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Processing for Health: It's Not an Oxymoron

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Guest Editors

Given common consumer perceptions that processed foods are less healthy, one could argue that "processing for health" is an oxymoron—a combination of contradictory or incongruous words. However, we contend that various facets of processing can be modified to produce healthier cereal grain products in response to consumer demands for health-promoting foods. This issue of *Cereal Foods World* presents a collection of articles that explore a wide spectrum of processing levers that can be used to create healthier cereal grain products.

Historically, processing has been used to address economic factors, such as yield and end-product quality, as well as food safety. These priorities have resulted in some unintended, negative consequences from a health standpoint (e.g., acrylamide, phenols, high sodium levels). Today, we see food processing contributing solutions to improve the nutritional profiles of foods and achieve "clean label" and sustainability pledges.

In their perspective article, "Breeding for Healthier Wheat," Gilissen and van den Broeck look upstream at raw ingredients and examine how global health trends can be met by breeding grains with higher levels of dietary fiber and lower levels of gluten.

Nikinmaa and colleagues link sustainability and health in their technical review, "From Underutilized Side-Streams to Hybrid Food Ingredients for Health." Their review addresses how waste products can be turned into health-promoting ingredients, which optimizes processing and improves health.

A collection of brief articles on issues and trends illustrates a range of perspectives and applications on processing for health. Don and his colleagues in engineering from GEA Food Solutions offer a perspective on how machinery can be used to improve the nutritional profiles of snack and convenience foods. Van Haesendonck and colleagues discuss the application of a patented solution to replace chlorinated flours in high-ratio cakes without compromising product quality. In her perspective article, Anne Fischer explains how fiber targets can be more easily met by formulating with industrially refined fibers, without losses in flavor, palatability, texture, or appeal.

How processing ingenuity is working to meet health demands comes into focus through two articles in this issue. In the article, "FODMAP Reduction in Yeast-Leavened Whole Wheat Bread," Struyf and colleagues discuss the application of a patented, biochemical process used to reduce sugars naturally. This process has the potential to help manufacturers formulate different breads to meet specific consumer health needs. Oudhuis and Buwalda provide a quick overview of how the starch (processing) industry has evolved from delivering a source of fast energy, to providing a texturizing ingredient, to a focus on modified starches that can deliver intestinal health benefits and a lower glycemic index (GI).

Two point/counterpoint articles on GI provide additional perspectives on processed foods and health. GI and its companion measure glycemic load (GL) sit in the middle of the debate over how to distill carbohydrate science into meaningful consumer messages concerning carbohydrate quality. In their point article Viguiliouk and colleagues argue that GI/GL can be used to help consumers build healthy diets, while in her counterpoint article Julie Jones argues that there are significant problems associated with the use of GI/GL as the (sole) basis for selecting foods to build healthy diets.

Consumers are driving changes in the healthfulness of the foods they buy. Although the food industry continues to address their needs, most consumers do not understand the technology and science behind food production and erroneously believe that "processed equals bad." As cereal scientists, we need to make the concept of food processing simple: since humans discovered fire, we've been processing foods. There has been a learning curve concerning the interaction between processing and health outcomes. Contrary to popular perceptions, food processing enables the mass production of a healthy, sustainable, and safe food supply.

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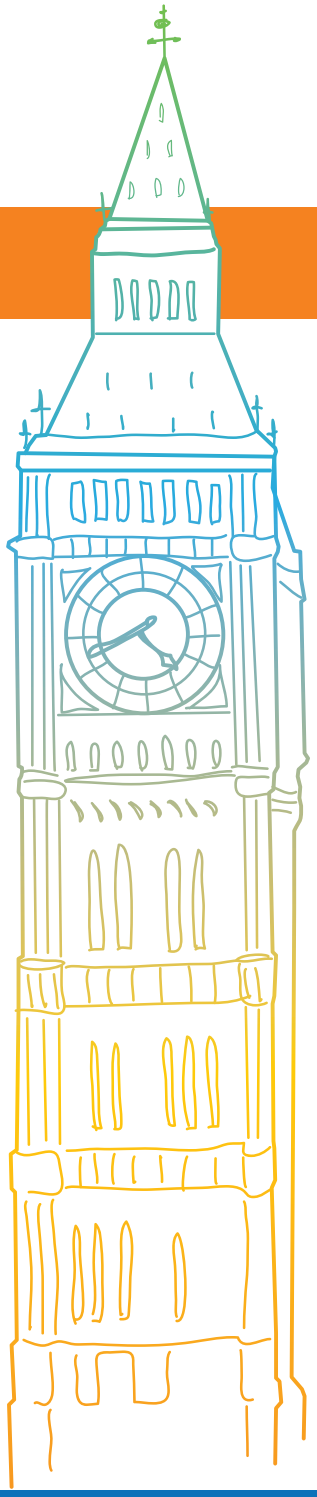

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