An Analytical Study on Barley Beta Glucan – a functional food additive.

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ABSTRACT

Barley is one of the most important cereal foods all over the world. It is currently used as feed for animals as well as food for human consumption. In recent years, the importance of barley grains as a nutraceutical ingredient has increased because of their high content soluble fiber, especially as a rich source of β-glucan. The most documented nutritional benefit of β-glucan is flattening postprandial glucose, insulin rise and cholesterol control. But the potential use of β-glucan is often limited because the consumption of products containing barley grain or flour is influenced by their negative organoleptic quality. Hence the objective of the present study was to extract beta glucan from barley and to investigate its properties to be utilized as a functional additive in foods. In the present study, β-glucan content in whole barley grain flour was identified and it was isolated by adopting Hot Water Extraction method. The isolated extract was further analyzed for the β-glucan content to determine the yield and recovery. Also the chemical composition (Proximate analysis), Total, Insoluble, Soluble fibre, functional properties (Water binding capacity, foaming capacity, viscosity) and biological properties (Antibacterial and Antioxidant activity) of the beta glucan was investigated. It was evident from the study that the β-glucan extracted from hot water extraction method has both scientific and commercial value provided to be a cheap and promising additive and have a great potential to be used as a functional ingredient in food products.

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