Bed Planting of Sugar Beets

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Bed planting of sugar beets has been a common practice in some areas of California for many years. This system was developed by the vegetable growers because of their desire to do an exacting job of farming such speculative and perishable crops as lettuce, carrots, broccoli, etc. Poor irrigation, cultivation, or a partial stand cannot be tolerated, since they reduce quality and yield with consequent lower returns.

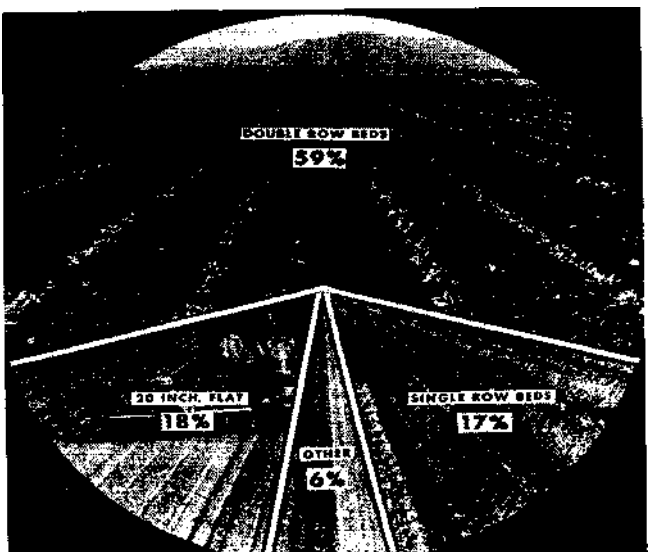

Figure 1.—Methods of planting beets in California areas.

Observation of the vegetable grower's success with bed plantings led the Spreckels Sugar Company to adapt this practice to sugar beet production approximately twenty years ago. The success of these early plantings gradually spread throughout the state and in 1951 75.7 percent of total beet acreage in California was planted on beds, either single or double row. (Figure 1).

Beds and row spacings vary in width from one district to another, depending upon the crops other than beets grown on the farm, the irrigation system, and the harvesting methods to be used.

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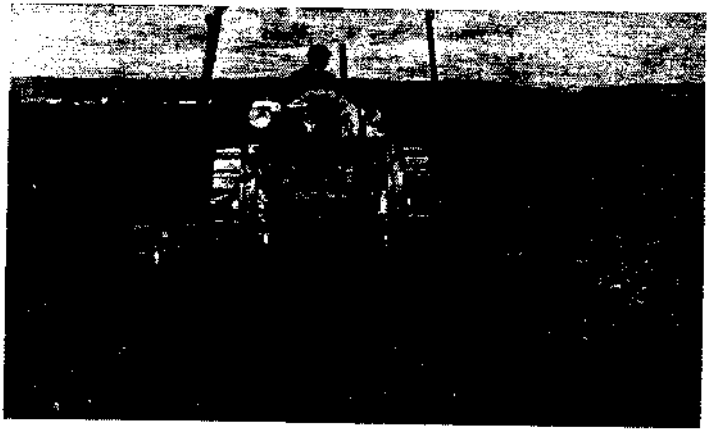

Figure 2. The basic contour for sugar beet beds is made by ridging the field with lister shovels on 40 inch or 42 inch centers.

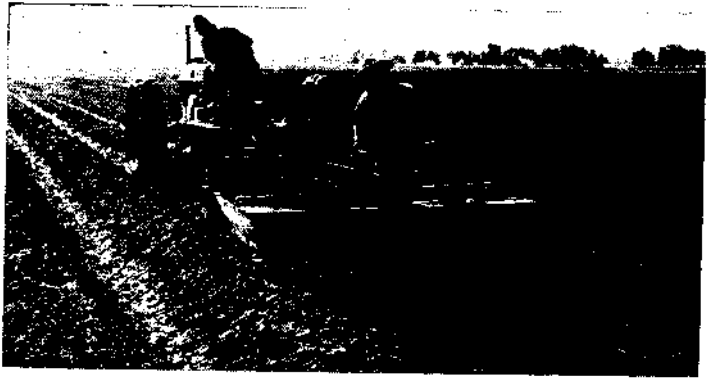

Figure 3.—Flattening the tops of beds and producing the final contour of the beds is accomplished with this bed-shaping tool.

An outline of the general cultural operations performed in order to do a satisfactory job of planting sugar beets on beds follows:

1. Fall plowing and deep chiselling in two directions with the second chiselling at right angles to the first. (This aerates the soil and provides sufficient loose soil for proper listing of uniform beds.)

Figure 4.—Irrigation for germination is standard practice with bed-planted beets. These small sheet metal dams control the flow of water when there is considerable slope to the field.

2. Harrowing, ring-rolling and floating, as necessary, to pulverize large clods.
3. Ridging the field with lister shovels, done with care in order to produce straight, uniform rows.
4. Shaping beds for planting with rollers, light harrows or bed shapers built specifically for this job. A bed shaper removes small weeds, levels the top of the bed uniformly and rebuilds the furrows.

Table 1.—Percent of California Sugar Beet Acres Planted on Various Row Spacings.

	Row Spacings					
	20" to 24"		26" to 34"		12"x26" to 16"x24"	
Districts in California	Flat	Beds	Flat	Beds	Flat	Beds
Sacramento and North San Juaquin Valleys	18.2%		1.8%	7.7%	3.7%	12.5%
Salinas, Santa Clara, San Benito, Santa Maria Valleys				0.1%		15.4%
South Coast, South San Juaquin and Imperial Valleys		.2%		9.0%	.6%	50.8%
% of State Acreage	18.2%	.2%	1.8%	16.8%	4.3%	58.7%

5. Planting, usually with four-row sled planters.

It is evident that cultural operations prior to planting are more complex if beds are to be used, but some very definite advantages can be derived in some of the beet growing districts.

Irrigation is the principal reason for planting beets on beds. It is possible to insure germination by introducing adequate moisture into the seed bed at planting time.

Beets can be properly irrigated at any time regardless of size, providing ample sub-moisture whenever needed.

During the wet season, small beets are kept well drained.

Large furrows help to reduce flooding which causes injury, particularly in heavy soils or in extremely hot weather.

Large heads of water can be used late in the growing season without danger of over-irrigation.