

# SUGAR BEET



Sugar beet (*Beta vulgaris* L.) is a biennial herbaceous plant from the Amaranthaceae family. The native range of sugar beet is the Mediterranean region, and west and south Asia. Some varieties of sugar beet are drought-tolerant and adaptive to weather fluctuations. The crop grows well in temperate

regions to a height of about 35cm. The crop consists of a root and a rosette of leaves. The root, also a tap root, is conical, white, fleshy, and has a flat crown. The root acts as the storage for sugar and the leaves can also be used as fodder.

## Crop requirements

### Climate and soil preparation

Sugar beet is a winter crop that grows well in deep well drained soils. Organic matter is required to support the production of the crop. A soil pH range of 6 to 8 is needed. It can tolerate salinity 10 dS/m. Irrigate using saline water within the tolerance range of sugarbeet (up to 10-12 dS/m).. Sugar beet grows well

in temperate climates. Sugar beet is not sensitive to cold. Deep plowing of between 30-40 cm assists growth of the crop

### Planting

A seeding rate of 60,000 to 80,000 plants/ha is recommended. Sowing is done in rows 30 to 40 cm apart and 30 cm within rows, at a depth of about 2 cm. Germination is influenced by soil temperature, moisture, and adequate aeration.



## Crop cultivation and management

### Water management

Sugar beet is a water-demanding crop. Irrigation should be used to grow sugar beet in dry areas. Irrigation requirements of about 300 mm are recommended while rainfall of about 500 mm or less will be required to produce a successful crop. If using saline water, irrigate within the tolerance range of sugarbeet (up to 10-12 dS/m).

### Fertilization

The fertilizer programme for sugar beet includes both organic manure and mineral fertilizers. Between 20t/ha and 30t/ha of

manure incorporated into the soil at planting will support sugar beet production. In addition, 80 kg N + 45 kg P<sub>2</sub>O<sub>5</sub> + 60 kg K<sub>2</sub>O will be required on soil that do not exhibit major nutrient deficiencies. In many instances, boron (Bo), zinc (Zn) and iron (Fe) are required in small quantities.

### Weed control

Severe weed infestations in sugar beet crops can decrease yield by more than 50% unless a good control plan is put in place. Chemical weed control is beneficial.

## Harvest, postharvest, and storage

Sugar beet is harvested for fresh roots and leaves. The yield potential of improved varieties ranges between 50–75 t/ha of fresh roots and 10–20 t/ha of fresh leaf biomass. The roots are used for sugar production because of the high sucrose

concentration while the leaves are used for livestock fodder. In well-drained soils harvesting proceeds by removing the roots from the soil and shaking off the soil from the crop. Store sugarbeets in cool, dry, and well-ventilated conditions to prevent spoilage. Avoid prolonged storage in high humidity or wet conditions that can promote decay.



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