

In-Depth Guide on Lentil Cultivation

1. Introduction

Lentil (*Lens culinaris*) is a key pulse crop in India, primarily grown for its protein-rich seeds. It is a vital component of the Rabi cropping system, cultivated mainly in Madhya Pradesh, Uttar Pradesh, Bihar, and Rajasthan.

2. Climate and Soil Requirements

- Temperature: Thrives in cool weather, 18–25°C.
- Rainfall: Requires 30–40 cm during its growing period.
- Soil:
 - Prefers well-drained loam to clay loam soils.
 - Soil pH: 6.0–7.5.

3. Seed Selection and Preparation

- Varieties:
 - Pusa-6: High-yielding and rust-resistant.
 - L-9-12: Suitable for rainfed conditions.
- Seed Rate: 30–40 kg per hectare.
- Seed Treatment: Treat seeds with Rhizobium culture and fungicides like Carbendazim (2 g/kg).

4. Sowing Techniques

- Time of Sowing: October to mid-November.
- Method: Line sowing with seed drills.
- Depth and Spacing:
 - Sow seeds 3–4 cm deep.
 - Maintain 20 cm row spacing and 10 cm plant spacing.

5. Fertilizer Management

- Base Fertilizers:
 - Nitrogen (N): 20 kg/ha.
 - Phosphorus (P): 40 kg/ha.
 - Potassium (K): 20 kg/ha (optional based on soil test).
- Application: Apply all fertilizers at sowing.

6. Irrigation Management

- Critical Stages:
 - Pre-flowering (30–35 days after sowing).
 - Pod formation (60–70 days after sowing).
- Avoid waterlogging, as lentils are sensitive to excess moisture.

7. Pest and Disease Management

- Pests:
 - Pod Borer: Spray Chlorpyrifos (0.05%).
- Diseases:
 - Rust: Use Mancozeb (0.2%).
 - Wilt: Treat seeds with Trichoderma (5 g/kg).

8. Weed Control

- Use Pendimethalin (1 liter/ha) as pre-emergence herbicide.
- Perform hand weeding 25–30 days after sowing.

9. Harvesting and Post-Harvest Management

- Harvesting:
 - Harvest when pods turn brown and seeds harden.
 - Use sickles or combine harvesters.
- Threshing: Beat the crop manually or use threshers.
- Storage: Store seeds in dry, airtight containers; fumigate storage areas.

10. Yield and Economics

- Yield: 1–1.5 tons per hectare.
- Cost of Cultivation: ₹15,000–₹20,000 per hectare.
- Market Price: ₹4,000–₹5,000 per quintal.