

9. Amaranthus Cultivation

1. Introduction

Amaranthus (Amaranthus spp.) is a fast-growing leafy vegetable, popular for its high nutritional value and adaptability to various climates. It is grown widely across India as a staple leafy green.

2. Climate and Soil Requirements

- Temperature: Thrives in a warm climate with temperatures between 25–35°C.
- Rainfall: Requires moderate irrigation and can tolerate drought conditions to some extent.
- Soil:
 - Well-drained loamy soil.
 - Soil pH: 6.5–7.5.

3. Seed Selection and Preparation

- Varieties:
 - Co-1, Co-2: High-yielding varieties.
 - Arka Arunima: Suitable for humid conditions.
- Seed Rate: 2–3 kg per hectare.
- Seed Treatment: Soak seeds in water for 4–6 hours before sowing to ensure uniform germination.

4. Sowing Techniques

- Time of Sowing:
 - Zaid and Kharif: February–July.
- Method: Direct sowing or nursery transplanting.
- Spacing: 20–30 cm between rows; 10–15 cm between plants.

5. Fertilizer Management

- Base Fertilizers:
 - Nitrogen (N): 50 kg/ha.
 - Phosphorus (P): 25 kg/ha.
 - Potassium (K): 25 kg/ha.
- Application: Apply all P and K at sowing, and N in split doses during growth.

6. Irrigation Management

- Regular irrigation every 6–8 days is crucial, especially during dry spells. Avoid waterlogging to prevent root rot.

7. Pest and Disease Management

- Pests:
 - Leaf Webber: Spray Neem oil or Chlorpyrifos (0.05%).
- Diseases:
 - Leaf Spot: Treat with Mancozeb (0.25%).

8. Weed Control

- Manual weeding 15–20 days after sowing is effective for maintaining crop health.

9. Harvesting and Post-Harvest Management

- Harvesting:
 - Leaves: Harvest tender leaves 25–30 days after sowing.
 - Whole Plant: Harvest 40–50 days after sowing.
- Post-Harvest: Cool and humid storage helps maintain freshness.

10. Yield and Economics

- Yield: 10–15 tons per hectare.
- Cost of Cultivation: ₹20,000–₹30,000 per hectare.
- Market Price: ₹8–₹20 per kg depending on location and season.