

Cotton Cultivation Guide

I. Introduction

Cotton (*Gossypium* spp.) is a major fiber crop widely cultivated in India and globally. It grows best in warm climates and is primarily grown as a Kharif crop.

II. Growth Requirements

Requirement	Optimal Range	Notes
Temperature	21°C to 35°C	Optimal daytime temperature; frost-free growth
Rainfall	500–1100 mm (well-distributed)	More water needed during flowering and boll setting
Soil pH	6.0 to 8.0	Prefers deep, well-drained loamy or black soils

III. Recommended NPK Fertilization (kg/ha)

Nutrient	Recommended Dosage	Purpose
Nitrogen (N)	60–80	Promotes vegetative growth and boll formation
Phosphorus (P)	30–40	Supports root development and flowering
Potassium (K)	30–40	Improves boll quality and stress resistance
Zinc	10	Micronutrient to prevent deficiencies
Boron	1–2	Enhances fiber quality and growth

IV. Best Cultivation Practices

- Use high-yielding, disease-resistant varieties.
- Prepare land with ploughing and harrowing for a fine seedbed.
- Sow seeds optimally between April and July.
- Maintain spacing: 60x30 cm for American cotton, 120x60 cm for hybrids.
- Regular weed control and timely irrigation are critical.

V. Major Diseases and Pest Management

Disease	Symptoms/Effects	Control Measures
Verticillium Wilt	Yellowing, wilting	Resistant varieties, crop rotation
Fusarium Wilt	Wilting and stunting	Soil health improvement, resistant varieties
Cotton Leaf Curl Virus	Leaf curling, yellowing	Roguing infected plants, IPM
Bollworms, Aphids	Damage to bolls and leaves	IPM, insecticides

VI. Types of Cotton in India

- Long Staple (American Upland, Egyptian)
- Extra Long Staple (Pima)
- Medium Staple (Desi and Upland)
- Hybrid varieties for various regions.

NPK Cotton Fertilization (kg/ha)

