

SUGAR BEETS
WESTERN RIVERSIDE COUNTY - 1973
SAMPLE COSTS OF PRODUCTION

Based on a 27 ton yield of beets; tractor labor at \$2.50/hr; field labor at \$2.25 (includes workmen's compensation and social security); 60 hp diesel crawler tractor at \$1.50/hr; 40 hp wheel gas tractor at \$1.15/hr.

Operations	Hrs./Acre	Labor Cost	Fuel & Equip.	Materials	Total Cost/Acre
Land Preparation	4.0	\$10.00	5.35		\$15.35
Plant Four Rows (2 men)	0.5	1.25	0.98	6-1/21b seed @ 55¢ = (3.57)	5.80
Cultivate & Fertilize	3.00	7.50	4.48	250 lb N @ 13¢ = (32.50)	44.48
Hand Weed 2X	8.00	18.00			18.00
Irrigate 20X	40.00	90.00		Water=4 AcFt @ \$20.00= (80.00)	170.00
Pest Control (Contract) 2X				(Application & Materials)	5.00
TOTAL CULTURAL COSTS					\$258.63
Harvest		Contract: 27 tons @ \$1.50			40.50
Haul		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 equipment only)					8.00
Cash rent					25.00
TOTAL CASH OVERHEAD AND RENT					\$58.00
		Investment Per Acre	Depreciation	Interest on Investment at 7%	
Buildings		\$10.00	\$0.25	\$0.35	
Tractors & Equipment		80.50	8.05	2.82	
		<u>\$90.50</u>	<u>\$8.30</u>	<u>\$3.17</u>	
TOTAL DEPRECIATION AND INTEREST ON INVESTMENT					\$11.47
TOTAL ALL COSTS					\$398.30
COST PER TON					\$14.75

Income: The price per ton of sugar beets according to the Agricultural Commission crop reports for 1968 through 1972 has ranged from a low of \$13.00 per ton (1968 Hemet area) to a high of \$14.56 (1972 Alessandro district).

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In the past decade the sugar beet industry in western Riverside County has expanded to over 4000 acres. Average yields have ranged from 24 to 35 tons per acre with 15 to 16 percent sugar, though ranges from 35 to 40 tons per acre are possible under good management. A contract with a sugar company is required in order to market sugar beets.

SOIL- Although beets will grow on a wide range of soils, management is easier on deep sandy loams and loams, and although beets are tolerant to saline soils, yields decline in highly saline soils. Shallow, hard-pan soils require extremely careful water and fertilizer management and are best avoided.

PLANTING - Although beets may be planted flat and furrowed later, the trend is toward single row bed planting with rows spaced at 30 to 32 inches (depending on the cultivation equipment used). Monogerm pelleted seed (one seed per pellet) is planted to a depth of three-eighths to one-half inches into a well mulched but firm seed bed, on a 3-1/2 inch in-row spacing. This requires approximately 6-1/2 pounds of pelleted seeds per acre. Varieties are specified and supplied by the contracting sugar company with the cost charged to the grower. Most beets are "irrigated up" with sprinklers. Crusts formed after rains or early sprinklings must be kept soft by light sprinkling until emergence. The planting season is from November through March (omitting December 15 through January), but specific dates are specified from field to field by the sugar company to smooth the flow of beets into the factory.

FERTILIZERS - Nitrogen increases yield, but excess nitrogen can severely reduce sugar percentage. The specific amount of fertilizer is suggested by the contracting company and varies with crop history, soil type, and previous experience in a given location. Moreover, growing season applications of nitrogen are guided by petiole samplings made by the sugar company with the objective of the nitrogen being nearly depleted approximately six weeks before harvest. Where phosphorous is needed all of it should be applied at planting along with a portion of the total nitrogen to be applied.

IRRIGATION - Beets should have sufficient moisture to maintain a constant growth whether from rain during winter or irrigation as necessary. On a medium soil (sandy loam), irrigation may be necessary every seven days during the summer period. Beets showing wilting in the morning hours indicate insufficiently frequent irrigations and should be irrigated immediately. A total of about three acre feet of applied water is usually required for good production - the precise amount depending on winter rainfall supplies. Although beets are deep rooted and will survive from moisture deep in the soil, experience suggests that keeping available moisture supplied in the first two feet is desirable for good yields. Both sprinkler and furrow irrigation are used during the growing season, but following "irrigating-up" sprinklers are left in the field for six or seven weeks where post-emergent weed control chemicals are to be incorporated by sprinkling.

PESTS AND WEEDS - Beets are subject to various insects and diseases. Resistant varieties are supplied for certain of the virus diseases likely to be troublesome. For control of other diseases, insects, and weeds, consult Agricultural Extension for the latest publications containing weed and pest control recommendations. To avoid build up of nematodes and certain soil diseases, rotation with cereal grains is practiced. It is preferable not to plant more than two beet crops in a row, and not to return to beets on the same field until after one year of grain and one year fallow. When nematodes only are the problem following the first crop of beets, fumigation is sometimes used to permit the production of a second crop.