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Why Is Fiber a Hot Nutrient?

Although fiber is prominent in authoritative guidance, and known to many consumers, there is a gap in dietary intake for people in many developed nations. This gap has been a focus of recommendations by the WHO and regional authorities for decades. Meanwhile the scientific evidence has mounted, demonstrating the plethora of roles that fiber plays in human health. Further compounding this public health challenge, fiber regulations around the world diverge in how fiber is defined and what fiber messaging is permitted.

Recent dietary recommendations, such as the 2015 *Dietary Guidelines for Americans*, have shifted from a reductionist model of interpreting nutrition science (looking at isolated nutrients in controlled situations) to understanding dietary patterns. People don't consume single nutrients in controlled situations. Diets high in cereal fiber are consistently beneficial and associated with significant reductions in risks for chronic diseases. In addition, people who consume a high-fiber diet often have a healthier weight status (American Society for Nutrition, *Am. J. Clin. Nutr.* DOI: 10.3945/ajcn.113.067629, 2013).

Acceleration of research on the gut microbiome has also opened up new perspectives on the role of fiber in human health. The microbiome impacts almost every system within the body, and fiber is the primary source of nutrition. This area of research is enabled by genome sequencing technology, which helps us decode the composition and function of the gut bacteria. (In the past, bacteria were studied through culturing or tagging.) Genome sequencing has opened pathways to rapidly study questions such as, "Does cereal fiber change the gut microbiota, and what could that mean for health?" This is certainly the next frontier of fiber research.

Although this issue of *Cereal Foods World (CFW)* does not delve into these emerging scientific topics, it does provide perspectives on the regulatory landscape that governs how products can communicate fiber benefits—in the United States and around the world.

The article, "Challenges for Dietary Fiber: Benefits and Costs of New U.S. Regulations," summarizes regulations recently adopted in the United States that significantly depart from other governing bodies and their anticipated impacts. A companion article, "A Brief Overview and Comparison of Global Fiber Regulations," compares and contrasts U.S. regulations with others around the world.

The controversial topic of FODMAP diets is also explored. Some experts advise patients who suffer from irritable bowel syndrome to avoid FODMAP fibers, and this practice is increasing among the general public, with considerable "hype." The article, "The Dietary Fibers–FODMAPs Controversy" puts this issue into the context of science and debunks some common misconceptions.

This issue also features the next installment in the popular CIMMYT series of review articles coauthored by Julie M. Jones and members of the CIMMYT Global Wheat Program. In this review article, the impact of micronutrients, grain-based foods, and dietary patterns on cognitive function and common dementias is explored.

In addition, organizers of the upcoming Cereals 17 interactive session Food Selection According to Food Processing: Fabulous or Flawed?, Julie M. Jones and Roger A. Clemens are starting the discussion early with the first of two "teaser" articles, "Processed and Ultraprocessed Foods Defined—An Alice in Wonderland Question?" In this article they discuss the definitions and ideas surrounding processed and ultraprocessed foods, providing various definitions of processed food and showing their incongruence. Look for the second article in the July–August issue of *CFW*, which will introduce the NOVA categorization and some of the data and forces behind it.

Finally, in the spirit of bringing more global perspectives into this Nutrition & Health themed issue of *CFW*, we are shining the spotlight on AACCI Nutrition Division Officers Vicky Solah (chair) and Florence Uchendu (vice chair). Their stories illuminate which cereal science topics are relevant for developed versus developing regions and career paths for cereal scientists in these regions. Their collaborative leadership is helping to bring diverse perspectives to the Nutrition Division.