

## BARLEY AS A RAW MATERIAL FOR NOVEL FOOD PRODUCTS?

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### Abstract

Barley is widely cultivated crop in Europe and North America and the total world production is around 140 million tonnes. Largest producers are Russian, Canada and Germany (FAOSTAT 2008). Vast majority of the barley crop is used as an animal feed. In addition the malting and brewing industry uses large quantities of barley and for example in Finland they account around 30% of the barley crop. Besides these traditional uses, barley has recently gained popularity as a functional food ingredient.

The high beta-glucan content in barley makes it appealing for functional food concepts (Brennan and Cleary, 2005). In 2005 the US Food and drug administration, FDA, allowed the health claim for barley beta-glucan products. This allows labelling products with at least 0.75 grams of barley soluble fiber per serving having the ability to reduce risk of coronary heart diseases. The high level of beta-glucan and dietary fibre makes barley products also appealing for weight management products (Östman *et al.*, 2006). Besides beta-glucan and dietary fibre, barley contains also many other bioactive compounds. The nutritional role of these compounds is currently under extensive investigation (Bonoli *et al.*, 2004, Liu and Yao, 2007).

Processing of barley and barley ingredients requires different technological solutions than those adapted in wheat, rye and oat processing. The unpalatable hull attached to barley kernel needs to be removed from the barley that is aimed for food consumption. This dehulling process complicates the wholegrain definition of barley products and also effects the fractionation processing of barley. There is an extensive research activity to overcome the technological and sensory limitations related to barley baking technology. Gluten in barley is much weaker than in wheat and thus the availability of different barley bread types is more limited than wheat breads.

The presentation will give an overview of the current and potential food uses of barley and the research needs related to the exploiting the health promoting properties in barley products.

### References

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