

Soybean Cultivation Guide

A Quick Reference

I. Introduction

Soybean (*Glycine max*) is an important Kharif oilseed crop grown widely in India. It is rich in protein and oil content and used in food, feed, and industrial applications.

II. Growth Requirements

Requirement	Optimal Range	Notes
Temperature	22°C to 30°C	Sensitive to frost; optimal growing temperature
Rainfall	500-1000 mm (well-distributed)	Requires adequate moisture during flowering and pod formation
Soil pH	6.0 to 7.5	Prefers well-drained, fertile loamy soils

III. Recommended NPK Fertilization (kg/ha)

Soybean fixes atmospheric nitrogen but does require balanced fertilization for phosphorus, potassium, and micronutrients:

Nutrient	Recommended Dosage	Purpose
Nitrogen (N)	20 (optional with inoculation)	Soil nitrogen supplement or initial growth boost
Phosphorus (P)	40	Root development and early growth
Potassium (K)	20-40	Enhances pod filling and stress resistance
Sulfur (S)	20	Improves protein content and plant metabolism

Use Rhizobium inoculants for better nitrogen fixation. Apply fertilizers at sowing; adjust based on soil tests.

IV. Best Cultivation Practices

- Use certified, high-yielding varieties suited for your region.
- Sow at the onset of monsoon (June-July) with recommended seed rate and spacing (30-45 cm rows, 5-10 cm plant spacing).
- Maintain proper weed and pest control.
- Use biofertilizers and organic amendments to enhance soil health.
- Critical water management during flowering and pod development.

V. Common Diseases and Pest Management

Disease/Pest	Symptoms/Effects	Control Measures
Rust	Leaf pustules, defoliation	Resistant varieties, fungicides
Yellow Mosaic Virus	Yellow mosaic, stunted growth	Vector control, resistant varieties
Stem Fly	Wilting, stem damage	Crop rotation, chemical control
Aphids	Leaf curling, honeydew secretion	IPM, insecticides

VI. Types of Soybean in India

- Desi and Exotic varieties with differences in maturation, seed size, and oil content.
- Popular varieties include JS 335, NRC 37, MACS 124, and local hybrids.

