

In-Depth Guide on Safflower Cultivation

1.Introduction

Safflower (*Carthamus tinctorius*) is primarily grown for its oil-rich seeds. It is well-suited for arid regions of India, particularly in Rajasthan, Haryana, and Gujarat.

2.Climate and Soil Requirements

- Temperature: 20–30°C.
- Rainfall: Requires 40–60 cm of rainfall or irrigation.
- Soil: Prefers sandy loam or loamy soil with good drainage and a pH of 6.0–7.5.

3.Seed Selection and Preparation

- Varieties: A-1, S-44.
- Seed Rate: 6–8 kg per hectare.
- Seed Treatment: Treat with fungicides like Captan to prevent diseases.

4.Sowing Techniques

- Time of Sowing: October to November.
- Methods: Line sowing with seed drills for better spacing.
- Depth and Spacing: Sow 2–3 cm deep with 30 cm row spacing and 20 cm plant spacing.

5.Fertilizer Management

- Base Fertilizers: Nitrogen (40 kg/ha), Phosphorus (40 kg/ha).
- Application: Apply full Phosphorus at sowing, top dress with Nitrogen during vegetative growth.

6.Irrigation Management

- Critical Stages: Flowering and seed filling stages.
- Avoid excess moisture as Safflower is drought-tolerant.

7.Pest and Disease Management

- Pests: Aphids, caterpillars. Use Dimethoate or Endosulfan.
- Diseases: Wilt and rust. Use appropriate fungicides.

8. Weed Control

- Methods: Use pre-emergence herbicides and hand weeding.

9. Harvesting and Post-Harvest Management

- Harvesting: 90–100 days after sowing when flowers fade and seeds mature.
- Threshing: Use mechanical threshers or manually.
- Storage: Store seeds in dry, cool places.

10. Yield and Economics

- Yield: 1.0–1.2 tons per hectare.
- Cost of Cultivation: ₹12,000–₹18,000 per hectare.
- Market Price: ₹4,000–₹5,000 per quintal.