Report of the 3rd C&E Spring Meeting in Freising, Germany

Texture, Flavour and Taste: Key Consumer Drivers to Healthy and High-Quality Cereal Products

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From April 11 to 13, 2011, the 3rd C&E Spring Meeting was held in Freising, Germany. The international conference was organized by Cereals&Europe, the European division of AACC International, and the German Research Center for Food Chemistry. Nearly 200 participants from 22 countries, mainly from Europe but also from other parts of the world, attended the meeting. The focus was technological and sensory aspects of cereals and cereal products, which were discussed in 49 lectures. Peter Koehler, the local organizer of the meeting, and Peter Weegels, chair of C&E, opened the meeting.

The texture properties of dough and bread are issues on which researchers have concentrated since the beginning of cereal science. In his keynote lecture, Jan Delcour from the Catholic University of Leuven (Belgium) focused on the role of starch in bread firming and discussed the efficiency of antifirming amylases. Today, new consumer preferences and questions relating to health are leading to cereal products with new challenges for optimizing their technological properties. One topic that has occupied the cereal science research community during the last few years is the development of gluten-free bakery products with properties comparable to those of breads made from wheat. Gluten-free products are the only choice for people suffering from celiac disease. Elke Arendt from the University College Cork (Ireland) presented new insights into the production of gluten-free bread and described possibilities for improving the techno-functional properties of gluten-free cereals. For many health-conscious people, nutrition is increasingly important. Consequently, the number of whole-grain products on the market has increased. Mainly because of their high fiber content, whole-grain products are considered to be healthier than conventional cereal products and a reasonable alternative in the daily diet. The effects of whole-grain flours on the texture properties of dough and bread were discussed by Kaisa Poutanen from the VTT Technical Research Center (Finland). The texture and sensory properties of whole-grain foods are key factors in acceptability by consumers.

The second part of the conference focused on the flavor and taste of cereal products. Peter Schieberle from the German Research Center for Food Chemistry explained in his keynote lecture the basics of molecular sensory science and described the origins of key odorants, which are important for the aroma of cereal products. The principles of taste research were illus-

doi:10.1094/CFW-56-4-0164

trated in a remarkable presentation by Thomas Hofmann from the Technical University of Munich (Germany). He also talked about the problem of taste defects in healthy foods with reduced sugar, salt, or fat content and the challenge of developing healthy but tasty products. The conclusions drawn from this presentation are that research on the flavor and taste of cereal products has to be pushed forward and that there is a demand for more scientific knowledge to optimize the sensory properties of cereal products. One topic that defined the conference to a certain degree was the importance of sodium chloride in the baking process and the possibilities for reducing salt content and preserving quality in terms of both texture and flavor.

In addition to the lectures, 47 posters were presented at the conference. Many of the authors also took the chance to present their results in 5-minute poster talks. The conference also included an exhibition by 16 manufacturers from the cereals industry. All relevant producers of analytical systems for the determination of the quality of bakery products presented their instruments.

During the evening events, the attendees had the chance to meet and talk to each other. The first day was closed by a reception with dinner, cocktails, and jazz music. On the second evening, the participants were introduced to Bavarian culture with traditional music, "*Schuhplattler*" and "*Goaslschnalzer*." The beer was sponsored by the Chair of Brewing and Beverage Technology from the Technical University of Munich. The evening concluded with a traditional Bavarian dinner.

After the 3rd C&E Spring Meeting, it is clear that this series of conferences is accepted by both scientists and people from industry. A forum for the European cereal community, it pushes the field forward toward more healthy and high-quality cereal products.

Markus Brunnbauer studied food chemistry at the Technical University of Munich, Germany. Since December 2006 he has been working as a Ph.D. student at the German Research Center for Food Chemistry. The main focus of his work is the analysis of protein modifications generated during food processing, especially high-pressure treatment, and their influence on the technological properties of food products. He is attempting to correlate the changes on the molecular level with rheological and functional properties. For this purpose, he is also working on the development of analytical methods based on mass spectrometry for the identification of post-translational modifications of food proteins generated during technological processes. AACC Intl. member Brunnbauer can be contacted at markus.brunnbauer@lrz.tum.de.

Peter Koehler studied food chemistry at the University of Stuttgart, Germany, from 1982 to 1987. In 1992 he obtained his Ph.D. degree from the Technical University of Munich, where he studied disulfide bonds of wheat gluten under the supervision of Hans-Dieter Belitz. Since then he has worked with the German Research Center for Food Chemistry in Freising, Germany. He is now vice director of the institute and is leading a group working on the structure-function relationships of biopolymers. Since 1999 he has also been working as a professor of food chemistry at the Technical University of Munich. His research is focused on basic as well as applied cereal science topics. Typical examples include studies on celiac disease, in particular the analysis of gluten in gluten-free foods, the production of gluten-free foods, the structure and functional properties of wheat gluten and other cereal proteins, enzymes and emulsifiers in breadmaking, and reduction of salt in bread. Koehler is an AACC Intl. member and can be contacted at peter.koehler@tum.de.