

4. Cucumber Cultivation

1. Introduction

Cucumber (*Cucumis sativus*) is a warm-season crop grown for its fresh, juicy fruits used in salads and beverages. Major producing states include Uttar Pradesh, Karnataka, and Tamil Nadu.

2. Climate and Soil Requirements

- Temperature: Requires 20–30°C for optimal growth.
- Rainfall: Prefers 40–50 cm during the growing season.
- Soil:
 - Well-drained sandy loam or silty soil.
 - Soil pH: 6.0–7.5.

3. Seed Selection and Preparation

- Varieties:
 - Pusa Uday: Suitable for summer cultivation.
 - Hybrid-1: High-yielding variety.
- Seed Rate: 2–3 kg per hectare.
- Seed Treatment: Treat with Carbendazim (2 g/kg) to prevent fungal infections.

4. Sowing Techniques

- Time of Sowing: February–June.
- Method: Direct sowing in pits or rows.
- Spacing: Maintain 1.5–2 meters between rows and 50 cm between plants.

5. Fertilizer Management

- Base Fertilizers:
 - Nitrogen (N): 50 kg/ha.
 - Phosphorus (P): 30 kg/ha.
 - Potassium (K): 50 kg/ha.
- Application: Apply full P and K and one-third N at sowing; remaining N in two splits.

6. Irrigation Management

- Provide frequent irrigation during flowering and fruit setting stages.

7. Pest and Disease Management

- Pests:
 - Aphids: Use Neem oil or Imidacloprid (0.03%).
- Diseases:
 - Downy Mildew: Spray Metalaxyl (0.3%).

8. Weed Control

- Use hand weeding 20 days after sowing.

9. Harvesting and Post-Harvest Management

- Harvesting:
 - Harvest fruits 50–60 days after sowing when tender and green.
- Post-Harvest: Pack and store at 10–15°C to retain freshness.

10. Yield and Economics

- Yield: 10–15 tons per hectare.
- Cost of Cultivation: ₹40,000–₹60,000 per hectare.
- Market Price: ₹8–₹15 per kg.