

Milling innovations help food sector tap barley's health properties

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Barley, which is especially high in the healthy fibre component beta-glucan, has been linked to a reduced risk of cardiovascular disease, diabetes and high blood pressure. Increasing consumer awareness of these benefits has driven demand for more barley-based products however manufacturers have found it difficult to preserve beta-glucan in the grain during traditional milling procedures.

The EU-funded BARLEYBOOST project, completed at the end of October 2015, sought to address this challenge by analysing the market potential of health-promoting [products](#) and optimising milling technology to create products with high beta-glucan content that would be attractive to consumers. A monitoring tool together with new milling techniques have been developed in order to identify and isolate beta-glucan and create innovative new products that retain as much nutrition as possible.

'A key objective has been to increase profitability in various parts of the industry, while at the same time developing health-promoting products that consumers will actually want to buy,' explains project coordinator Sveinung Grimsby from Nofima, Norway. 'New online methods for measuring fibre content in milling fractions will be used together with milling and fractionation equipment that has been put together in a new combination.'

Grimsby describes the work carried out by the BARLEYBOOST team as a pioneering 'technology push' project. 'There are probably not that

many consumers asking for fibre-enriched barley products with EFSA-approved [health claims](#) attached to them,' he suggests. 'However, we still believe consumers will ask for it, though they don't know it yet. Very few of us asked for an iPad ten years ago either. There are not that many real radical innovations entering the food market today and BARLEYBOOST has aimed to challenge this.'

Consumers certainly stand to benefit from eating more barley. While the average consumption of fibre is 17 grams a day we should be eating between 25 and 35 grams, and EFSA has confirmed a number of barley-related health claims. Between 3 and 4 grams of beta-glucan a day can help reduce cholesterol in the blood.

There is also plenty of barley available. Some 52 million tonnes of the grain is produced in the EU every year but only 0.6 % is used for food; most is used for animal feed and for producing alcohol.

A total of nine partners from seven European countries participated in the project. Special emphasis was placed on research that benefits small and medium sized enterprises (SMEs), and it is hoped that the innovations developed will lead to health-promoting products that consumers will want to buy.

Such work has been painstaking. 'Here is an example of how time consuming this R&D work has been,' says Grimsby. 'One young girl working at INRA in Montpellier dissected – by hand – one gram of barley fractions during most of 2014. This had to be done in order to calibrate the online equipment. She did have a nice "Spotify-play-list" running to cheer her up though.'

More information: For further information please visit BARLEYBOOST project website: www.barleyboost.eu/index.html

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