

# Rice Cultivation Guide

## I. Introduction

Rice (*Oryza sativa*) is a staple food crop primarily grown in tropical and subtropical regions. In India, it is the dominant Kharif crop grown mainly during the monsoon season. It thrives in warm, humid, and water-abundant conditions.

## II. Growth Requirements

Requirement	Optimal Range	Notes
Temperature	25°C to 33°C (day)	Warm weather crop; sensitive to heat stress above 35°C
	15°C to 20°C (night)	Cool nights reduce respiratory losses
Rainfall	1000-1500 mm	Well-distributed rain during growing season
Soil pH	5.0 to 7.5	Preferably wet, loamy or clayey soils suitable for paddies

### III. Recommended NPK Fertilization (kg/ha)

Nutrient	Recommended Dosage	Purpose
Nitrogen (N)	100-150	Promotes vegetative growth and panicle development
Phosphorus (P)	25-50	Supports root development and early growth
Potassium (K)	20-40	Enhances disease resistance and grain quality

Common fertilizers include Urea, Di-ammonium Phosphate (DAP), Single Super Phosphate (SSP), and Muriate of Potash (MOP). Split applications are recommended at planting and during growth.

### IV. Best Cultivation Practices

- Seed Selection: Use high-yielding, disease-resistant varieties suited for your local climate.
- Nursery Management: Raise seedlings 18-30 days old for transplanting.
- Transplanting: Transplant seedlings at 20x20 cm spacing.
- Water Management: Maintain shallow flooding initially; avoid water stagnation. Use System of Rice Intensification (SRI) or Direct Seeded Rice (DSR) where applicable.
- Weed and Pest Control: Employ integrated pest management (IPM) and regular field monitoring.
- Crop Rotation: Helps maintain soil health and manage pests.

## V. Irrigation Schedule

- Start irrigation 30-35 days after transplanting.
- Maintain shallow water depth (2.5-5.0 cm) during early growth; adjust with crop stages.
- Aim for 18-20 irrigations over a typical growing cycle, adjusting for rainfall and soil moisture.

## VI. Common Diseases and Control

Disease	Symptoms/Effects	Control Measures
Rice Blast	Leaf lesions, panicle rot	Use resistant varieties, apply fungicides
Sheath Blight	Sheath lesions, poor grain filling	Crop rotation, fungicide sprays
Brown Spot	Brown spots on leaves, seedling death	Balanced fertilization, resistant varieties
Rice Yellow Mottle Virus (RYMV)	Yellow mottling, stunted growth	Resistant varieties, remove infected plants

## VII. Types of Rice in India

- Basmati: Long grain, aromatic
- Sona Masoori: Medium grain, lightweight
- Kolam: Medium grain, affordable

- Parboiled, Red, Black rice: Specialty types with culinary uses

