



BARLEY



Barley (*Hordeum vulgare* L.) is a self-pollinating, monocotyledon, and herbaceous plant that belongs to the Poaceae family. It grows to a height of between 30-120cm. The stems are straight, with nodes to which the leaves are attached and develops 2-5 tillers at the maturity stage. The leaves are

linear (5- 15 mm wide), and spikes (or “ears”) produce grains in 2 or 6 rows. Barley has the highest salt tolerance of all cereal crops with a salinity threshold of 8.0 dS/m. Barley is grown as fodder as well as a food crop.

Crop requirements

Climate and soil preparation

Barley can grow in different soil types from very sandy to heavy clayey soil. It does well in well drained soils which are not waterlogged. The preparation of the soil should lead to a fine and homogeneous seedbed.

Planting: Sowing time and density

The recommended sowing depth for barley is 3-5 cm. Deeper sowing could result in low emergence rates, high susceptibility to root rot disease, and low yield. Yield can be significantly influenced by variability in sowing depth and lack of precision in seed placement. Depending on local conditions, 75-80 kg are required. Seed rates as low as 30 kg/ha have been used successfully in fertile soil conditions.



Crop cultivation and management

Water management

Depending on soil texture and climatic conditions, barley requires 300-450 mm of water. Barley is drought tolerant and can grow with an annual rainfall of less than 300 mm. The crop is adaptable to furrow, sprinkler and drip irrigation systems.

Fertilization

Fertilizer application should be based on soil test data. In the absence of such data, use 50-60 kg nitrogen, 30 kg phosphorus and 20 kg potassium per hectare. Half of the dose of nitrogen

and all of phosphorus and potassium should be applied at the time of sowing and the remaining nitrogenous fertilizer should be applied at about 30 days after sowing. Band placement of fertilizer gives better results. Fertilizer should be placed 5 cm away from the seed.

Pests and diseases

Common barley diseases include rust, loose and covered smut, leaf blight, downy mildew, fusarium wilt, and barley yellow dwarf. Aphids are considered important pests that can cause massive losses. Selection of tolerant varieties is the best option besides precise control measure.

Harvest, postharvest, and seed storage

Barley can be grazed as pastures, made into hay or produce silage. Cutting conducted when the crop height is about 30 cm is followed by fertilizer application to support regrowth.

Seed crops should be harvested soon after maturity to avoid losses due to shattering and adverse weather. The seed should be hard and with moisture content between 8 and 20%. Clean grains to remove debris and ensure quality. Store barley in cool, dry, and well-ventilated conditions to maintain quality and prevent pests and diseases. Average yields vary at 3.0-3.5 t/ha.



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