

In-Depth Guide on Mustard Cultivation

1. Introduction

Mustard is a vital oilseed crop in India, grown during the Rabi season. It is cultivated primarily in Rajasthan, Haryana, Punjab, and Madhya Pradesh. Mustard oil is widely used for cooking, and its by-products are utilized as animal feed.

2. Climate and Soil Requirements

- Temperature: Ideal range is 10–25°C.
- Rainfall: Prefers low to moderate rainfall (30–40 cm). Excess moisture can damage crops.
- Soil:
 - Fertile, well-drained loamy to sandy loam soil.
 - Soil pH: 6.0–7.5.
 - Avoid waterlogged areas; proper field leveling is essential.

3. Seed Selection and Preparation

- Varieties:
 - Pusa Bold: High-yielding, disease-resistant.
 - RH-30: Suitable for irrigated areas.
 - Kranti: Resistant to Alternaria blight and white rust.
- Seed Rate: 4–5 kg per hectare.
- Seed Treatment: Treat seeds with Captan or Carbendazim at 2 g/kg to prevent fungal infections.

4. Sowing Techniques

- Time of Sowing:
 - October to early January, depending on region.
- Methods:
 - Line sowing with seed drills ensures better spacing.
 - Broadcasting can be used for small fields.
- Depth and Spacing:
 - Sow seeds at 1.5–2 cm depth.
 - Maintain 30 cm row spacing and 10 cm plant spacing.

5. Fertilizer Management

- Base Fertilizers:
 - Nitrogen (N): 80 kg/ha.
 - Phosphorus (P): 40 kg/ha.
 - Sulfur (S): 40 kg/ha for higher oil content.
- Application:
 - Apply half Nitrogen and full Phosphorus and Sulfur at sowing.
 - Add the remaining Nitrogen at the flowering stage.

6. Irrigation Management

- Critical Stages:
 - Vegetative Stage: 20–25 days after sowing.
 - Flowering Stage: 45–50 days after sowing.
 - Pod Formation: 70–75 days after sowing.
- Avoid excessive irrigation, as it can lead to fungal diseases.

7. Pest and Disease Management

- Pests:
 - Aphids: Spray Dimethoate (0.03%) or Neem oil.
 - Painted Bug: Use Malathion (0.05%) for control.
- Diseases:
 - Alternaria Blight: Use Mancozeb at 0.25%.
 - White Rust: Apply Metalaxyl-based fungicides.

8. Weed Control

- Use pre-emergence herbicide Pendimethalin (1 liter/ha).
- Hand weeding at 25–30 days after sowing is effective in small fields.

9. Harvesting and Post-Harvest Management

- Harvesting:
 - Harvest when 75–80% of the pods turn yellow.
 - Avoid delays to prevent shattering losses.
- Threshing: Use threshers or manual methods to separate seeds.
- Storage: Store seeds in moisture-free containers; ensure fumigation to prevent pest attacks.

10. Yield and Economics

- Yield: 1.5–2 tons per hectare, depending on variety and management.
- Cost of Cultivation: ₹20,000–₹25,000 per hectare.
- Market Price: ₹5,000–₹6,000 per quintal (varies regionally).