

5. Bitter Gourd Cultivation

1. Introduction

Bitter gourd (*Momordica charantia*) is a tropical vine grown for its edible, bitter fruits, widely consumed for its health benefits. Major producers include Uttar Pradesh, Bihar, and Karnataka.

2. Climate and Soil Requirements

- Temperature: Thrives at 25–30°C.
- Rainfall: Requires 50–60 cm during the growing season.
- Soil:
 - Well-drained sandy loam or loamy soil.
 - Soil pH: 6.0–7.5.

3. Seed Selection and Preparation

- Varieties:
 - Pusa Vishesh: High-yielding and disease-resistant.
 - Arka Harit: Suitable for humid regions.
- Seed Rate: 5–6 kg per hectare.
- Seed Treatment: Soak seeds in warm water for 24 hours to enhance germination.

4. Sowing Techniques

- Time of Sowing:
 - Summer: February–April.
 - Monsoon: June–July.
- Method: Direct sowing or raising seedlings in nurseries.
- 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): 30 kg/ha.
- Application: Apply half N and full P and K at sowing; remaining N in two splits.

6. Irrigation Management

- Regular irrigation every 5–7 days during summer; reduce during monsoon.

7. Pest and Disease Management

- Pests:
 - Fruit Fly: Use pheromone traps or spray Malathion (0.1%).
- Diseases:
 - Powdery Mildew: Spray Sulfur (0.25%).

8. Weed Control

- Hand weeding 25 days after sowing.

9. Harvesting and Post-Harvest Management

- Harvesting: Harvest fruits 55–65 days after sowing when green and tender.
- Post-Harvest: Store in cool, dry conditions to extend shelf life.

10. Yield and Economics

- Yield: 15–20 tons per hectare.
- Cost of Cultivation: ₹50,000–₹70,000 per hectare.
- Market Price: ₹15–₹30 per kg.