



Sugar Beet Production Costs

in California

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SUGAR BEET PRODUCTION COSTS IN CALIFORNIA

Sugar beets are produced commercially in over half of California's 58 counties but 3 counties have half of the acreage. Seven counties produce 80 percent of the total production. Imperial County is the largest producer with 65,000 acres in 1974. The other counties with large acreages are in the San Joaquin Valley and the lower Sacramento Valley.

During the period 1965-74, California sugar beet production has varied from 200,000 to nearly 350,000 acres. This constitutes 20-25 percent of the total U.S. acreage and up to 32 percent of the annual beet production in the U.S. California yields have consistently been higher than the U.S. average. Acreage varies from year to year depending not only on the price of sugar beets but also on the relative profitability of other crops.

Yields of sugar beets have varied from less than 19 to nearly 28 tons per acre. Yields of 25 to 30 tons should be obtainable with good management and adequate growing conditions.

Prices of beets are dependent on the world price of sugar and had remained in the \$10-15 range from the 1940's to 1972. In 1973 the average price rose to \$22.60 and to \$58.70 in 1974. Estimates are for prices to be in the \$30-35 range for 1975. Farmer returns are not established until the price of sugar is determined.

ACREAGE, YIELD, PRODUCTION AND PRICE OF SUGAR BEETS IN CALIFORNIA AND THE UNITED STATES

Year	California				United States		
	Acreage harvested 1,000 acres	Yield per acre tons	Production 1,000 tons	Farm price ^{a/} \$ per ton	Acreage harvested 1,000 acres	Yield per acre tons	Production 1,000 tons
1940	169	16.6	2,805	4.87	912	13.4	12,194
1945	93	16.8	1,565	10.90	713	12.1	8,616
1950	209	18.8	3,927	10.70	925	14.6	13,535
1955	163	20.7	3,365	10.90	740	16.5	12,228
1956	171	20.5	3,500	11.40	785	16.6	12,993
1957	196	22.1	4,316	11.00	878	17.7	15,505
1958	190	19.0	3,595	11.60	891	17.0	15,150
1959	208	23.7	4,928	11.50	905	18.8	17,015
1960	207	20.3	4,198	10.80	957	17.2	16,421
1961	236	18.6	4,388	11.00	1,077	16.4	17,704
1962	239	20.2	4,829	12.30	1,103	16.5	18,250
1963	292	21.5	6,278	12.30	1,235	18.9	23,328
1964	354	21.0	7,439	11.30	1,395	16.8	23,389
1965	310	20.7	6,402	11.40	1,249	16.8	20,918
1966	270	19.8	5,332	12.20	1,161	17.5	20,342
1967	201	19.8	3,983	13.00	1,122	17.1	19,197
1968	254	23.9	6,081	13.70	1,417	18.0	25,363
1969	305	19.8	6,046	13.50	1,541	18.0	27,736
1970	321	26.0	8,342	15.40	1,415	18.4	25,975
1971	347	23.6	8,217	15.30	1,342	20.2	27,096
1972	325	27.8	9,031	15.00	1,329	21.4	28,410
1973	263	24.6	6,447	22.60	1,222	20.1	24,540
1974	233	25.8	5,943	58.70	1,213	18.2	22,118
1975 ^{b/}	324	26.0	8,424		1,506	19.5	29,388

a/ Beginning 1943, prices include "support" payments, but do not include government payments under the Sugar Act.

b/ Indicated.

CALIFORNIA SUGAR BEET ACREAGE BY COUNTY FOR 1974

County	Acres	County	Acres
Alameda	757	Sacramento	3,500
Butte	1,700	San Benito	670
Colusa	9,540	San Bernardino	100
Contra Costa	3,920	San Joaquin	23,300
Fresno	23,158	San Luis Obispo	1,473
Glenn	3,627	Santa Barbara	1,640
Imperial	65,000	Santa Clara	500
Kern	11,800	Solano	19,985
Kings	1,030	Stanislaus	4,100
Los Angeles	1,075	Sutter	2,413
Madera	6,200	Tehama	685
Merced	11,089	Tulare	3,600
Monterey	9,625	Ventura	370
		Yolo	<u>17,460</u>
			214,877

Summary of Sugar Beet Cost Studies in California

The sugar beet cost studies summarized in this report are those which have been made in California from 1973 to 1975. Farm advisors in twelve of the major producing counties have prepared sample costs of production during this period. These costs are not presented as being averages for the counties but are representative of commercial farms with good management.

Estimated yields are usually above the county average but are those normally attainable with the management practices shown in the operations.

The studies normally use a wage rate which includes social security, compensation insurance, and other miscellaneous labor costs. However, some of the studies have the fringe benefits as a cash overhead expense.

Fuel and repairs are based on standard rates of performance for the equipment used.

Material costs are considered as delivered to the ranch.

Land costs may be shown as rent under Cash Overhead or as Interest on Investment depending on whether the farm is considered as a tenant operation or an owner operation.

Management is charged at 5 percent of the gross income.

Investment is based on present replacement costs except for land which is valued at market price for agricultural purposes. Depreciation is figured on acceptable lengths of life and interest is charged at 7 or 8 percent of the average value.

SUMMARY OF SUGAR BEET PRODUCTION COSTS IN CALIFORNIA, 1973-75

	Butte Glenn					Lower Sacramento				San Luis		
	Tehama	Imperial	Kern	Sacramento	Yolo	Valley	Obispo	Santa Barbara	Ventura	Fresno	Western Riverside	San Benito
	1975					1974				1973		
Yield-tons	22	26	23	24	25	25	23	28	30	22	27	25
Cultural cost												
Labor	\$101	\$ 63	\$ 73	NA	\$107	\$ 63	\$ 62	\$ 57	\$ 58	\$ 41	\$127	\$100
Fuel & repairs	43	122 ^{a/}	35	NA	37	29	44	29	20	30	11	16
Material	113	158	159	\$135	142	114	101	159	163	68	121	66
Total cultural	257	343	267	257	286	206	207	245	241	139	259	182
Harvest	60	96 ^{a/}	68	75	75	84	74	88	71	56	70	72
Cash overhead												
Misc.	19	70	20	7	64	18	3	28	14	12	25	22
Taxes	3	-	3	1	17	2	15	-	2	11	8	8
Rent	132	130	138	216	-	175	-	125	120	-	25	115
Total cash overhead	154	200	161	224	81	195	18	153	136	23	58	145
Management	33	46	35	43	44	43	35	40	45	24	30	23
Depreciation	24	-	20	29	224	16	70	22	15	36	8	37
Interest	9	-	9	24		6	131	11	4	84	3	19
Total	\$537	\$685	\$560	\$652	\$710	\$550	\$535	\$559	\$512	\$362	\$428	\$478
Cost per ton	\$24.43	\$26.35	\$24.34	\$27.16	\$28.39	\$22.00	\$23.25	\$24.31	\$17.06	\$16.45	\$15.85	\$19.11

a/ Custom rates.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Butte, Glenn & Tehama Counties - 1975

Based on a 1500 acre farm with 250 acres in sugar beets. Yield: 22 tons. Labor including fringe benefits \$4.25 and \$3.25 per hour.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind and quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Plow	.50	2.13	5.10			7.23
Disk or chisel 2X	.32	1.36	4.53			5.89
Field cultivate & harrow 2X	.20	.85	2.25			3.11
Landplane	.30	1.28	3.95			5.23
Fertilize	.20	.85	1.50	Injector rental	1.00	
				100# N @ \$.20	20.00	23.35
Triplane	.20	.85	1.80			2.65
List & preplant fertilize	.20	.85	1.34	20-50-0 @ \$195/T	24.38	26.57
Plant & incorporate herbi- cide	.50	2.13	6.70	Herbicide	7.80	
				Seed	4.95	21.58
Post emergence weed spray	.20	.85	1.08	Herbicide	10.73	12.66
Roll beds	.25	1.06	1.23			2.29
Electronic thin	.50	2.13	3.20			5.33
Cultivate 3X	.60	2.55	3.72			6.27
Bait cutworms	.15	.64	.71	Insecticide	9.31	10.66
Layby herbicide 2X	.53	2.26	3.40	Herbicide	6.32	11.98
Mildew and/or leaf spot control 2X				Airplane	7.20	
				Fungicide	5.40	12.60
Ditch preparation	.20	.85	1.78			2.63
Irrigate 9X	7.20	23.40		4 ac.ft. @ \$4.00	16.00	39.40
Thin & weed		50.00				50.00
Miscellaneous	1.50	6.38	1.00			7.38
TOTAL CULTURAL COSTS	13.55	100.42	43.30		113.09	256.81
<u>Harvest Costs</u>						
Dig				22 net tons @ \$1.50	33.00	
Load & haul (20 miles)				23.1 tons \$1.05 per ton plus non-reim- bursed mileage costs (5% tare)	27.34	
TOTAL HARVEST COSTS						60.34
<u>Cash Overhead</u>						
Misc., office, etc.					19.03	
Taxes & insurance					3.42	
Rent 20% x 22 tons x \$30 per ton					132.00	
TOTAL CASH OVERHEAD						154.45
TOTAL CASH COST		100.42	43.30		327.88	471.60
Management 5% x 22 tons x \$30.00						33.00
<u>INVESTMENT</u>						
		<u>Per acre</u>		<u>Annual cost</u>		
Equipment & shop building		\$231.69		<u>Depreciation</u>	<u>Interest</u>	
				\$23.63	\$9.24	32.87
TOTAL COST PER ACRE						537.47
Cost per ton @ 22 tons/A yield						24.43

Source: Sailsbery, Robert L. and Philip S. Parsons. Sugar Beet Production Costs, Orland: University of California Cooperative Extension, January 1975.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Imperial County - 1975

Yield 26 tons. Labor including fringe benefits \$3.50.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Custom	Materials	Cost	
Kind and quantity				Dollars		
<u>Cultural Costs</u>						
Plow or subsoil			13.50			13.50
Disc 2X			9.00			9.00
Build & break borders			4.50			4.50
Flood	1.0	3.50		Water .9 ft.	3.15	6.65
Disc 2X			9.00			9.00
Fertilize			3.00	33-144-0	33.00	36.00
Fertilize			3.00	100-0-0	13.00	16.00
Float			4.00			4.00
List			5.00			5.00
Incorporate herbicide			8.00	Herbicide	10.00	18.00
Plant			7.00	Seed 2#	4.00	11.00
Cultivate			5.00			5.00
Thin			20.00			20.00
Cultivate 2X			10.00			10.00
Fertilize 2X			6.00	80-0-0	49.60	55.60
Weed control	10.8	37.80				37.80
Insect control 5X			15.00	Insecticide	27.50	42.50
Irrigate 12X	6.3	22.05		Water 5'	17.50	39.55
TOTAL CULTURAL COSTS		63.35	122.00		157.75	343.10
<u>Harvest Costs</u>						
Dig - 26 ton @ \$1.70			44.20			
Haul - 26 ton @ \$1.50 + 5¢ ton over 6 miles			52.00			
TOTAL HARVEST COSTS			96.20			96.20
<u>Cash Overhead</u>						
Misc, office, etc.					70.29	
Rent					130.00	
TOTAL CASH OVERHEAD						200.29
TOTAL CASH COST		63.35	218.20		358.04	639.59
Management 5% of 26 tons @ \$35						45.50
TOTAL COST PER ACRE						685.09
Cost per ton @ 26 ton yield						26.35

Source: Cudney, David W., et. al. Guide Lines to production costs and practices, Imperial County Crops, El Centro: University of California Cooperative Extension Circular 104, September 1975.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Kern County - 1975

Yield 23 tons. Labor including fringe benefits \$3.00 and \$3.60 per hour.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind of quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Land preparation	2.3	8.30	15.85			24.15
List & fumigate	.5	1.80	1.80	Fumigate 12 gal.	36.00	39.60
Plant & fertilize, 2 men	.6	3.95	3.45	Seed, 2# Fertilizer, 43# P, 100# N	4.00 37.90	49.30
Thin		22.00				22.00
Weed management	1.0	3.60	5.05	Herbicides	18.15	26.80
Irrigate 8X	10.0	30.00	5.25	3.5 ac.ft. @ \$18	63.00	98.25
Cultivate 2X	1.0	3.60	3.60			7.20
TOTAL CULTURAL COSTS		73.25	35.00		159.05	267.30
<u>Harvest Costs</u>						
Dig				23 tons @ \$1.50	34.50	
Haul				23 tons @ \$1.45	33.35	
TOTAL HARVEST COSTS						67.85
<u>Cash Overhead</u>						
Misc, office, car, etc.					20.10	
Taxes - personal property					3.00	
Rent - 12 month basis				20% of 23 tons @ \$30	138.00	
TOTAL CASH OVERHEAD						161.10
TOTAL CASH COST		73.25	35.00		388.00	496.25
Management 5% of 23 tons @ \$30						34.50
<u>INVESTMENT</u>						
	<u>Per acre</u>	<u>Annual cost</u>				
Equipment	\$200.00	Depreciation	Interest 9%			
Total		\$20.00	\$9.00			29.00
TOTAL COST PER ACRE						559.75
Cost per ton @ 23 ton yield						24.34

Source: Woodruff, David R., Sugar Beets, Costs and General Hints on Production.
Bakersfield: University of California Cooperative Extension, January 1975.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Sacramento County - 1975

Based on a 1200 acre ranch producing corn, wheat, sugar beets and tomatoes. Yield 24 tons @ 14% sugar

Operation	Date	Materials Kind and quantity	Total cost per acre
<u>Cultural Costs</u>			
Disk 2x	Oct-Dec		\$ 4.00
Plow	Oct-Dec		4.00
Land plane	Oct-Dec		4.00
Rip	Oct-Dec		4.00
Disk 2x	Jan-Feb		4.00
Harrow & float	Jan-Feb		3.00
Bed up + Aqua	Feb-Mar	150# N @ \$.25	37.50
		Application	2.00
		Tillam @ 6#	9.78
Herbicide application	Feb-Apr	Seed 5#	6.67
Plant & starter fertilizer		4-10-10 @ 30 gal	23.55
		Application	4.00
Post herbicide	Mar-Jul	Betenal 1#	4.60
		Application	2.00
Layby Treflan	Mar-Jul	2 pts.	4.00
		Application	2.00
Cultivating 2x	Mar-Jul		4.00
Thin & hoe	Mar-Aug		50.00
Sidedress	Mar-Aug	30# N @ \$.25	7.50
		Application	2.00
Irrigation 7x	Apr-Aug	Labor-water-power	10.00
Pest control	Apr-Aug	Sevin bait Air + cutworms	3.00
		Metasystox (aphids)	10.00
		Sulfur 40# + application	6.00
TOTAL CULTURAL COSTS			134.60
<u>Harvest Costs</u>			
Top	Aug-Nov		3.00
Dig	Aug-Nov	24 ton @ \$1.50	36.00
Haul	Aug-Nov	24 ton @ \$1.50	36.00
TOTAL HARVEST COSTS			75.00
<u>Cash Overhead</u>			
Misc.			7.00
Taxes on equipment			1.00
Rent 25% of 24 tons @ \$36			216.00
TOTAL CASH OVERHEAD			224.00
TOTAL CASH COST			555.60
Management 5% of 24 tons @ \$36			43.20
		<u>Annual cost</u>	
<u>Investment</u>	<u>Per acre</u>	<u>Depreciation</u>	<u>Interest</u>
Equipment	\$125.00	\$29.17	\$23.88
Total			53.05
TOTAL COST PER ACRE			651.85
Cost per ton @ 24 ton yield			27.16

Source: Orr, Jack P. Sugar Beet Production-1975. Sacramento: University of California Cooperative Extension, 1975.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Yolo County - 1975

Based on 240 acres of sugar beets on a 2640 acre farm, following corn, wheat or tomatoes. Yield 25 tons. Labor at \$3.50, \$3.00 and \$2.85 not including fringe benefits.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind and quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
<i>Seed Bed Preparation</i>						
<i>Fall</i>						
Plow or subsoil	.50	1.75	6.08			7.83
Landplane 2X	.40	1.40	2.44			3.84
Chisel	.40	1.40	3.21			4.61
<i>Spring</i>						
Disc 2X	.40	1.40	5.45			6.85
Springtooth & roll 2X	.16	.56	1.88			2.44
Harrow & roll	.07	.25	.86			1.11
List & fertilize	.33	1.16	2.19	Fertilizer 10 gal @ \$1.60	16.00	19.35
Move, setup & service	.23	.79	.30			1.09
Total		8.71	22.41		16.00	47.12
<i>Planting</i>						
Sled-shape, incorporate herbicide, apply insecti- cide & plant (2 men)	.28	1.96	1.94	Herbicide 3# @ \$4.45 Seed 3# @ \$1.80 Insecticide-Temik 10# @ \$1.31	13.35 5.40 13.10	35.75
Move, setup & service	.06	.24	.08			.32
Total		2.20	2.02		31.85	36.07
<i>Growing Costs</i>						
Roll	.07	.25	.40			.65
Cultivate-sled	.28	.98	1.69			2.67
Thin-mechanical	.10	.35	1.21			1.56
Hoe	19.80	56.43				56.43
Cultivate & furrow 3X	.84	2.94	3.38			6.32
Fertilize & sidedress	.28	.98	1.86	Nitrogen 125# @ \$.20	25.00	27.84
Layby herbicide	.20	.70	2.01	Herbicide - 3/4# Treflan @ \$8.37	6.28	8.99
Irrigate 7 X	10.50	31.50	.50	Water 4.5 ac.ft. @ \$5.93/ac.ft.	26.69	58.69
Ditch - cut & fill 4X	.20	.70	1.53			2.23
Insect control 2X				Application Cutworm bait 40# @ \$.28 Misc. insect (mites, crown borer or army- worms	5.00 11.20 15.00	31.20
Powdery mildew control				Application Sulphur dust 35# @ \$.06	2.50 2.10	4.60
Move, setup & service	.30	1.04	.10			1.14
Total		95.87	12.68		93.77	202.32
TOTAL CULTURAL COSTS		106.78	37.11		141.62	285.51
<u>Harvest Costs</u>						
Top & dig				\$1.50/ton	37.50	
Haul				\$1.50/ton	37.50	
TOTAL HARVEST COSTS						75.00
<u>Cash Overhead</u>						
Misc., production & operation costs					31.41	
Comp. ins., social security, fringe benefits, etc.					14.95	
Additional charges for general & seasonal labor (include camp charges, bussing, supervision, etc.)					8.46	
Pickup & truck use					9.08	
Taxes on land					17.00	
TOTAL CASH OVERHEAD					80.90	
TOTAL CASH COST		106.78	37.11		297.52	441.41

Yolo County, Continued

Operation	Hours per acre	Cash and labor cost per acre			Total
		Labor	Fuel & repairs	Materials Kind and quantity Cost	
Dollars					
Management 5% of 25 tons @ \$35					43.75
<u>Investment</u>				<u>Depreciation and Interest</u>	
Land - \$1750/acre @ 8%				140.00	
Buildings				4.48	
Irrigation wells & pumps				20.52	
Tractors & equipment				<u>59.64</u>	
Total					224.64
TOTAL COST PER ACRE					709.80
Cost per ton @ 25 ton yield					28.39

Source: Zobel, Melvin P., et. al. Sample Cost of Production, 1975 Yolo County, Woodland: University of California Cooperative Extension, March 1975.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Lower Sacramento Valley - 1974

Based on 200 acres of sugar beets on a 1,000 acre ranch. Yield: 25 tons per acre, 16-17% sugar. Labor rates including fringe benefits \$3.50 and \$2.60 per hour.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind and quantity	Cost	
dollars						
<u>Cultural Costs</u>						
Disc 3x	.6	2.10	4.20			6.30
Landplane 2x	.3	1.05	2.05			3.10
Subsoil 2x	1.0	3.50	8.00			11.50
Land cultivator	.2	.90	1.65			2.55
Harrow & roll 2x	.3	1.05	1.05			2.10
List & fertilize	.2	.90	1.70	150# N @ \$.20	30.00	32.60
Plant, herbicide, fertilize	.4	1.40	2.90	Seed	6.00	
				Herbicide	9.80	
				4-10-10 30 gal.	23.55	43.65
Cut & fill ditches 3x	.2	.70	.70			1.40
Irrigate 9x	7.2	18.70		Water 4 ac.ft @ \$2.50	10.00	28.70
Cultivate 2x	.5	1.75	2.20			3.95
Insect control 3x				Materials	17.00	
				Plane	6.00	23.00
Lay by herbicide	.3	1.05	.95	Herbicide	4.00	6.00
Thin & pull weeds (contract)		25.00				25.00
Misc. labor	1.5	5.25	3.25			8.50
Crop loan interest					7.60	7.60
TOTAL CULTURAL COSTS		63.35	28.65		113.95	205.95
<u>Harvest Costs</u>						
Top & dig				Contract @ \$1.55	38.75	
Haul (20 mi.)				Contract @ \$1.00/ton + \$.04 mile	45.00	
TOTAL HARVEST COSTS						83.75
<u>Cash Overhead</u>						
Misc., office, etc.					18.30	
Taxes on equipment					1.55	
Rent				20% of 25 tons @ \$35	175.00	
TOTAL CASH OVERHEAD						194.85
TOTAL CASH COST		63.35	28.65		392.55	484.55
Management 5% of 25 tons @ \$35.00						43.75
<u>Investment</u>						
				<u>Annual cost</u>		
				<u>Depreciation</u>	<u>Interest 8%</u>	
Equipment	\$155			\$15.50	\$6.20	
Total						21.70
TOTAL COST PER ACRE						550.00
Cost per ton @ 25 ton yield						22.00

Source: Buschmann, Leonard, et. al. Sample Costs to Produce Sugar Beets in the Lower Sacramento Valley, 1974. Davis: University of California Cooperative Extension Leaflet AXT-457, November 1974.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
San Luis Obispo County - 1974

Yield 23 tons. Labor including fringe benefits \$3.50 and \$2.50

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind and quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Subsoil	.5	1.75	3.28			5.03
Plow	.5	1.75	3.28			5.03
Disc 2X	.5	1.75	3.28			5.03
Landplane 2X	.5	1.75	3.28			5.03
Chisel	.25	.88	.67			1.55
List & fertilize	.25	.88	1.63	30-60-60	31.00	33.51
Shape beds, apply insecticide & plant	.25	.88	.67	Insecticide	3.25	
				Seed 3# @ \$1.75	5.25	10.05
Herbicide	.25	.88	.67	Herbicide	6.50	8.05
Irrigate	.5	1.25		Water 2" @ \$10 ft.	1.67	2.92
Incorporate herbicide	.25	.88	.67			1.55
Irrigate 18-20X	8.0	20.00		Water 4" @ \$10 ft.	40.00	60.00
Cultivate 5X	3.0	10.50	8.10			18.60
Fertilize	.3	1.17	.90	30-0-0	4.80	6.87
Roll beds	.12	.44	.34			.78
Thin	.75	2.62	2.03			4.65
Weed	5.0	12.50				12.50
Pest control				Material Application	4.00	
					2.00	6.00
Miscellaneous	.5	1.75	15.28		2.97	20.00
TOTAL CULTURAL COSTS		61.63	44.08		101.44	207.15
<u>Harvest Costs</u>						
Top	.17	.59	.45			1.04
Dig & load				23 ton @ \$1.50	34.50	34.50
Haul				25.3 ton @ \$1.50	37.95	37.95
TOTAL HARVEST COSTS		.59	.45		72.45	73.49
<u>Cash Overhead</u>						
Misc., office. etc.					3.40	
Taxes					15.00	
TOTAL CASH OVERHEAD						18.40
TOTAL CASH COST		62.22	44.53		192.29	299.04
Management 5% of 23 tons @ \$30						34.50
<u>Annual cost</u>						
<u>INVESTMENT</u>		<u>Per acre</u>		<u>Depreciation</u>	<u>Interest 8%</u>	
Land		\$1,200			\$96.00	
Irrigation system		250		\$16.67	10.00	
Equipment		623		53.68	24.92	
Total		2,073		70.35	130.92	201.27
TOTAL COST PER ACRE						534.81
Cost per ton @ 23 ton yield						23.25

Source: Cawelti, Wilfred E. and E. A. Yeary. Suger Beet Production in San Luis Obispo County - 1974, San Luis Obispo: University of California Cooperative Extension, February 1974.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Santa Barbara County - 1974

Yield 28 tons. Labor including fringe benefits \$3.83 and \$2.98.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind and quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Disc	.25	.96	1.64			2.60
Plow	.75	2.87	4.91			7.78
Landplane	.50	1.92	3.28			5.20
Disc 2X	.50	1.92	3.28			5.20
List & fertilize-custom				80-100-0	49.20	
				Application	4.00	53.20
Plant	.50	1.92	1.35	Seed 3# @ \$1.75	5.25	8.52
Herbicide-custom					16.00	16.00
Roll beds 2X	.50	1.92	1.05			2.97
Hand thin-contract				\$35.00 plux 20%	42.00	42.00
Irrigate 8X	12.00	35.76		3 ac.ft. water @ \$7.50	22.50	58.26
Fertilize - custom				70# N	16.80	
				Application	4.00	20.80
Cultivation	2.50	9.58	5.25			14.83
Repairs to equipment			8.00			8.00
TOTAL CULTURAL COSTS	17.50	56.85	28.76		159.75	245.36
<u>Harvest Costs</u>						
Mechanical digger - contract				\$1.50 ton (cleaned beets)	42.00	
Haul - contract				\$1.50 ton (in-the-dirt:10% over cleaned weight)	46.20	
TOTAL HARVEST COSTS						88.20
<u>Cash Overhead</u>						
Misc., office, etc.					27.52	
Rent					125.00	
TOTAL CASH OVERHEAD						152.52
TOTAL CASH COST		56.85	28.76		400.47	486.08
Management 5% of 23 tons @ \$35						40.25
<u>INVESTMENT</u>						
	<u>Per acre</u>	<u>Annual cost</u>				
		<u>Depreciation</u>	<u>Interest 8%</u>			
Equipment	\$110	\$11.00	\$ 4.40			
Tractors	169	10.80	6.76			
Total	279	21.80	11.16			32.96
TOTAL COST PER ACRE						559.29
Cost per ton @ 23 ton yield						24.31

Source: Bendixen, Warren E. and Edward A. Yeary. Sugar Beets, Santa Barbara County - 1974, Santa Maria: University of California Cooperative Extension, 1974.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Ventura County - 1974

Yield 30 tons. Plant November-March, harvest August-October. Labor including fringe benefits \$3.00 and \$2.40 per hour.

Operation	Trac- tor	Hours per acre	Cash and labor cost per acre				Total
			Labor	Fuel & repairs	Materials Kind and quantity	Cost	
Dollars							
<u>Cultural Costs</u>							
Plow 4-16" 2 way	W 80	.45	1.35	1.75			3.10
Disc & roll 2X	C 40	.50	1.50	3.06			4.56
Landplane 10x40 2X	W 80	.50	1.50	2.78			4.28
Springtooth harrow 1X	W 80	.16	1.08	2.42			3.50
Fumigate & fertilize					Contract, 20 gal DD + 125# N	62.75	62.75
Furrow 4 beds	W 40	.25	.75	.48			1.23
Roll beds 4 beds	W 30	.20	.60	.28			.88
Shape beds & plant	W 40	.35	1.89	1.77	Seed	5.50	9.16
Herbicide					Contract	34.75	34.75
Thin					Contract	35.00	35.00
Cultivate 4 x 4 beds	W 40	1.00	3.00	1.92			4.92
Hoe 1X		10.00	24.00				24.00
Irrigate 5X		7.50	20.25	1.25	Water 2 ac.ft. @ \$7	14.00	35.50
Disc & roll refuse 2X	W 80	.36	1.08	2.42			3.50
Fertilize 2 beds	W 30	.50	1.50	1.40	80# N @ \$.14	11.20	14.10
TOTAL CULTURAL COSTS		21.77	58.50	19.53		163.20	241.23
<u>Harvest Costs</u>							
Dig and load					30 ton @ \$1.35	40.50	
Haul					30 ton @ \$1.00	30.00	
TOTAL HARVEST COSTS							70.50
<u>Cash Overhead</u>							
Misc., office, etc.						14.47	
Taxes on machinery						2.00	
Rent					8 months @ \$15	120.00	
TOTAL CASH OVERHEAD							136.47
TOTAL CASH COST			58.50	19.53		370.17	448.20
Management 5% of 30 ton @ \$30							45.00
<u>INVESTMENT</u>							
			Annual cost				
			<u>Depreciation</u>		<u>Interest</u>		
Equipment			\$14.71		\$3.75		
Total							18.46
TOTAL COST PER ACRE							511.66
Cost per ton @ 30 ton yield							17.06

Source: Brendler, R. A. and R. C. Rock. Costs and Practices for Row Crops in Ventura County. Ventura: University of California Cooperative Extension, 1974.

SAMPLE COSTS TO PRODUCE SUGAR BEETS WITH MINIMUM HAND LABOR
Fresno County - 1973

Yield 22 tons. Labor including fringe benefits \$2.90 and \$2.60 per hour.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials		
				Kind and quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Disc	.5	1.45	2.35			3.80
Plow	.5	1.45	2.35			3.80
Disc	.5	1.45	2.35			3.80
Landplane 1/2X	.25	.72	1.18			1.90
List & fertilize	.25	.72	1.18	20-0-0 @ 10¢	2.00	3.90
Shape beds & apply insecticide	.25	.72	.53	Insecticide	2.95	4.20
Plant & herbicide	.25	.72	.53	Seed 2-1/2# @ \$1.50	3.75	
				Herbicide	6.00	11.00
Irrigate up	1.5	3.90		12" water	8.00	11.90
Roll beds	.12	.36	.26			.62
Block	.75	2.18	1.57			3.75
Cultivate & fertilize	.3	.97	.70	60-0-0	6.00	7.67
Apply herbicide	.17	.48	.35	Herbicide	4.60	5.43
Incorporate herbicide 2X	.5	1.45	1.05			2.50
Irrigate 8X	8.0	20.80		Water 3' @ \$8.00	24.00	44.80
Cultivate	.3	.97	.70			1.67
Pest control				Material	8.00	
				Application	3.00	11.00
Miscellaneous	1.0	2.90	14.70			17.60
TOTAL CULTURAL COSTS		41.24	29.80		68.30	139.34
<u>Harvest Costs</u>						
Dig & load				24.2 ton @ \$1.25	30.25	
Haul				24.2 ton @ \$1.05	25.41	
TOTAL HARVEST COSTS						55.66
<u>Cash Overhead</u>						
Misc., office, etc.					12.36	
Rent					11.00	
TOTAL CASH OVERHEAD						23.36
TOTAL CASH COST		41.24	29.80		147.32	218.36
Management 5% of 22 ton @ \$22						24.20
<u>INVESTMENT</u>						
		<u>Per acre</u>	<u>Annual cost</u>			
			<u>Depreciation</u>	<u>Interest 8%</u>		
Land		\$800		\$64.00		
Irrigation system		220	\$14.67	8.80		
Equipment		262	21.30	10.47		
Total		1,282	35.97	83.27		119.24
TOTAL COST PER ACRE						361.90
Cost per ton @ 22 ton yield						16.45

Source: Fischer, Bill B. and Edward A. Yeary. Sugar Beet Production Cost Analysis Work Sheets. Fresno: University of California Cooperative Extension, December 1973.

SAMPLE COSTS TO PRODUCE SUGAR BEETS
Western Riverside County - 1973

Yield 27 tons. Labor including fringe benefits \$2.50 and \$2.25 per hour.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials		
				Kind and quantity	Cost	
Dollars						
Cultural Costs						
Land preparation	4.0	10.00	5.35			15.35
Plant four rows (2 men)	0.5	1.25	.98	6-1/2# seed @ \$.55	3.57	5.80
Cultivate & fertilize	3.0	7.50	4.48	250# N @ \$.13	32.50	44.48
Hand weed 2X	8.0	18.00				18.00
Irrigate 20X	40.0	90.00		Water 4 ac.ft. @ \$20	80.00	170.00
Pest control (contract) 2X					5.00	5.00
TOTAL CULTURAL COSTS		126.75	10.81		121.07	258.63
Harvest Costs						
Harvest (contract)				27 tons @ \$1.50	40.50	
Haul (contract)				27 tons @ \$1.10 (@ 3¢/ton mile less 85¢ load allowance)	29.70	
TOTAL HARVEST COSTS						70.20
Cash Overhead						
Office, car, phone, etc.					25.00	
County taxes on equip. only					8.00	
Cash rent					25.00	
TOTAL CASH OVERHEAD						58.00
TOTAL CASH COST		126.75	10.81		249.27	386.83
Management 5% of 27 ton @ \$22						29.70
INVESTMENT						
	<u>Per acre</u>	<u>Annual cost</u>				
		<u>Depreciation</u>	<u>Interest 7%</u>			
Buildings	\$10.00	\$.25	\$.35			
Tractor & equipment	80.50	8.05	2.82			
Total	90.50	8.30	3.17	11.47		
TOTAL COST PER ACRE						428.00
Cost per ton @ 27 ton yield						15.85

Source: University of California Cooperative Extension. Sugar Beets, Western Riverside County - 1973, Sample Costs of Production. Riverside. 1973.

SAMPLE COSTS OF PRODUCING SUGAR BEETS
San Benito County - 1973

70 acres of sugar beets on a 300 acre farm. Yield 25 tons per acre.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials		
				Kind and quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Land preparation	3.08	9.86	12.44			22.30
Fertilize, preplant applied				54-54-54	29.31	29.31
Fertilize, sidedress applied				84-0-0	15.25	15.25
Plant	.42	1.34	1.07	Seed 2-1/2# @ \$1.50	3.75	6.16
Irrigate, sprinklers 2X	4.00	15.20		4 acre inches	4.11	19.31
Irrigate, furrows 5X	10.00	28.80		20 acre inches	13.70	42.50
Cultivate 5X	.90	2.86	2.47			5.33
Thin & hoe 2X	16.00	41.60				41.60
TOTAL CULTURAL COSTS		99.66	15.98		66.12	181.76
<u>Harvest Costs</u>						
Harvest (contract)				\$1.40 per ton	35.00	
Haul to dump (contract)				\$1.50 per ton	37.50	
TOTAL HARVEST COSTS						72.50
<u>Cash Overhead</u>						
Misc., office, pickup truck, insurance, interest on oper- ating capital, 12% of cultural costs					21.81	
Taxes on equipment					8.19	
Rent, including well					115.00	
TOTAL CASH OVERHEAD						145.00
TOTAL CASH COST		99.66	15.98		283.62	399.26
Management 5% of 25 tons @ \$18.00						22.50
<u>INVESTMENT</u>						
	<u>Per acre</u>	<u>Annual cost</u>				
		<u>Depreciation</u>	<u>Interest</u>			
Total investment cost	441.73	\$37.37	\$18.59			55.96
TOTAL COST PER ACRE						477.72
Cost per ton @ 25 ton yield						19.11

Source: Collins, H. Bill and Philip S. Parsons. Sample Costs of Producing Sugar Beets, San Benito County, 1973. Hollister: University of California Cooperative Extension, 1973.

San Benito County, Continued

DETAILS OF LAND PREPARATION COSTS USED

	Size ^{1/}	Cash and labor cost per acre				
		Hours per acre	Labor	Fuel and repairs	Total each time	Total all times
Plow, 1X					5.22	5.22
Tractor, diesel crawler	60 hp	.54	1.72	2.14		
Plow, hydraulic, 2-way	4-16	.54		1.36		
Chisel, 1X					2.75	2.75
Tractor, diesel crawler	60 hp	.35	1.11	1.39		
Chisel	10 ft	.35		.25		
Landplane, 2X					2.82	5.64
Tractor, diesel crawler	60 hp	.66	2.10	2.62		
Landplane	10x40'	.66		.92		
Disc, 3X					1.93	5.78
Tractor, diesel wheel	60 hp	.99	3.15	1.49		
Disc, hydraulic	10 ft	.99		1.14		
List, 1X					1.81	1.81
Tractor, gas wheel	40 hp	.32	1.08	.59		
Lister	3-row	.32		.14		
Shape & harrow, 1X					1.10	1.10
Tractor, gas wheel	20 hp	.22	.70	.22		
Bedshaper	3-bed	.22		.22		
Harrow, spike	16 ft	.22		.06		
TOTAL LAND PREPARATION		3.08	9.86	12.44		22.30

^{1/} Horsepower at 75% maximum

INVESTMENT COSTS INCLUDED

Investment	Per acre	Annual cost per acre		
		Depreciation	Interest	Total
Shop equipment & storage	50.00	1.25	2.00	3.25
Trucks, two 1/2 ton pickups	22.67	3.24	.91	4.15
Tractor, 60 hp, diesel crawler	120.67	8.04	4.49	12.53
Tractor, 60 hp, diesel wheel	41.00	4.10	1.64	5.74
Tractors, 20 hp and 40 hp, gas wheel	43.92	4.39	1.76	6.15
Plow, 2-way hydraulic, 4-16	20.00	2.00	.80	2.80
Chisel, 10 ft.	5.17	.52	.21	.73
Landplane, 10 ft. x 40 ft.	19.67	1.31	.79	2.10
Disc, hydraulic, 10 ft.	10.33	1.03	.41	1.44
Lister, 3-row; bed shaper, 3-bed	5.41	.54	.21	.75
Planter, 6-row	8.00	.80	.32	1.12
Cultivating sled, 3-bed	6.67	.67	.27	.94
Harrow, spike, 16 ft.	1.87	.09	.07	.16
Roller, 21 ft.	8.33	.42	.33	.75
Sprinklers, laterals, risers, gated pipe	31.35	3.14	2.51	5.65
Booster pumps, two, 50 hp	46.67	5.83	1.87	7.70
TOTAL INVESTMENT OVERHEAD	441.73	37.37	18.59	55.96

San Benito County, Continued

HOURLY LABOR RATES USED

	Base rate	Fringes & other	Total
Lister operator	\$2.80	\$.56	\$3.36
Tractor drivers	2.65	.53	3.18
Irrigators	2.40	.48	2.88
Field hands	2.25	.35	2.60

EQUIPMENT AND BUILDING LIST
Butte, Glenn and Tehama Counties

Item	Original cost	Annual use (Acres)	Cost per acre	Life (years)	Non-cash overhead	
					Depre- ciation	Interest at 8%
Tractor, 100-120 HP tr. diesel	\$ 51,500	1,500	\$ 34.33	20	\$ 1.72	\$ 1.37
Tractor, 80-90 HP tr. diesel or 4 wheel drive diesel	40,000	1,500	26.67	15	1.78	1.07
Tractor, 100 HP wheel diesel	20,000	1,500	13.33	10	1.33	.53
Tractor, 80-90 HP wheel diesel	18,000	1,500	12.00	10	1.20	.48
Plow 4-18 hydraulic 2-way	4,500	750	6.00	10	.60	.24
Disk, stubble, 12 ft.	10,200	750	13.60	10	1.36	.54
Disk, offset, 21 ft.	9,500	1,500	6.33	10	.63	.25
Chisel (heavy duty) 16 ft.	3,500	1,500	2.33	10	.23	.09
Springtooth or field cultivator - 30 ft.	4,500	1,500	3.00	10	.30	.12
Spiketooth adjust. - 30 ft.	400	1,500	.27	10	.03	.01
Roller - 15	1,750	750	2.33	15	.16	.09
Rolling cultivator - 6-row	2,600	1,000	2.60	10	.26	.10
Planter, w/sled and incorporator - 6-row	11,000	1,000	11.00	7	1.57	.44
Cultivator sled and equipment	4,500	1,000	4.50	10	.45	.18
Triplane - 16 ft.	6,000	1,500	4.00	15	.27	.16
Landplane - 60 ft.	11,000	1,500	7.33	20	.37	.29
Electronic thinner - 6-row	12,000	250	48.00	7	6.86	1.92
Bedding tools	1,000	1,000	1.00	10	.10	.04
Ditcher - 4 ft.	1,600	1,500	1.07	15	.07	.04
Saddle tanks (2 sets)	2,000	1,500	1.33	10	.13	.05
Tool carrier (used)	4,000	1,500	2.67	10	.27	.11
Bait applicator	1,000	500	2.00	10	.20	.08
Truck (used)	5,000	1,500	3.33	5	.67	.13
Pickup - 3/4 ton	6,000	1,500	4.00	5	.80	.16
2 pickups (used)	6,000	1,500	4.00	3	1.33	.16
Siphons	4,000	1,500	2.67	10	.27	.11
Shop tools	6,000	1,500	4.00	15	.27	.16
Buildings	12,000	1,500	8.00	20	.40	.32
Total	\$259,550		\$231.69		\$23.63	\$9.24

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Compiled by

A. D. Reed
Extension Economist

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