

SUGAR BEETS



COSTS & GENERAL HINTS ON PRODUCTION

University of California
Agricultural Extension Service
Kern County
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more water each irrigation than do the lighter soils. Sugar beets should not be allowed to suffer for lack of available moisture. When plants wilt, yield and sugar content may be reduced.

INSECTS AND DISEASES:

Damping-off may be responsible for poor stands. The damping-off organisms are fungi that live in the soil and attack young seedlings. Seed treatment with a desirable fungicide usually offers adequate protection.

Curly Top is a virus disease transmitted by the beet leafhopper. Curly Top is a serious problem unless Curly Top resistant varieties of sugar beets are planted.

Root knot nematode is a serious pest to sugar beets. Soil fumigation will offer good protection. However, a grower should not plant beets on known nematode infested land.

Insects are not too great an economic problem in sugar beets.

HARVEST:

Most sugar beets are harvested by contract with custom operators who furnish their own equipment.

THINNING:

Beets generally are thinned when they have from 2 to 6 true leaves. Spacing of the beets in 30 inch single row beds, should be in the range of 160 to 200 beets per 100 feet of row. This would be comparable to 6 to 8 inch spacings. Tests have shown that spacings from 4 inches up to 10 inches have little effect upon yields. If possible, gaps larger than 12 inches should be avoided. On 40 inch double row beds, 140 to 160 plants per 100 feet of row is best.

For mechanical thinning a full uniform stand is needed for a successful operation.

FERTILIZATION:

Nitrogen has been shown to be one of the principle factors affecting the yield and sugar content of sugar beets. The lack of adequate nitrogen may result in lowered yields while excess nitrogen may be the reason for low sugar content.

The crop history of a field may influence the amount of fertilizer needed. Sugar beets in most locations will need and use as much or more nitrogen than cotton. In general, 100 to 160 lbs. of actual nitrogen should be applied.

Some of our lighter soils in Kern County may require as much as 200 lbs. of actual nitrogen. Where high rates of nitrogen are used, the fertilizer should be applied early enough so the beets will use all of the nitrogen prior to harvest in order to insure adequate sugar percentage in the beets.

IRRIGATION:

Sugar beets will use from 3 to 3-1/2 acre feet of water. The number of irrigations will vary from field to field depending on soil type. Heavier soils hold more water that is available to the plants than do lighter soils. Therefore, heavier types of soils may require less numbers of irrigations but will need

SOME HINTS ON SUGAR BEET PRODUCTION IN KERN COUNTY

George V. Ferry
Farm Advisor

SOIL REQUIREMENTS:

Soils that are adapted to cotton, alfalfa and other deep rooted crops are suitable for sugar beets. The roots of sugar beets will penetrate 5 to 6 feet into the soil, therefore, a deep, well drained soil is preferred. Sugar beets have a high degree of tolerance to alkali soil conditions.

PREPARATION OF SEED BED:

The seed bed should be firm and free of weeds. It is a good practice to pre-irrigate the field before planting. Sugar beets in Kern County usually are planted on 30 inch single row beds. However, some plantings are on 40 inch double row beds.

PLANTING:

Planting dates are usually in the fall or early in the year. Usual plantings occur during January and February. If beets are planted in the fall, September and October plantings are preferred. Fall beets should have considerable growth before frost or freezing weather occurs.

Planting seed is supplied by the sugar companies at a price specified in the contract. If a grower decides to plant in the fall, sugar beet of a bolting resistant variety should be used.

Planting rates usually range from 4 to 6 pounds of seed per acre, and should not be planted over two inches deep.

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WHAT WILL IT COST TO GROW SUGAR BEETS IN KERN COUNTY

Based on a yield of 25 tons per acre

Man labor @ \$.90 & \$1.05 hr; large tractor @ \$2.75; wheel tractor @ \$1.60 per hr.

George V. Ferry*

Burt B. Burlingame**

| | Sample Costs | | My Costs | |
|--|-----------------|---------------|----------|---------|
| | Per Acre | Per Ton | Per Acre | Per Ton |
| PRE-HARVEST LABOR AND MATERIAL COST: | | | | |
| Prepare land: man & large tractor, 2 hrs. | \$ 7.60 | | | |
| List & smooth beds: man & wheel tractor, .5 hr. | 1.33 | | | |
| Plant & fertilize: 2 men & wheel tractor, .6 hr. | 2.13 | | | |
| Fertilizer to provide 100 lbs. nitrogen | 16.00 | | | |
| Seed: 5 lbs. @ 50¢ + 7¢ for seed treatment | 2.57 | | | |
| Thin: contract | 12.50 | | | |
| Weed: 2 additional @ \$4 per acre | 8.00 | | | |
| Irrigate: 1 pre & 7 crop, 18 hr. | 16.20 | | | |
| Irrigation water: power to pump 3 A.F. @ \$4.50 | 13.50 | | | |
| Cultivate: 3 times, man & wheel tractor, 1-1/2 hrs. | 3.98 | | | |
| Miscellaneous labor and material | 6.00 | | | |
| Total pre-harvest labor and material | \$ 89.81 | \$3.59 | | |
| HARVESTING COSTS: | | | | |
| Mechanical harvesting: contract @ \$1.35 per ton | 33.75 | 1.35 | | |
| Hauling: (net cost @ \$1 per ton) | 25.00 | 1.00 | | |
| Total harvesting costs | 58.75 | 2.35 | | |
| CASH OVERHEAD COSTS: | | | | |
| General expense: (5% of labor and material cost) | 6.84 | | | |
| County taxes | 6.25 | | | |
| Repairs (except to tractors), insurance, etc. | 5.00 | | | |
| Total cash overhead costs | 18.09 | .72 | | |
| TOTAL CASH, LABOR, AND FIELD POWER COSTS | \$166.65 | \$6.66 | | |
| DEPRECIATION: | | | | |
| Irrigation facilities: (original cost \$200) | 15.00 | | | |
| Equipment, except tractor: (original cost \$17) | 1.70 | | | |
| Total depreciation | 16.70 | .66 | | |
| INTEREST ON INVESTMENT @ 5%: | | | | |
| Irrigation facilities: on 1/2 original cost (\$100) | 5.00 | | | |
| Equipment, except tractor: on 1/2 original cost (\$8.50) | .43 | | | |
| Land at \$500 | 25.00 | | | |
| Total interest on investment | 30.43 | 1.21 | | |
| TOTAL COST OF PRODUCTION | \$213.78 | \$8.53 | | |

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The above table is provided as a work sheet so you can estimate your own probable costs of production. Production costs will vary depending on water costs, weeds, size of operation and other factors. Mechanical thinning and weeding may result in reduced costs. Any income from beet tops can be deducted from total costs to obtain net cost of production.