



GENERALIZED MANAGEMENT AND CULTIVATION PRACTICES OF SUGARCANE:

Sugarcane (*Saccharum officinarum*) is a major commercial crop cultivated in Tamil Nadu for sugar production, jaggery, and bioenergy. It is a long-duration, perennial crop that contributes significantly to the state's economy. Proper management practices are essential to achieve high yield and good quality cane.

Climate

Sugarcane grows best in tropical and subtropical climates:

- Optimum temperature: **25–35°C**
- Requires **high humidity and sunny days**
- Rainfall requirement: **1000–1500 mm**
- Sensitive to **waterlogging and frost**

Soil

Sugarcane can be grown in a wide range of soils but prefers:

- **Loamy, alluvial, and red soils**
 - Well-drained soils with good organic matter
 - Soil pH range: **6.0–7.5**
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Land Preparation

- Plough the land **2–3 times** to remove weeds and break clods.
- Level the field properly for uniform irrigation.

- Incorporate **farmyard manure (FYM) 20–25 tons/ha** or compost during last ploughing.
- Sugarcane is usually grown in **flat beds or furrows** depending on irrigation.

Season of Planting in Tamil Nadu

Sugarcane is mainly planted during:

- **Pre-monsoon (February–March)** – early planting
- **Kharif (May–June)** – main crop under rainfed or irrigated conditions

Seed Material and Planting

- **Seed material:** healthy cane setts with 2–3 buds
- **Planting method:** Furrow or trench planting
- **Spacing:** 1.2–1.5 m between rows
- **Depth:** 5–10 cm

Use disease-free and high-yielding varieties suitable for Tamil Nadu.

Seed Treatment

- Treat cane setts with **Carbendazim or Thiram at 2–3 g/kg** to prevent fungal infections.
- Use **bio-inoculants like Trichoderma** to improve early growth.

Fertilizer and Manure Management

Recommended fertilizer dose per hectare:

- **Nitrogen (N): 120–150 kg**
- **Phosphorus (P₂O₅): 60–75 kg**

- **Potassium (K₂O): 120–150 kg**

Split N application in **3–4 installments** at planting, tillering, and grand growth stages.

Apply **FYM or compost 20–25 tons/ha** before planting.

Irrigation Management

- Sugarcane requires **frequent irrigation** due to its long duration.
- Critical stages for irrigation:
 - Germination and early tillering
 - Grand growth (active vegetative stage)
 - Flower initiation and elongation
- Avoid waterlogging to prevent root diseases.

Weed Management

- Weed control is critical during early crop growth.
- First weeding: **20–25 days after planting**
- Second weeding: **40–45 days after planting**
- Use **pre-emergence herbicides like Pendimethalin** if necessary.
- Mechanical or manual weeding is recommended for sustainable practices.

Pest and Disease Management

Major pests:

- Shoot borer
- Top borer
- White grub

Major diseases:

- Red rot
- Wilt
- Smut

Use resistant varieties, proper field sanitation, and integrated pest management for control.

Harvesting

- Sugarcane matures in **12–16 months** depending on variety.
- Harvest when sugar content (Brix) is optimum.
- Cut canes close to the ground and remove leaves before transport.

Yield

- Average cane yield in Tamil Nadu: **70–100 tons/ha**
- Sugar recovery depends on variety and management practices.

Sugarcane cultivation in Tamil Nadu requires careful attention to variety selection, planting, irrigation, nutrient management, and pest control. Adoption of modern management practices ensures high yield, better quality, and profitability for farmers.