1974

SUGAR BEETS

Yields

Since 1963, the average yield of sugar beets for Ventura County has been over 25 tons per acre. Since 1966, it has been over 30 tons per acre. Yields of 25 and 30 tons per acre are used in this sample to demonstrate the effect of yield on cost per ton.

Varieties and Seed

Decisions regarding varieties and seed are made by the sugar company. Breeding programs of the United States Department of Agriculture and sugar companies assure a steady improvement in varieties and seed types.

Soil and Climate

All of the level irrigated land in Ventura County and the climate that goes with it is suitable for sugar beet production. The acreage of sugar beets is limited by the demand for land by more intensive and higher income crops.

When to Plant and Harvest

Most sugar beet fields are planted between December 1 and March 1. Harvesting usually begins around the middle of August and continues throughout September. Because the date of harvesting of a sugar beet crop is not highly critical, it is not necessary to schedule plantings, but harvesting is scheduled so as to meet the steady demand for sugar beets by the sugar factory and to fit the capacity of the local sugar beet dump where beets are freed of some dirt and trash and loaded on railroad cars.

Planting, Cultivation, and Weed Control

All sugar beets here are planted two rows to a standard vegetable bed (40-inch centers). Conventionally, the seed is drilled at the rate of about 7 pounds per acre and the fields hand thinned. There is an increasing acreage planted by precision planting in which single seeds are dropped about 2 to 2.5 inches apart. These fields may be mechanically thinned or hand thinned. Because of the ability of sugar beets to adapt themselves to a wide range of spacing, production is satisfactory whether single beet plants are spaced at 6 inches or 16 inches and a few doubles can be tolerated in what might be called a satisfactory stand. When conditions for emergence are good, and when seed of a high germination percentage can be used, planting to stand by dropping a seed every 4.5 to 5 inches is successful. A local trial and numberous trials elsewhere show

that the highest yields can be expected from spacings of 6 to 12 inches. Yield reductions attributable to deviations from this spacing are about the same for 4-inch spacings and 18-inch spacings.

Selective herbicides available and recommended today appreciably reduce the cost of weed control but they leave some weeds to be taken out by cultivation and hoeing. Most weed control chemicals have been applied preemergence with incorporation. Recent observations have found postemergence application of one or more herbicides effective. However, results depend on very careful application and timing.

Fertilizing

In most fields it is a good practice to apply about 125 pounds of nitrogen per acre before planting or at planting time. This may or may not be sufficient for the whole season. Plant tissue analysis can be used to a good advantage in determining whether additional nitrogen is needed. Mid-season application of nitrogen is critical because if the sugar beet plants do not exhaust the nitrogen supply before harvest, the sugar percentage tends to be low and nitrate nitrogen in beets interfere with processing.

Irrigation

Sugar beets have deep, vigorous root systems and when their leaves are fully developed, they utilize large quantities of water. Because sugar beets are planted during the rainy season it may not be necessary to start irrigating them until April or May. Irrigation should be timed so as to keep the crop growing vigorously until shortly before harvest. Intervals between irrigations may range from two to four weeks. Little or no harm is done allowing the drier portions of the field to show some wilting, but wilting should be taken as a signal to irrigate. Because by the time sugar beets show symptoms of drought, they have probably extracted water from the soil to a depth of 4 feet or more, it is important to allow water to remain in the furrow long enough to replace moisture to a depth of 3 or 4 feet.

Pests and Diseases

It is advisable to treat most sugar beet fields for root-knot nematode before planting. Crop rotation of four years or more between sugar beet crops will usually keep sugar beet nematodes under control; but if cabbage or any other cole crop is planted in this interval, the loss from sugar beet nematodes can be serious.

Occasionally, it is advisable to treat sugar beets for cutworms and other insect pests.

For specific recommendations on control of pests and diseases, see "University of California Pest and Disease Control Program for SUGAR BEETS." This publication is usually revised annually.

SUGAR BEETS

CASH FLOW - EXCLUDING LAND RENT AND TAXES

Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

Start
$ 150

Grow
$ 120

Harvest
$ 70

Acres, Yields, and Prices as Reported by Ventura County Agricultural Commissioner

Year	Acres	T/A	$/Ton*	$/A*
1962	345	22.52	10.10	228
1963	1882	27.05	12.92	349
1964	4421	25.90	13.83	358
1965	2390	25.88	13.57	351
1966	1260	31.40	15.00	471
1967	1423	34.86	14.08	491
1968	1550	32.50	14.60	474
1969	1990	30.47	14.80	451
1970	2890	28.30	17.40	493
1971	3250	31.00	17.07	529
1972	2712	32.65	16.70	545

*Includes government payment.

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Yield: 25, 30, 35 T/A

Land Use: 8 Months

Plant: November through March

Harvest: August through October

	Tractor	Labor Per Acre Hrs	Labor Per Acre Cost	Machinery		Contract & Materials	Total Per Acre
CULTURAL CASH COSTS							
Plow 4 - 16" 2 way	W 80	.45	$ 1.35	$ 1.75			$ 3.10
Disc & Roll 2 x	C 40	.50	1.50	3.06			4.56
Landplane 10 x 40 2 x	W 80	.50	1.50	2.78			4.28
Springtooth Harrow 1 x	W 80	.16	1.08	2.42			3.50
Fumigate & Fertilize		Contract			20 Gal DD + 125 Lb 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	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 1 x		10.00	24.00				24.00
Irrigate 5 x		7.50	20.25	1.25	2 A-Ft Wtr @ $7	14.00	35.50
Disc & Roll Refuse 2 x	W 80	.36	1.08	2.42			3.50
Fertilize 2 beds	W 30	.50	1.50	1.40	80 Lb N @ $.14	11.20	14.10
Total Cultural Cash Costs		21.77	$58.50	$ 19.53		$ 163.20	$ 241.23
CASH OVERHEAD							
Land Rent		$ 15.00 per acre-month x 8 months					120.00
Taxes on Machinery	@	.25 per acre-month x 8 months					2.00
Supervision	@	2.00 per acre-month x 8 months					16.00
General Expense	@	6% of cultural cash costs					14.47
Total Cash Overhead							$ 152.47
Total Cash Costs Except Harvesting							$ 393.70
HARVESTING, PACKAGING, AND SELLING CASH COSTS							
Dig and Load,	Contract	30 T/A	@	$1.35			$ 40.50
Haul	Contract	30 T/A	@	1.00			30.00
Total Harvesting, Packaging and Selling Cash Costs							$ 70.50
Total Cultural, Overhead, Harvesting, Packaging, and Selling Cash Costs							$ 464.20
INVESTMENT OVERHEAD							
Depreciation							$ 14.71
Interest							3.75
Total Investment Overhead							$ 18.46
Total Cost Per Acre	@	30 T/A					$ 482.66
Total Cost Per Acre	@	25 T/A					$ 470.91
Total Cost Per Acre	@	35 T/A					$ 494.41
Total Cost Per Ton	@	30 T/A		$ 16.09			
Total Cost Per Ton	@	25 T/A		18.84			
Total Cost Per Ton	@	35 T/A		14.13			

*1 man @ $3.00/Hr, 1 man @ $2.40/Hr