What are FODMAPs and why are they important?

BY AURI

Fermentable
Oligosaccharides
Disaccharides
Monosaccharides
And
Polyols

This edition of Seeing Around Corners addresses an issue of increasing discussion with regard to digestibility of foods: Fermentable Oligo-, Di-, Monosaccharides and Polyols, or FODMAPs for short. FODMAPS are defined as a collection of short-chain carbohydrates (sugars) found naturally in many foods and food additives, which the gut doesn't properly absorb. Instead, they reach the far end of the intestine where the gut bacteria use these carbohydrates for fuel, producing gas and causing all sorts of digestive issues. Often, this triggers symptoms in people with Irritable Bowel Syndrome (IBS) and may potentially be a factor in misdiagnosing gluten sensitivity.

With growing numbers of people dealing with IBS, food producers will need to be increasingly more aware of this issue and how to address it. Because of this, AURI has partnered with the Minnesota Wheat Research and Promotion Council to conduct work with experts at the University of Alberta (UofA). The project goal is to better understand FODMAP levels through different processing techniques with their applicability to the digestibility issues facing the wheat and bread industry sectors.

Research previously conducted at UofA indicated applying specific FODMAP-targeting metabolic properties to wholegrain-bread-making potentially reduces their content in bread without affecting the levels of the slowly fermented and well-tolerated dietary fiber.

Another recent study outlined a number of concepts relating to fructan (one of the five most common FODMAPs along with fructose, lactose galactans and polyols), which allows for the development of low FODMAP sourdough bread. This process innovation offers a means for developing natural and fiber-rich low bakery products for people with digestive issues.

Thanks to these research projects, and others like them, Minnesota entrepreneurs and food producers are learning more and more about how their ingredients affect people, and just as importantly they are learning how to adjust their formulations and processes to reduce FODMAPs in their products.

AURI is learning a lot, too, which is why it will continue to work with its partners to further research in this area as well as help advance wheat based products that lower these irritants to potentially increase new market opportunities for consumers that currently suffer from IBS.

If you'd like to read more about the current and past research, please check out these resources:

https://www.monash.edu/medicine/ccs/gastroenterology/fodmap

http://www.cfp.ca/content/cfp/61/8/691.full.pdf

BY AURI *Editor's note: As a service to our readers, we provide news about the work of others in ag utilization. Often, research done elsewhere complements AURI's work.*

New Shoe Made From Cotton and Corn

A shoe is no longer just a shoe, it's a value-added agricultural product. Reebok launched their first plant based athletic shoe, the "NPC U.K. Cotton + Corn". The shoe has a sole made from a corn-based rubber substitute, a top made from 100 percent organic cotton, and an insole made from castor bean oil. No dyes were used, and the packaging is 100 percent recyclable. Most shoes sit in landfills for hundred of years, but these shoes are made from materials that can be replenished. Generally, the footwear industry creates almost every shoe using petroleum oil to make synthetic rubber. Petroleum can be harmful to the environment and is not sustainable. This shoe is 75 percent USDA certified bio-based content. In the future, Reebok hopes to go even further and create a shoe that is biodegradable and would decompose within 6 months.

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Super slippery packaging aims to cut down on food waste

Virginia Tech researchers are finding new ways to cut down on food waste and consumer frustration. Consumers understand the frustration of trying to squeeze out every drop of ketchup from those small plastic packets. Food left behind in plastic packaging contributes to a huge amount of food waste. Researchers found that they could reduce food waste by using super slippery industrial packaging. The study establishes a method for wicking chemically compatible vegetable oils into the surfaces of common extruded plastics. Researchers used natural oils like cottonseed oil on the plastic surfaces. This technique allows sticky foods to release from their packaging. This process can be used on plastics like polyethylene and polypropylene. Potential applications go way beyond ketchup packets and could include other condiments, dairy products, beverages, and some meat products trapped in their packaging.

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