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## GROWING SUGAR BEETS IN THE KING CITY AREA

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Soil Requirements - Sugar beets make best growth on well-drained soils. They have a higher degree of tolerance to soil alkali, salt and boron conditions than many irrigated crops. Soils with excessive concentrations should be avoided.

Irrigation - Sugar beets use from 3 to 3-1/2 acre feet of water for the growing season with a peak water requirement of 1/4 acre inch per day. Number of irrigations will depend upon soil type. Heavier soils hold more water for plant growth than lighter soils; therefore, heavier soils may require less irrigations. Sugar beets should never suffer for water.

Fertilization - Sugar beets are heavy users of nitrogen. Lack of nitrogen may result in lower yields while an excess may be the reason for low sugar content at harvest. Generally in this area 100 to 160 pounds of actual nitrogen are used in two applications. Where high rates of nitrogen are used, the fertilizer should be applied early enough for complete utilization, insuring high sugar content.

Pest Control - Most serious pest is the sugar beet nematode. Practically all land producing sugar beets in California is infected with this pest. Where it is abundant, profitable yields cannot be produced. Control of sugar beet nematode is limited to rotations. Beets or other host plants, such as spinach, broccoli, cauliflower (all cruciferous crops) should not be planted on the same land more frequently than once in three or preferably four years. Weeds, such as lambsquarters, mustard and peppergrass, are hosts to this nematode and must be eradicated before nematode population in the soil can be controlled.

Yields - Sugar beet yields and sugar content vary from year to year. High yields have been produced locally, but average yields are about 20 tons with 17% sugar.

Production Costs - On the opposite page are sample production costs based on local observation and inquiry. These are not meant to be average costs but are believed to be fairly typical for the 1955 season. Actual costs of production vary widely on each farm and from year to year.

Labor costs are figured at the following hourly rates: man labor (tractor and truck driver) - \$1.25; other labor - \$.90; 60 h.p. tracklayer tractor - \$3.50; 30 h.p. wheel tractor - \$1.50; 1-1/2 ton truck - \$2.00. These rates are estimated total cost including repairs, depreciation and interest on investment.

Land preparation, figured from time of harvesting the previous crop, includes discing 2x, chiselling 2x or plowing 1x, land planing or floating 2x, harrowing 1x, listing 1x. Planting and shaping beds is done in one operation.

The third cost column shows the cost in tons of producing beets at \$15 (1954 price - \$14.96/ton). A yield of 20.3 tons of beets per acre was required to cover the cost of production. A 20-ton yield with the same costs would have a total cost of \$285.40/acre or \$14.27/ton; therefore, 24 tons is about the yield required for a moderate profit to the grower for his management over self labor income.

SAMPLE INPUTS AND COSTS FOR SUGAR BEETS - KING CITY AREA, MONTEREY COUNTY, CALIFORNIA

Yield - 24 tons per acre

Rent - 1/4 of crop

	HOURS PER ACRE				COSTS			
	Man labor	60 h. p. Tr. Tr.	30 h. p. W. Tr.	Truck	Per Acre	Per Ton	In Tons Per Acre	
Land preparation (9 times over)	4.4	3.3	1.0	0.1	18.75	.78	1.21	13.32
Planting (2 men, tractor and planter)	1.0		0.5		2.00	.08	.09	1.86
Fertilizing (2 times) - contract @ 1.75/acre					3.58	.15	.15	3.50
Cultivating and furrowing (4 times)	1.5		1.4		4.00	.17	.28	5.64
Thinning (contract basis)	20.0				18.00	.75	1.21	22.50
Weeding and hoeing (2 times)	22.0				19.80	.82	1.30	18.00
Irrigation, labor incl. prep. etc. (6 times)	19.0	0.2		0.2	18.20	.76	1.21	13.20
Miscellaneous other work	2.0	.1	.5	0.2	4.00	.18	.37	8.99
<b>TOTAL CULTURAL LABOR AND FIELD POWER</b>	<b>69.9</b>	<b>3.6</b>	<b>3.4</b>	<b>0.5</b>	<b>88.25</b>	<b>3.69</b>	<b>5.82</b>	<b>87.01</b>
Lift, top and load (contract basis)					33.60	1.40	2.23	33.10
Hauling beets (field to beet dump)					24.00	1.00	1.58	21.5
<b>TOTAL HARVEST COST</b>					<b>57.60</b>	<b>2.40</b>	<b>3.81</b>	<b>52.60</b>
Power to pump 42 acre inches of water (230' head)					21.00	.87	1.39	14.62
Seed (7 lbs. per acre @ 57¢)					4.00	.17	.28	4.5
Fertilizer to provide 160 lbs. of nitrogen <i>180#</i>					24.00	1.00	1.58	27.00
<b>TOTAL MATERIAL COST</b>					<b>49.00</b>	<b>2.04</b>	<b>3.25</b>	
General expense (office, phone, car, etc. - 5% of all above costs)					9.87	.41	.65	9.51
Personal property taxes on equipment and compensation insurance					3.00	.12	.19	2.5
Repairs to equipment other than tractors and trucks					4.00	.17	.28	2.5
Rent - value of 1/4 of crop - 6 tons @ \$15 - covers land, irrig. system, taxes					90.00	3.75	6.00	50.00
<b>TOTAL CASH OVERHEAD COSTS</b>					<b>106.87</b>	<b>4.45</b>	<b>7.12</b>	
<b>TOTAL CASH COSTS</b>					<b>301.72</b>	<b>12.58</b>	<b>20.00</b>	
Depreciation on operator's equipment, except truck and tractors					2.98	.12	.19	4.54
Interest on investment in operator's equipment					.80	.03	.09	1.06
<b>TOTAL ALL COSTS</b>					<b>305.50</b>	<b>12.73</b>	<b>20.28</b>	
Value of yield of 24 tons at \$15					360.00	15.00	24.00	
Management income or profit					54.50	2.27	3.72	

\*17% @ \$15