

Barley research in India: challenges and opportunities

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ABSTRACT

Barley in India is grown in marginal, problematic and resource poor soils as a rainfed crop except some malt barley under contract farming. India's annual production of barley is around 1.6-1.8 m tons and area under cultivation stabilized around 0.65-0.70 m ha with per hectare yield of around 2.4 qt. In addition to direct livestock/ human consumption, barley is utilized by the beer industry, food and feed processing industry. Annual demand of malt is estimated to be around 4.0-4.5 lakh tones and increasing due to more consumption of beer among youngsters. Majority of the barley produced is consumed within the country, only small quantity of feed barley is exported to Middle East. The barley research in India has been progressed with development of improved varieties (90 after AICBIP initiation) for different purposes as feed, malt, fodder and food under varied agroclimatic conditions (plains, hills, irrigated, rainfed, salt stress, biotic and abiotic stress) and efforts are on to develop varieties for changing climatic conditions. A substantial progress in enhancing yield by reducing the losses from biotic stress, increasing the seed size, lodging resistance and tolerance to salinity stress has been made by adopting the appropriate breeding approaches. Molecular studies targeted the problems of disease incidences (rust, leaf blight), insect pest infestations (aphid) and malting quality (beta glucan). ICAR-Indian institute of wheat and barley research also promote public private partnership in malt barley production for better grain and malt quality. The future challenges in India are lodging, improved varieties for food purpose, improvement in malt characteristics mainly husk, beta glucan and diastatic power, biotic and abiotic stress, climate resilient varieties, quality seed availability, assured market and price, area expansion, capacity building and linkages with national and international organisations, industries, extension workers and farmers.

SECTION:

Barley morphology and development