Agri Articles
(e-Magazine for Agricultural Articles)
Volume: 04, Issue: 01 (JAN-FEB, 2024)
Available online at http://www.agriarticles.com
©Agri Articles, ISSN: 2582-9882

Scope of Barley as a Nutritional and Medicinal Food for Body Health

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Barley belongs to the species "vulgare" and genus "*Hordeum*." It is a significant cereal crop that is grown extensively for its numerous use in industry and human consumption. It is a member of the Poaceae family. *Hordeum vulgare*, a cereal grain crop, is an edible annual grass belonging to the Poaceae family. This grass is tall and has a hairy stem that stands straight and develops spikelets at the top. The stem is composed of internodes and nodes. Unlike the solid internodes the hollow internodes. The stalk supports the inflorescence, or spike, from which the grain is produced. The barley seeds have triangular spikes on top that are composed of three spikelets and rachis each. There are 20–60 grains produced by the spike of barley each. Barley typically has one to six stems and freely tillers. The tillers do not develop seed heads. Barley is an annual crop that is harvested annually and can reach heights of 80 to 100 cm (31.5–39.4 in). Barley is sometimes called winter barley or spring barley and was first domesticated in the Fertile Crescent region of the Middle East.

One of the earliest domesticated grains worldwide, barley (*Hordeum vulgare L.*) has long been revered as a sacred grain in India. According to historical writings and beliefs, barley is a healthy cereal (Malcolmson, 2014). Barley-based sattu is still prepared and believed to have a cooling effect on the body in a number of regions of the nation. However, between the middle of the 1960s and the beginning of the 1990s, the acreage and production of barley decreased significantly. This was mostly due to the introduction of dwarf wheat varieties, guaranteed irrigation, and changes in people's dietary choices. The barley malt industry's increased use of barley is primarily responsible for the area's stabilization during the past 20 years. However, a glimmer of hope is now developing as barley's health benefits are being recognized, and the grain is making a comeback in the food industry (Keogh et al. 2003, Klopfenstein 1988, Li et al. 2003, Mertinez et al. 1992, Malcolmson 2014). The current state of barley research and the possibilities for barley as a food crop in India are summarized in this article.

Essential Mineral

An estimated 792.5 million people worldwide suffer from malnutrition; of these, 780 million are in developing nations (McGuire, 2015). Increases in the amount and bioavailability of key minerals Zn, Fe, and Se are necessary to make dietary barley a balanced combination of nutrients. Biofortified crops generated through different means are need of the hour (Garg et al. 2018). Agronomic interventions have been tried to raise the Se content in barley (Rodrigo et al., 2013). Two hulless genotypes have been created at ICAR-Indian Institute of Wheat and Barley Research: DWRB 192, which has a greater iron content, and DWRB 191, which has a high grain zinc concentration (Anonymous 2018).

An easier way to grind barley into whole grain flour for inclusion into products is the creation of hulless barley cultivars with normal and enhanced amounts of β-glucans. Dishes that satisfy the criteria for the barley health claim. It can have an impact on baking results as barley flours absorb water considerably more readily than wheat flours. Because they contain more soluble fiber, primarily β-glucans, they have a better potential to absorb water. Direct extended snack/breakfast cereal products, pastas, and baked goods that promote health can all be made with whole grain hulless barley flour. High-quality products could be produced by partially substituting whole grain barley flour for wheat flour, but recipe and processing conditions required to be adjusted the most.

Potential health items made from barley

Barley flakes: You can use hull less barley to produce flakes for breakfast, but to make it more palatable, you must flavor it.

Ready to drink sattu: Although sattu is a traditional beverage made with barley and/or gram flour, it could become more popular in health drinks if ready-to-drink flavored sattu is developed.

Multigrain biscuits & bread: The addition of hullless barley to bread and biscuits may enhance their healthful qualities. Initial testing at ICAR-IIWBR has demonstrated the viability of biscuits made from barley. In a similar vein, flavorful biscuits can also be made with barley malt.

Multigrain atta: The soluble and insoluble fiber content of wheat atta (flour) can be raised by using the hulled barley. Chapatis are a staple food, particularly in northern India, and this may lower their glycemic index.

Conclusion

Barley holds great importance as a cereal crop for human consumption due to its higher nutritional value and capacity to yield in drought stress conditions. Numerous recent studies have demonstrated Barley's high β-glucan concentration contributes to its health benefits. The utilization of hulless barley in the production of various food products requires further investigation.

Reference

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