

# New technologies will bring health benefits of oats and barley to a greater number of foods

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New technologies may help food manufacturers more broadly utilize the many healthful benefits of oats and barley in a greater range of food products, according to a June 24 panel discussion at the 2014 Institute of Food Technologists (IFT) Annual Meeting & Food Expo in New Orleans.

Oats and barley are ancient [food](#) crops known for their durability, versatility and healthful attributes. Both grains have high levels of protein, fiber and beta-glucan. There is now evidence that oats and barley significantly reduce cholesterol levels and that they moderate blood glucose concentrations following a meal, according to a presentation by Susan M. Toth, PhD, research scientist, Agriculture and Agri-Food Canada. In addition, there is also research to support that oat and barley foods increase satiety after meals, a sensation of feeling full after meals, which may aid in weight maintenance.

In China, barley and oats are used in a variety of products, from cereals and noodles to beverages and flat bread, said Bo Jiang, PhD, professor of food science and executive director of the State Laboratory of Food Science and Technology at Jiangnan University in China. Oats are now the third largest food staple in China, growing in popularity as that country deals with rising rates of cancer, diabetes, heart disease and intestinal issues.

In the U.S., barley and oats are primarily used for animal feed since they are difficult to break down, or "fractionalize," into edible and easy to use

food components, said Keshun Liu, PhD, research chemist, United States Department of Agriculture (USDA) National Small Grains and Potato Germplasm Research Unit.

"Food uses of barley and oats are rather limited due to lack of palatability of whole grain foods and the functionality of milled flour," from these grains, "and a poor public image," said Liu. In addition, the U.S. has "ample and affordable supplies of other grains," such as rice and wheat, which are more "palatable and versatile."

And yet recent discoveries of the varied health benefits of oats and barley have spurred food scientists to develop new and more efficient methods of breaking down the components and nutrients in these grains, to make oats and barley easier and more appealing to eat, and for use as food additives.

"If we can improve the processing of barley and oats, we can improve public health," said Liu.

"Many researchers have worked on processing barley or oats into value-added fractions enriched with nutrients, some with commercial success," said Liu. The USDA has developed improved dry and wet methods to more quickly, easily and affordably transform [barley](#) and [oats](#) into functional ingredients. However, added Liu, food scientists and engineers have more work to do to "commercialize" these methods, and "to educate consumers about the health benefits of beta-glucan and these two grains."

Provided by Institute of Food Technologists

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