

Barley Cultivation Guide

I. Introduction

Barley (*Hordeum vulgare*) is an important Rabi cereal crop primarily grown in the northern plains of India. It is adaptable to marginal, saline, or alkaline soils and can be cultivated in rainfed and irrigated conditions. Barley is also grown for malting and fodder purposes.

II. Growth Requirements

Requirement	Optimal Range	Notes
Temperature	12°C to 15°C (growth), ~30°C (maturity)	Sensitive to frost during flowering
Rainfall	Moderate; low water requirement	Suitable for semi-arid and low rainfall zones
Soil	Sandy loam to loam soils	Neutral to mildly saline; pH moderate

III. Recommended NPK Fertilization (kg/ha)

Nutrient	Recommended Dosage	Purpose
Nitrogen (N)	60-80	Promotes vegetative growth and tillering
Phosphorus (P)	30-40	Supports root development and early growth
Potassium (K)	20-30	Improves stress tolerance and grain quality

Split nitrogen application at sowing and tillering stage is advised for better nutrient use efficiency.

IV. Best Cultivation Practices

- Timely sowing during Rabi season (October-November) for optimum yield.
- Seed rate around 75-100 kg/ha depending on seed size and sowing method.
- Row spacing about 22.5 cm for irrigated lands; 22.5-25 cm for rainfed lands.
- Drill sowing or broadcasting seeds followed by proper land preparation promotes good emergence.
- Minimal irrigation requirement, but moisture is needed during germination and flowering.
- Use disease-resistant varieties and regular pest monitoring.

V. Common Diseases and Pest Management

Disease	Symptoms/Effects	Control Measures
Rust (Leaf and Stem)	Reddish pustules on leaves, stems	Resistant varieties, fungicides
Smut	Black powdery spores on grains	Seed treatment with fungicides
Aphids	Stunted growth, yellowing leaves	Insecticides, biological control
Powdery Mildew	White powdery growth on leaves	Fungicides, crop rotation

VI. Types of Barley in India

- Husk-less (Naked) barley preferred for malting and food uses. Varieties include Karan 18, Karan 19.
- Hulled barley suitable for fodder and other purposes. Varieties include Dolma, Kailash, Ratna, Vijay, and Ameru.

NPK Fertilization for Barley

