

Progress in Dough Processing from Unilever Research and Development

During the last years cereal research and development faced very large changes. These range from budget reductions or even partial closures of cereal science departments in institutes and universities (e.g., USDA-ARS, CSIRO, TNO-Nutrition, Flour Milling and Bread Research Association/Chorleywood, Bundesanstalt für Getreide-, Kartoffel- und Fetttechnologie, Technical University of Berlin). Also the cereal processing industry faced also massive changes (General Mills/Pillsbury, Dalgety/DuPont, Plant Breeding International/Monsanto, Unilever/CSM, United Biscuits, Danone, Kamps, Spillers, Meneba, Bimbo, Bestfoods Baking/Weston, Nabisco/Kraft, Cargill/Cerestar, etc.). The changes in industry, although less visible in the scientific world, seriously affected efforts in industrial cereal R&D, mostly in a negative way.

In the light of these changes, we are glad to be able to disclose in the following 10 articles part of the background cereal science and bakery technology research of Unilever.

Because dough mixing and further processing are crucial for the final product quality, most of these articles report the rheological, physicochemical, chemical, and microstructural changes of dough during processing and its computational fluid dynamics modeling. As you read, you will find some unconventional

approaches led to interesting new insights and theories. Some of the manuscripts are a challenge to pursue further research to corroborate the findings or to further confirm the hypotheses postulated.

Besides the *Cereal Chemistry* printed version, we decided to also make the material available in electronic form on CD-Rom. In the CD-Rom, color versions of the figures and full-color movies of the simulations and microscope videos are provided. These movies are stunningly illustrative. The CD-Rom will be for sale from AACC upon publication of the manuscripts. See the back cover of this issue for information on ordering the CD-Rom.

We hope that this special presentation will be a stimulus for cereal science.

On behalf of the former AACC Cereal Science and Bakery Technology research team,

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