New Mixolab Method Approved—A Vital Tool to Gain a Better Understanding of Wheat and Flour Characteristics



The new AACC International Mixolab Method, 54-60.01, has been approved and recently posted online in the AACC International Approved Methods of Analysis, 11th Edition. This method, developed by the Physical Testing Methods Technical Committee, measures the torque of the dough during mixing with an increase in temperature, providing the user with the ability to thoroughly analyze wheat and flour samples. The instrument used in this method enables users to get more information about key performance characteristics of the dough sample, allowing for a better understanding of the wheat or flour characteristics. Protein and starch characteristics of the flour as well as information about the dough development time, protein breakdown, starch gelatinization, enzyme activity, and the gel strength can be found by using this method.

The new Mixolab Method, Determination of Rheological Behavior as a Function of Mixing and Temperature Increase in Wheat Flour and Whole Wheat Meal, is a vital quality control tool for flour mills and quality labs. *AACC International Approved Methods of Analysis, 11th Edition* online subscribers receive free access to this new method. If you are not a subscriber, request a quote for your company by going to www.aaccnet.org/approved methods/subscribe.aspx.

Image courtesy of CHOPIN Technologies

C&E Symposium on Salt Reduction in Bakery Products and Cereals



The symposium was organized by Cereals&Europe, the European section of AACC International—the largest organization of cereal and bakery scientists and technologists in the world. The symposium provided a lively discussion that was held in the European Bakery Innovation Centre, Papendrecht, the Netherlands, on

the effects of salt reduction in bakery products and cereals, relating to health, flavor, shelf life, and dough/bread properties. A selected group of scientists and technologists from 10 European countries were present at the first symposium of this kind devoted to the bakery and cereals sectors. The participants were specialists in the field of salt reduction and were coming from academia and industry (both raw material suppliers and industrial bakeries).

Next to the overwhelming proof of the negative effects of salt on health and the role bakery products play (Marianne Geleijnse, Wageningen University, the Netherlands),

the importance of placing this in a healthy lifestyle (Wouter Lox, EuSalt, Brussels, Belgium) was also discussed. The role of salt in flavor perception was presented from fundamental and applied perspectives. Surprising was that next to enhancement, salt also suppresses many flavors; even sensory specialists need to be trained to taste salt in a reproducible way (Peter Köhler, University of Munich, Germany). The effect of salt on the shelf life of bread was also mentioned. The main point of the discussion was the effect of salt on processing and bread quality. As presented in many of the presentations, salt reduction to a level of 1% flour basis (275 mg of sodium/100 g of bread) did not affect bread quality in terms of volume, crumb structure, and appearance. It serves an important role, acting as a "police" for the yeast, keeping it under



Attendees at the 2010 C&E Symposium on Salt Reduction

control. The most controversial point was its effect on dough properties. Below a level of 1.7% flour basis (470 mg of sodium/100 g of bread), stickiness of dough becomes a major problem for bakeries (e.g., processing problems, increased waste levels, etc.). This is also a problem for scientists since there is not an appropriate and reproducible method to measure stickiness and thus define the problem and demonstrate improvements. Despite this, although none of the presenters were able to present the "magic bullet" to solve the problems, several solutions were offered, such as bread with low and high salt layers by the Top Institute, Food and Nutrition in Wageningen; Proson Taste of Sonneveld, the Netherlands; the various approaches taken by CSM, Germany; and Maxarite of DSM, the Netherlands.

Need More AACC International?



Stay connected to cutting-edge research and the leaders in grain science throughout the year by following AACC Intl. on Twitter and Facebook. Join the Facebook group to have discussions with fellow members, upload photos and videos, and be the first to see pictures from the annual meeting. Follow us on Twitter throughout the year to hear about the latest research, important deadlines, and new postings. Look for Tweets from meetings and

make your contributions; we'll let you know how in advance of each meeting. Join the conversation—this is an excellent and easy way to connect with grain scientists from around the world.

Approved Methods Technical Committees Have Much to Report at the Annual Meeting in Savannah

With the 2010 AACC International Annual Meeting less than a month away, the Approved Methods Technical Committees are looking back and looking ahead. Now that the new 11th edition of the *AACC International Approved Methods of Analysis* is online, the 21 committees work year-round to revise and add new content to the online edition. They will all meet in Savannah to report progress and develop new initiatives. Two of the technical committees have a direct impact on this year's program.

Deb Palmquist reports that the **Statistical Advisory Committee** will be presenting one of the Science Café topics—A Statistical Smorgasbord for Cereal Chemistry. This two-hour session is geared toward discussion and is a great opportunity to improve your knowledge from some of the best stats minds in grain science.

The **Protein Methods Committee** is organizing an important symposium, Celiac Disease: A Multidisciplinary Point of View, that will present the latest developments on gluten testing, organized by Protein Methods Committee member Peter Koehler. The committee is also working on a gluten testing method by the ELISA technique to measure gluten to the CODEX standard. Clyde Don, committee chair, reported that they will test on several matrices in order to have the method challenged on various types of processed foods. The collaborative testing initiative will be supported by labs around the world. The head lab will be in Europe at the German Research Center for Food Chemistry. In addition, this committee is adding a video or slide-show enhancement on the gluten hand wash method to the AACC International Approved Methods of Analysis online.

The **Dietary Fiber and Other Carbohydrates Committee** is working on a new method for splitting insoluble and soluble dietary fiber. A new video was recently posted online in the *AACC International Approved Methods* on the Analysis of β -Glucan Content of Barley and Oats, a rapid enzymatic procedure. This committee also posted a new total dietary fiber method to the online edition earlier this year that simplifies TDF analysis when multiple types of fiber are present in foods.

The new Mixolab Method developed by the **Physical Testing Methods Committee** was approved and published in the approved methods online recently (see related article on page 257). Elaine Sopiwnyk, chair of the committee, reports they are presently reviewing several videos for the approved methods of analysis and next on their list is a potential ring test on the doughLAB.

The **Biotechnology Methods Technical Committee** develops methods and enhancements for the detection of genetically engineered traits in grain-related markets. This committee recently posted to the online approved methods a collab method for qPCR detection of MON 810 corn. Currently, the group is developing a PCR video for the 11th edition.

Art Bettge, the **Soft Wheat and Flour Products Committee** chair, reports progress on the pancake method, which is a general formulation to test flour quality for any batterbased product. The preparation for the trial involves 30 flours and five different leavening systems and a collab is scheduled to begin in October.

The **Oat and Barley Products Technical Committee** is working on a new method for measuring the viscosity of β -glucan. Chair, Nancy Ames, also reports that the committee will team up with the **Protein Methods Committee** on a collab for a gluten/celiac method.

Two new methods for examination of caratenoid are being developed by the **Bioactive Compounds Methods Committee**. The data from the trial study looks promising and if the statistics prove valid, the committee will run a collab study with 10–12 labs from the United States, Europe, and Canada. This group, led by Elsayed Abdelaal, is also developing a new micro method, in vitro bile binding, for research labs. This method will help identify cereal food fraction's potential health function. A definition for bioactives is being formed by this committee as well.

Stahl Named Chair of Food Safety and Microbiology Technical Committee



Brenda Stahl is the new chair of the Food Safety and Microbiology Approved Methods Technical Committee, according to Anne Bridges, who oversees AACC International's 21 Approved Methods

Technical Committees. Stahl has experience as a research microbiologist for a

ence as a research microbiologist for a large food testing lab and is now at AIB. She has been busy forming her committee who will meet in Savannah on Tuesday at the AACC Intl. Annual Meeting, said Bridges, who revealed that Stahl is excited to be involved in FDA hot topics and global identification issues such as new challenges in microbiological risks, acrylamides, melamine, and whatever comes next. She told Bridges that she is "energized" about grain-based food safety issues.

Upon accepting her appointment, Stahl remarked about the changing nature of product formulation.

"Food manufacturers are getting so intricate with their ingredients now and there are so many ingredients that bring a different microbiological punch," she noted. In addition to updating the microbiological methods in the 11th edition, Stahl's committee will review and rewrite the association's best-selling book on food safety, according to Bridges.

There are still a few openings on this committee. If you wish to be considered for membership in the Food Safety and Microbiology Approved Methods Technical Committee, please send an e-mail request to Bridges at annebridges001@ earthlink.net.

Cereal Chemistry on the Rise!



The 2009 ISI Impact Factors were recently released and *Cereal Chemistry*'s improved again! *Cereal Chemistry* now has an impact factor of 1.314 and a five-year impact factor of 1.663.

Online journal usage has also increased and now averages 987 active users per day. This usage activity makes *Cereal Chemistry* an excellent journal in which to publish your grain science research. Thank you to all authors, reviewers, and editors of *Cereal Chemistry*! Your efforts contribute to the continued success of the journal.

Visit http://cerealchemistry.aaccnet.org to learn more about publishing in *Cereal Chemistry*.

Cereal Chemistry Special Section: Molecular Diversity and Health Benefits of Carbohydrates from Cereals and Pulses

The concept for this special section was initiated at a recent AACC Intl. Carbohydrate Division business meeting as a way to present a collection of cutting-edge science promoting the contributions of the society's membership. In putting the section together, organizers Marta Izydorczyk and Kris Spence chose to cover a broad spectrum of grain sources from a diverse, global perspective, while also highlighting the benefits that this diversity of structure and function brings to human health. Organizers hope that this special section will be useful to the membership of AACC Intl. as well as a resource to those working in other fields.

We thank all of the contributing authors for their hard work and cooperation and the reviewers for their valuable service and suggestions. We especially thank Carl Hoseney and the *Cereal Chemistry* editorial board for their support. Read the Special Section: Molecular Diversity and Health Benefits of Carbohydrates from Cereals and Pulses in the July/August issue of *Cereal Chemistry*.

Obituary

William J. Hoover



At 82 years old, William J. "Bill" Hoover passed away in Colorado Springs, CO, U.S.A., after suffering a stroke. Bill was the beloved husband of Ellen Hoover for more

than 60 years. He will be forever remembered by his adoring children, Mike Hoover, Jane Bartlett, and Laura Thiel, and treasured by his many grandchildren and prized great grandchildren, his sister, inlaws, friends, and family whom were blessed to know him.

Born and raised in Champaign, IL, U.S.A., Bill was one of two children born to the late Scott and Dorothy Hoover. After graduating high school in Champaign, Bill went on to receive his B.S., M.S., and Ph.D. degrees from the University of Illinois (U of I), majoring in food technology with minors in business administration and mathematical statistics.

As president and chief executive officer of the American Institute of Baking (AIB) for 18 years, and president of AACC Intl. from 1980 to 1981, Bill left his mark worldwide. His work enhanced food safety, processing, distribution, and nutrition at home, in the United States, and abroad. Bill's work and research helped improve the nutritional value of food in 67 countries.

As Bill wrote:

"Cereal science provides a unique opportunity to serve mankind....As cereal scientists we need this vision, this professionalism to meet the changing needs of the 1980s. And it is the responsibility of a scientific society to help its members become more professional...Professionalism is extending beyond the requirements of the job by preparing yourself to do the next assignment better; continually educating yourself; and reaching beyond the technical world to the world around you" (Originally published in the September 1981 issue of *Cereal Foods World*).

Bill was director for the Food and Feed Grain Institute and head of Kansas State University's (KSU) Department of Grain Science and Industry. Throughout his distinguished career, Bill served on numerous boards and committees in areas as varied as he was dynamic. He was honored numerous times throughout his life, including Kansas Scientist of the Year, 2007 inductee into the Baking Hall of Fame, and Citizen of the Year in Manhattan, KS, U.S.A., in 1981.

Bill loved being with his family and friends. He was an avid golfer, dedicated follower of all KSU and U of I athletics, and an enthusiastic violinist. He inspired all who knew him with his wit, integrity, and charm. Bill was especially talented at bringing smiles to the faces of those around him with his trademark sense of humor.

A memorial service was held on July 10, 2010, at the First United Methodist Church in Manhattan. Online condolences may be left for the family through the funeral home website at www.ymlfuneral home.com. A memorial scholarship has been established in Bill's name at the American Institute of Baking and may be left in care of the Yorgensen-Meloan-Londeen Funeral Home, 1616 Poyntz Avenue, Manhattan, KS 66502 or the American Institute of Baking, 1213 Baker's Way, Manhattan, KS 66502 U.S.A.

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Mid-America Food Sales, Ltd., is an international food ingredient marketing and consulting company. We provide solutions to the food and nutritional industry. Our focus is on fiber, specialty grains, prebiotics, and probiotics.

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- Aucella, Claire A., Cornell Univ, Severn, MD, U.S.A.
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- Carter, Joshua R., Carroll, IA, U.S.A.
- **Castrodale, Chelsey**, Fayetteville, AR, U.S.A.
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- Chinnasamy, Babu, graduate student, Iowa State Univ, Ames, IA, U.S.A.
- Chuck, Cristina, ITESM, Monterrey, MEXICO

- **Cook, Katherine E.**, graduate research assistant, Univ of Arkansas, Fayette-ville, AR, U.S.A.
- **Edwards, Tim**, quality assurance manager, Mennel Milling Co. of Virginia Inc., Roanoke, VA, U.S.A.
- **Evenson, Mike**, General Mills Inc., Golden Valley, MN, U.S.A.
- **Gawde, Archana**, graduate research student, Texas A&M Univ, College Station, TX, U.S.A.
- Herlitzka, Kristy K., corporate quality assurance manager, Kwik Trip Inc., La Crosse, WI, U.S.A.
- Huang, Liqun, Jiangnan Univ, Wuxi, PEOPLE'S REP OF CHINA
- Huang, Wen-Yang, Natl Taiwan Univ, Taipei, TAIWAN
- Ku, Anna, Parsippany, NJ, U.S.A.
- Lam, Vu, Anresco Inc., San Francisco, CA, U.S.A.
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- Luckett, Curtis R., Univ of Arkansas, Fayetteville, AR, U.S.A.
- Mandl, Karen, scientist, General Mills Inc., Minneapolis, MN, U.S.A.
- Motomatsu, Kenji, Nisshin Flour Milling Inc., Tsukuba, Ibaraki, JAPAN
- Muller, Marlize M., research consultant, South Africian Breweries, Secunda, Mpumalanga, REP OF SOUTH AFRICA
- **Ovando-Martinez, Maribel**, North Dakota State Univ, Fargo, ND, U.S.A.
- Pazlopez, Claudia M., Cornell Univ, Belle Mead, NJ, U.S.A.
- Rombouts, Ine, K.U. Leuven, Leuven, BELGIUM
- **Tibola, Casiane S.**, doctor, Brazilian Agricultural Research Corp., Passo Fundo, RS, BRAZIL
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