

## Package of Practice for Cultivation of Cucurbits (Bottle gourd, Ridge gourd, Sponge Gourd, Bitter gourd, Cucumber and Pumpkin)

Cucurbits such as bottle gourd, ridge gourd, bitter gourd, cucumber, and pumpkin are important crops in India, grown extensively for their nutritional value and high market demand. By adopting scientific and improved farming practices, farmers can achieve better yields and profitability.

### Agro-Climatic Requirements

Vine vegetables thrive in **warm, dry climates with ample sunlight**. Seeds of these crops generally germinate best at a daytime temperature of around **25°C**, and optimal growth is seen in temperatures ranging between **25°C to 30°C**. If temperatures exceed 30°C, male flowers tend to increase, which can lead to a decrease in female flowers, affecting yield negatively.

### Sowing Season

Season	Time
Kharif	June–July
Summer	January–February

### Seed Rate (kg/hectare)

Crop	Kharif	Summer
Bottle Gourd	2.5–3.0	—
Ridge Gourd	1.25–1.5	—
Tinda	3.5–5.0	—
Bitter Gourd	—	1.75–2.0
Cucumber	—	1.0–1.25
Pumpkin	—	3.0–4.0

### Plant Spacing (cm)

Crop	Row to Row	Plant to Plant
Bottle Gourd, Ridge Gourd, Bitter Gourd	170	60
Tinda	150	60
Cucumber	130	50
Pumpkin (Petha)	250	60

### Fertilizer Recommendation

Apply **15–20 tons of well-decomposed FYM per hectare** before sowing. Use NPK fertilizers as per the schedule below (kg/hectare):

Growth Stage	Nitrogen (N)	Phosphorus (P)	Potassium (K)
At field preparation	40	100	100
20 days after sowing	40	—	—
Before flowering	40	—	—
After first harvest	40	—	—
<b>Total</b>	<b>160</b>	<b>100</b>	<b>100</b>

*Note: 40 kg N = 87 kg Urea, 100 kg P = 217 kg DAP, 100 kg K = 166 kg MOP*

### Plant Protection: Major Pests

#### Aphids and Leafhoppers:

Apply **Phorate (Thimet) @ 12.5 kg/ha** for protection up to 21 days.

Spray **Endosulfan (Thiodan)** or **Oxydemeton Methyl (Metasystox) @ 2 ml/liter** every 10–15 days.

#### Mites and Jassids:

Apply **Sulphur @ 20–25 kg/ha** or spray **Dicofol (Kelthane)** or **Dinocap (Karathane) @ 1.5–2.0 ml/liter**.

#### Fruit Fly Management:

Destroy infected fruits and dried leaves by burning them in deep pits.

Do not let fruits over-ripen on the plant.

Regular hoeing helps expose pupae to predators and sun.

Spray **Malathion (2 ml/liter)**, **Carbaryl (1.25 g/liter)**, or **Quinalphos (Ekalux) @ 2 ml/liter**.

### **Major Diseases and Control**

#### **Downy Mildew:**

Spray **Metalaxyl + Mancozeb (Ridomil) @ 1.5–2 g/liter**.

Begin 21 days after sowing and repeat every 15 days (2–3 sprays total).

#### **Powdery Mildew:**

Dust **Sulphur @ 20–25 kg/ha** during early morning or evening.

Avoid applying during hot sunny hours.

#### **Fusarium Wilt:**

Practice **crop rotation every 3 years** to reduce soil-borne disease risk.

#### **Viral Complex:**

Control vector insects like whiteflies and aphids to prevent viral infections.

**Note:** The above recommendations are based on research and field studies. Crop performance may vary depending on climate, soil type, pest pressure, and management practices. Farmers are encouraged to consult their **local agriculture extension officers** for region-specific guidelines.