies - \$25/day	--	--	--	--	1.38	1.38	--
Toilet facilities	--	--	--	--	.34	.34	--
Inspection - 17¢/ton	--	--	--	--	4.08	4.08	--
Misc. (association, CTRI, leafhopper, 24.1¢/ton	--	--	--	--	5.78	5.78	--
Reject loads 1.0% of harvest (no re-sort)	--	--	--	--	1.85	1.85	--
Mechanic 1/2 X @ \$9.38/hr.	1.43	6.71	--	--	--	6.71	--
Pickup and truck use	--	--	--	--	2.98	2.98	2.85
Supervisors' salaries, accounting, office expense	--	--	--	--	15.67	15.67	--
Building (taxes, ins., repairs)	--	--	--	--	.39	.39	2.23
Misc. equip. use (low bed, etc.)	--	.25	.28	.29	--	.82	1.13

	Hours/ Acre	Cash Costs Per Acre				TOTAL	Int. & Deprec. Trac. & Implt.
		Labor	Tractor	Implt.	Material		
<b>Harvest Expense - cont.</b>							
Equip. loan interest cost	--	--	20.12	--	--	20.12	--
Move equip., setup, service & clean @ 15% of labor costs (less sorters)	--	4.70	--	--	--	4.70	
<b>TOTAL CASH HARVEST COSTS:</b>		<u>\$79.47</u>	<u>\$91.51</u>	<u>\$1.95</u>	<u>\$34.69</u>	<u>\$207.62</u>	

<u>Total Harvest Costs</u>	
Cash Harvest Costs	\$207.62
Equip. (Int. & Deprec.)	104.96
<b>Total:</b>	<u>\$312.58</u>

Total Cash Cost Production & Harvest	\$ 880.43
Landlord share (17% x \$55/ton x 24 tons)	224.40
<b>TOTAL:</b>	<u>\$1,104.83</u>

**Investment Costs:**

Buildings (interest & deprec.)	6.68
Tractors & implts. (int. & deprec.)	170.85
<b>TOTAL:</b>	<u>\$ 177.53</u>

**TOTAL ALL COSTS PER ACRE:** \$1,282.36

**SUMMARY:**

<u>\$/Acre @ 24 tons/acre</u>				<u>\$/Ton - 24 tons/acre</u>			
	Cash	Non-Cash	Total		Cash	Non-Cash	Total
Growing	\$ 672.81	\$ 72.57	\$ 745.38	Growing	\$28.04	\$ 3.02	\$31.06
Harvest	207.62	104.96	312.58	Harvest	8.65	4.37	13.02
Landlord	224.40	--	224.40	Landlord	9.35	--	9.35
<b>Total:</b>	<u>\$1,104.83</u>	<u>\$177.53</u>	<u>\$1,282.36</u>	<b>Total:</b>	<u>\$46.04</u>	<u>\$ 7.39</u>	<u>\$53.43</u>

<u>Dollars Per Ton</u>	<u>20 ton</u>	<u>25 ton</u>	<u>30 ton</u>
Cash growing costs	\$33.64	\$26.91	\$22.43
Non-cash growing costs	3.63	2.90	2.42
Cash harvest costs	8.87	8.61	8.58
Non-cash harvest costs	5.25	4.20	3.50
Landlord - 17% @ \$55/ton	9.35	9.35	9.35
<b>Total</b>	<u>\$60.74</u>	<u>\$51.97</u>	<u>\$46.28</u>

Management fee @ 5% of gross income

\$66.00/A

(usual charge for management not included in this study.) (20)

Wheat  
 900 Acres Following Tomatoes, Corn or Alfalfa on a 2,900 Acre Farm  
 Lease Basis - 40% of Gross Sales to Landlord  
 Yield - 5,500 Lbs/Acre

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Impls.
		Labor	Tractor	Implt.	Material	TOTAL	
<u>Seed Bed Preparation:</u>							
Disc 2X	.26	1.52	4.37	1.72	--	7.61	5.85
Fertilize (1/2 acreage)	.05	.29	.84	--	--	1.13	.85
Rent tag-a-long @ \$2.00/acre	--	--	--	--	1.00	1.00	--
Nitrogen 100 lbs N @ 23¢/lb.	--	--	--	--	11.50	11.50	--
Ridge for irrigation (1/2 acreage)	.03	.19	.34	.17	--	.70	1.20
List up beds (1/2 acreage)	.13	.76	1.24	.17	--	2.17	.99
Harrow & roll	.08	.47	1.34	.46	--	2.27	2.45
Move equip., setup & service @ 10% of labor costs	.06	.32	--	--	--	.32	--
TOTAL:		\$ 3.55	\$ 8.13	\$ 2.52	\$12.50	\$26.70	
<u>Planting:</u>							
Drill & fertilize	.13	.82	.84	1.16	--	2.82	2.68
Seed 120 lbs @ \$12/cwt	--	--	--	--	14.40	14.40	--
Starter fertilizer N+P 80 lbs. @ 13.6¢/lb	--	--	--	--	10.88	10.88	--
Move equip., setup & service @ 20% of labor costs	.03	.16	--	--	--	.16	--
TOTAL:		\$ .98	\$ .84	\$ 1.16	\$25.28	\$28.26	
<u>Growing Costs:</u>							
Herbicide - ground rig (1/4 acreage)	.04	.23	.26	.03	--	.52	.20
Airplane (1/4 acreage)	--	--	--	--	1.13	1.13	--
2,4-D Amine @ 10 oz. (1/2 acreage)	--	--	--	--	.94	.94	--
Aphid control (1/10 acreage)	--	--	--	--	.34	.34	--
Material	--	--	--	--	.45	.45	--
Airplane	--	--	--	--	--	--	--
Fertilize - topdress (1/2 acreage)	--	--	--	--	10.20	10.20	--
60 lbs N @ 34¢/lb.	--	--	--	--	2.25	2.25	--
Airplane	--	--	--	--	--	--	--

	Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Implt.
		Labor	Tractor	Implt.	Material	TOTAL	
<u>Growing Costs - cont.</u>							
Ditch (open & close)	.05	.29	.84	.09	--	1.22	1.11
Irrigate @ 1.25 hrs/acre	1.25	6.70	--	--	--	6.70	--
Water 1/4 acre ft. @ \$8.50	--	--	--	--	2.13	2.13	--
1/4 acre ft. well @ \$19.16	--	--	--	--	4.79	4.79	--
Move equip., setup & service @ 15% of labor costs	.01	.08	--	--	.08	.08	--
TOTAL:		\$ 7.30	\$ 1.10	\$ .12	\$22.23	\$30.75	
<u>Miscellaneous Costs:</u>							
Supervisors salaries, accounting, office expense	--	--	--	--	--	13.74	--
Production loan interest cost	--	--	--	--	--	10.85	--
Pickup and truck use	--	--	2.61	--	--	2.61	2.50
Misc. equipment use	--	.22	.24	.29	--	.75	.99
Equipment loan interest cost	--	--	--	--	--	9.33	--
Buildings (taxes, ins., repairs)	--	--	--	--	--	1.18	--
TOTAL:		\$ .22	\$ 2.85	\$ .29	\$ --	\$38.46	
<u>Harvest Costs:</u>							
Combine	.25	1.58	7.84	--	--	9.42	11.44
Bankout wagon	.25	1.46	.84	.19	--	2.49	1.34
TOTAL:		\$ 3.04	\$ 8.68	\$ .19	\$ --	\$11.91	
<u>Post Harvest Costs:</u>							
Stubble disc	.22	1.28	3.70	2.06	--	7.04	5.68
TOTAL CULTURAL AND HARVEST COSTS:						\$143.12	
Share rent - 40% of gross (some 1/3) - 55 cwt. @ \$7.00/cwt.						154.00	
TOTAL CASH COSTS:						\$297.12	



Hours/ Acre	Cash Costs Per Acre					Int. & Deprec. Trac. & Implt.
	Labor	Tractor	Implt.	Material	TOTAL	
<u>Investment Costs:</u>						
Buildings (interest & depreciation)					6.68	
Tractors & Implt. (interest & depreciation)					<u>27.94</u>	
TOTAL:					\$ 34.62	
TOTAL COSTS PER ACRE:					\$331.74	
Cost Per 100 wt.					6.03	
Management fee @ 5% of Gross Income - 55 cwt. @ \$7.00/cwt. (usual charge for management not included in this study.)						\$19.25

Annual Costs of Equipment - Yolo

Equipment	Size	Life Yrs.	Acres/ Hr.	Orig. Cost	Deprec.	Interest	Ta
Tracklayer (used)	144 HP	15	-	\$ 47,000	\$ 3,133	\$ 3,878	\$
Tracklayer (drawbar HP)	125 HP	15	-	120,000	8,000	9,900	1,
Tracklayer	125 HP	15	-	120,000	8,000	9,900	1,
Wheel tractor (PTO)	150 HP	10	-	56,000	5,600	4,620	
Wheel tractor	130 HP	10	-	50,700	5,070	4,183	
Wheel tractor	130 HP	10	-	50,700	5,070	4,183	
Wheel (high clearance)	110 HP	10	-	40,000	4,000	3,300	
Wheel tractor	85 HP	10	-	32,000	3,200	2,640	
Subsoiler - 8' - 3 shanks	36"	15	2.5	10,000	667	825	
Tri-plane	16'x40'	15	6.0	14,000	933	1,155	
Offset disc	24'	15	8.0	17,000	1,133	1,403	
Stubble disc	14'	15	4.5	21,000	1,400	1,733	
Springtooth	32'	15	12.0	7,800	520	644	
Swede harrow & cart	32'	15	12.0	7,600	507	627	
Ring roller	32'	15	12.0	4,800	320	396	
Rolling cultivators (2)	16'	15	5.0	14,000	933	1,155	
Large roller 36" dia. x 12'	36" dia. x 12'	15	2.5	7,800	520	644	
Incorporator (2) 3 beds 5'	3 beds 5'	10	2.5	30,000	3,000	2,475	
Cultivator sleds (5)	16'	15	3.5	13,500	900	1,114	
Corn-beet planters	-	15	3.0	6,600	440	545	
Tomato planters	-	15	3.0	7,200	480	594	
V ditcher	-	15	20.0	4,800	320	396	
Grain drill	20'	15	8.0	12,500	833	1,031	
Plow 2 way x 5-16" bottoms	-	15	2.5	17,000	1,133	1,403	
Sprayer system	-	15	-	500	33	41	
Saddle tanks 4-sets	-	15	-	5,800	387	479	
Grain combine	-	10	4.0	100,000	10,000	8,250	1,
Corn header - 6 row	-	10	3.5	17,000	1,700	1,403	
New tomato harvester	-	5	.7	160,000	32,000	13,200	1,
Older tomato harvester	-	5	.7	80,000	16,000	6,600	
Truck - 2 ton	-	10	-	16,000	1,600	1,320	
Pickup 3/4 ton (2)	-	5	-	20,000	4,000	1,650	
Pickup compact (2)	-	5	-	17,000	3,400	1,403	
Lowbed w/tractor (used)	-	15	-	15,000	1,000	1,238	
Implement carrier	-	15	-	7,400	493	611	
Border maker	-	15	20.0	7,000	467	578	
Electronic thinner	-	10	3.0	14,800	1,480	1,221	

Annual Costs of Equipment - Yolo

Equipment	Size	Life Yrs.	Acres/ Hr.	Orig. Cost	Deprec.	Interest	Ta I
Dollies (4) (for bulk trlrs)	-	15	-	3,400	227	281	
Heidricarrier	-	15	-	16,000	1,066	1,320	
Bankout wagon	-	15	-	7,800	520	644	
Ditch closer	-	15	20.0	5,800	387	479	
Angle blade	-	15	-	2,600	173	214	
Small disc	8'	15	-	4,600	307	380	
Vine trainer	-	15	4.0	2,500	167	206	
Generator lights	-	15	-	4,500	300	371	
Flat roller	16'	15	8.0	2,500	167	206	
<u>Sprinkler equipment:</u>							
1/4 mile wheel moves (4)	-	10	-	57,400	5,740	4,736	
8" main line, 1/2 mile	-	10	-	12,600	1,260	1,040	
Pump, diesel w/trailer	-	10	-	14,000	1,400	1,155	
				<u>\$1,306,200</u>	<u>\$140,386</u>	<u>\$107,770</u>	<u>\$16</u>

Irrigation Pumps & 1

(Not used in this cost study - Listed only to show total cost of pumping)

Well - 450' depth, 14" casing		20	-	20,250	1,013	1,671	
75 HP pump + all electrical hookups, pumping 570 acre feet/year		20	-	16,400	820	1,353	
(power costs include standby)							