

'Super-spaghetti' with heart-healthy label now possible

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Consumers could soon see packages of pasta labeled "good source of dietary fiber" and "may reduce the risk of heart disease" thanks to the development of a new genre of pasta made with barley—a grain famous for giving beer its characteristic strength and flavor. The report appears in *ACS' Journal of Agricultural and Food Chemistry*.

Vito Verardo, Ana Maria Gómez-Caravaca and colleagues explain that barley, a grain that is an excellent source of fiber and antioxidants, is gaining interest as an ingredient in so-called "functional foods" — a genre of foods that are supplemented with healthful additives. The functional foods craze began in Japan in the mid-1980s and caught on around the world with health-conscious consumers, creating a fast-growing industry that is expected to reach over \$176 billion by 2013. Barley is already added to some bakery products. To determine whether barley could make a new functional spaghetti by providing fiber and antioxidants, the researchers developed a barley flour, that contains the most nutritious part of the grain and used it to make pasta. This flour corresponds to the barley by-products and has been obtained by an healthy separation method such as the air classification.

They found that the barley spaghetti had more fiber and more antioxidant activity than traditional semolina-based spaghettis. Adding gluten to barley flour improved the cooking quality of the [pasta](#), but lowered its antioxidant activity.

More information: Development of Functional Spaghetti Enriched in

Bioactive Compounds Using Barley Coarse Fraction Obtained by Air Classification, *J. Agric. Food Chem.*, 2011, 59 (17), pp 9127–9134. [DOI: 10.1021/jf202804v](https://doi.org/10.1021/jf202804v)

Abstract

Barley byproducts obtained by air classification have been used to produce a different barley functional spaghetti, which were compared to different commercial whole semolina samples. Total, insoluble, and soluble fiber and β -glucan contents of the barley spaghetti were found to be greater than those of commercial samples. Furthermore, it was proved that barley spaghetti reached the FDA requirements, which could allow these pastas to deserve the health claims “good source of dietary fiber” and “may reduce the risk of heart disease”. When the barley coarse fraction was used, a flavan-3-ols enrichment and an increase of antioxidant activity were reported, while commercial samples showed the absence of flavan-3-ols and a higher presence of phenolic acids and tannins. Whole semolina commercial spaghetti had a significantly higher content of phenolic acids than semolina spaghetti samples. Besides, it was observed that when vital gluten was added to the spaghetti formulation, phenolic compounds were blocked in the gluten network and were partially released during the cooking process.

Provided by American Chemical Society

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