

Broccoli:

1. Climate & Soil Requirements

Climate

- Cool-season crop
- Ideal temperature: **15–23°C**
- High temperatures cause loose, leafy, or small heads.

Soil

- Well-drained **sandy loam** to **clay loam**
- pH: **6.0–7.0**
- Rich in organic matter.

2. Nursery Raising

Seed Rate

- **120–150 g/acre**

Nursery Bed Preparation

- Raised beds 1 m wide
- Mix FYM + sand + soil (1:1:1)

Seed Treatment

- Carbendazim or Captan **2 g/kg seed**
- Trichoderma **4 g/kg** (bio treatment)

Sowing

- Line sowing or broadcasting on nursery beds
- Light irrigation with a rose can

Transplanting Age

- Seedlings **25–30 days**, 4–5 true leaves.

3. Field Preparation

- Deep ploughing + 2–3 harrowings
- Add **20–25 tons/acre FYM**

- Prepare ridges & furrows **OR** raised beds
- Ensure proper drainage.

4. Planting & Spacing

- **Row spacing:** 45–60 cm
- **Plant spacing:** 45 cm
- **Plant population:** ~14,000–16,000 plants/acre
- Transplant in evening to reduce stress.

5. Manure & Fertilizer Requirement (per acre)

Total Recommended Dose

- **N – 60–70 kg**
- **P₂O₅ – 24 kg**
- **K₂O – 24–30 kg**

Application Schedule

Basal Dose (before transplanting):

- 50% Nitrogen + Full Phosphorus + Full Potash

Top Dressing:

- Remaining 50% Nitrogen in two splits:
 - 20–25 days after transplanting
 - 40–45 days after transplanting

Micronutrients

- **Boron (Borax 4 kg/acre)** → prevents hollow stem
- **Calcium** spray (CaNO₃ @ 1%) improves head quality.

6. Irrigation Management

- First irrigation immediately after transplanting.
- Then irrigate every **6–7 days** in winter.
- Do not allow waterlogging → heads rot.

Drip irrigation ensures uniform growth and higher yield.

7. Intercultural Operations

Weeding

- First weeding at **15–20 days**
- Second weeding at **35–40 days**

Earthing Up

- Light earthing up at **25–30 days** → improves plant support.

Mulching

- Dry mulch or plastic mulch helps retain moisture and reduces weeds.

8. Pest & Disease Management

Major Pests

1. Diamondback Moth (DBM)

- Most common pest.

Control:

- Emamectin benzoate **0.5 g/L**
- Neem oil **3 ml/L** (organic)

2. Aphids

Control:

- Imidacloprid **0.3 ml/L**
- Yellow sticky traps.

3. Cutworms

Control:

- Chlorpyrifos soil drench **2 ml/L** near root zone.

Major Diseases

1. Downy Mildew

- Yellow patches below leaves.

Control:

- Metalaxyl or Mancozeb **2 g/L** alternate sprays.

2. Black Rot

- V-shaped yellow lesions.

Control:

- Copper oxychloride **2 g/L**

3. Damping Off (Nursery)

Control:

- Trichoderma soil mix
- Avoid overwatering.

9. Harvesting

Maturity

- Ready in **60–90 days** after transplanting (variety dependent).

How to Harvest

- Cut central head with 10–15 cm stem
- Side shoots can be harvested later for extra yield.

Ideal Head Characteristics

- Compact
- Dark green
- Firm
- No flowering

10. Yield

- **40–60 quintal/acre (average varieties)**
- **70–100 quintal/acre (hybrids under drip + good management)**