

In-Depth Guide on Sunflower Cultivation

1.Introduction

Sunflower (*Helianthus annuus*) is grown for its oil-rich seeds, primarily for oil extraction. It's a high-value oilseed crop grown mainly in Rajasthan, Maharashtra, and Karnataka.

2.Climate and Soil Requirements

- Temperature: 25–30°C.
- Rainfall: Requires 50–75 cm of rainfall or irrigation during dry periods.
- Soil: Well-drained, fertile loamy soil with a pH of 6.0–7.5.

3.Seed Selection and Preparation

- Varieties: KBSH 1, Pusa 2-43.
- Seed Rate: 15–20 kg per hectare.
- Seed Treatment: Treat with fungicides like Captan or Thiram.

4.Sowing Techniques

- Time of Sowing: October to December.
- Methods: Line sowing with seed drills or broadcasting for smaller fields.
- Depth and Spacing: Sow 3–5 cm deep with 60 cm row spacing and 25–30 cm plant spacing.

5.Fertilizer Management

- Base Fertilizers: Nitrogen (60 kg/ha), Phosphorus (40 kg/ha), Potassium (30 kg/ha).
- Application: Apply full Phosphorus and Potassium at sowing, top dress with Nitrogen during flowering.

6.Irrigation Management

- Critical Stages: Flowering and seed filling stages require regular irrigation.
- Avoid water stagnation.

7.Pest and Disease Management

- Pests: Aphids, whiteflies, and sunflower beetles. Use Dimethoate or Neem oil.
- Diseases: Rust, powdery mildew. Use fungicides like Mancozeb or Copper oxychloride.

8.Weed Control

- Methods: Apply pre-emergence herbicides like Atrazine and hand weeding.

9. Harvesting and Post-Harvest Management

- Harvesting: 90–100 days after sowing when flower heads turn yellow and seeds mature.
- Threshing: Use combine harvesters or manually beat the crop.
- Storage: Store seeds in dry, cool conditions.

10. Yield and Economics

- Yield: 1.0–1.5 tons per hectare.
- Cost of Cultivation: ₹18,000–₹22,000 per hectare.
- Market Price: ₹3,000–₹4,000 per quintal.