

Maize Cultivation Guide

A Quick Reference

I. Introduction

Maize (*Zea mays*) is a major cereal crop widely cultivated across India, mainly as a Kharif crop but also grown in Rabi and summer seasons in some regions. It requires warm, moist conditions for optimal growth and is vital both as food and fodder.

II. Growth Requirements

Requirement	Optimal Range	Notes
Temperature	21°C to 30°C	Sensitive to frost and drought
Rainfall	500-800 mm (well-distributed)	Adequate moisture essential during tasseling and grain filling
Soil pH	5.5 to 7.0	Loamy, well-drained soils preferred

III. Recommended NPK Fertilization (kg/ha)

Nutrient	Recommended Dosage	Purpose
Nitrogen (N)	150-200	Supports vigorous vegetative growth and yield
Phosphorus (P)	50-80	Enhances root development and flowering
Potassium (K)	60-100	Improves stress tolerance and grain quality

Split N application is important: one-quarter at planting and the balance sidedressed at 30-45 days post-sowing. Incorporate organic manures for soil health.

IV. Best Cultivation Practices

- Land Preparation: Plough and harrow thoroughly for fine, level seedbed; add 5-8 tons FYM per hectare.
- Sowing: Use quality hybrid seeds; recommended seed rate 20-25 kg/ha; sow seeds 4-5 cm deep in rows spaced 60-75 cm apart. Timely sowing for your region's season is critical.
- Irrigation: Frequent irrigation in early stages; critical during silking and grain filling.
- Weed and Pest Control: Use pre- and post-emergence herbicides and integrated pest management techniques.
- Harvesting: At physiological maturity when grains are hard and moisture is 20-25%.

V. Common Diseases and Pest Management

Disease	Symptoms/Effects	Control Measures
Maize Rust	Reddish-brown pustules	Resistant varieties, fungicides
Leaf Blight	Brown lesion on leaves	Fungicides, crop rotation
Maize Streak Virus	Yellow streaks, stunted growth	Resistant varieties, vector control
Fall Armyworm	Leaf defoliation, cob damage	Biological controls, insecticides

VI. Types of Maize in India

- Dent maize: Most common, used for food and feed
- Flint maize: Hard, used in northern India
- Sweet maize: For human consumption
- Quality Protein Maize (QPM): Enhanced nutritional value
- Popcorn and waxy maize varieties, among others

NPK Fertilization for Maize

