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U.S. Food Waste Challenge

On June 4, 2013, the U.S. Department of Agriculture (USDA), in collaboration with the U.S. Environmental Protection Agency (EPA) launched the U.S. Food Waste Challenge, calling on others across the food chain—including producer groups, processors, manufacturers, retailers, communities, and other government agencies—to join the effort to reduce, recover, and recycle food waste. AACCI supports this effort by working with the hotels and convention centers to donate food from AACCI meetings to food shelves in the local area.
Welcome

Thank you for joining us in historic Providence for an outstanding scientific and technical program. It’s here that we gain a broad view of current research and development in the field of cereal science, and learn how to transfer this research into practice. I urge you to create a customized schedule that includes sessions in your specific areas of interest as well as different topics to widen your view of the entire field. I use the annual meeting as a springboard for the next 12 months, reconnecting with colleagues, industry contacts and renowned researchers that all help shape my professional contribution. I believe the true power of the AACCI and our annual meeting lies in the commitment to continue important discussions on the future of cereal grain science long after we leave Providence. Welcome!

Peter Koehler
2014 Program Team Chair

Greetings, and a warm welcome to the Annual Meeting of AACC International in Providence, Rhode Island. Our Association is unique in that it has members from industry, academia and government bodies. What unites us is our interest in cereals, their constituents, and their food and non-food applications. This week, we will take advantage of the many knowledge-sharing platforms—be they oral sessions or poster presentations—led by hundreds of scientists with different sets of expertise, all showcasing progress in the field. We will also participate in some of the many networking events and contribute to the goals of the Association by attending division, section and alumni meetings. I do hope that the Annual Meeting will provide you with new insights and that it will help you in your professional life. So, welcome to Providence, and enjoy!

Jan A. Delcour
AACC International President

2014 AACC Annual Meeting Program Planning Team

Program Team Chair
Peter Koehler, German Research Center for Food Chemistry, Germany

Program Team Vice-Chair
Devin Rose, University of Nebraska, U.S.A.

2014 Scientific Initiative Chairs and Vice-Chairs

Biotechnology & Sustainability
Chair: Andreas Blennow, University of Copenhagen, Denmark
Vice-Chair: David Kendra, Pepsi Company, U.S.A.

Chemistry & Interactions
Chair: Kristof Brijs, KU Leuven, Belgium
Vice-Chair: Bram Pareyt, KU Leuven, Belgium

Engineering & Processing
Chair: Supriya Varma, Frito-Lay Inc., U.S.A.
Vice-Chair: Monjur Hossen, Kellogg Company, U.S.A.

Food Safety & Regulatory
Chair: Ryan Legge, ConAgra Foods Inc., U.S.A.
Vice-Chair: Mary O’Meara Gillespie, Grain Millers, Inc., U.S.A.

Health & Nutrition
Chair: Satya Jonnalagadda, Kerry Ingredients & Flavours, U.S.A.
Vice-Chair: Derek Stewart, The James Hutton Institute, United Kingdom

Ingredients & Innovations
Chair: Feng (Jessy) Wang, MagiBake International, Inc., and Jiangnan University, China
Vice-Chair: Susan Kamper, General Mills, U.S.A.

Quality & Analytical Methods
Chair: Mario Jekle, Technische Universität München, Germany
Vice-Chair: Chris L. Miller, Kansas State University, U.S.A.
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**Scientifically-supported health benefits.**

OatWell® is the market-leading ingredient brand of oat beta-glucan. With more than 100 publications, including clinical studies, oat beta-glucan has scientifically proven health benefits in the area of healthy blood glucose control, digestive health, satiety and an FDA- and EFSA-approved health claim for cholesterol reduction.* OatWell® is specifically used in many clinical studies.

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Source: Survey Monkey OatWell® Concept Study 2013

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*in conjunction with a diet low in saturated fat and cholesterol.
Safety Tips

- Do not travel alone—stay in groups and travel in well-lit areas.
- Remove name badges when outside the hotel and Convention Center unless you are participating in an annual meeting event.
- Do not give your room number out to anyone you do not know, and avoid giving out your room number in conversations that strangers may overhear.
- Bolt your hotel room door and only open it when you know who is on the other side. (Note: Hotel personnel wear uniforms and have identification badges. If in doubt, call hotel security or the front desk to verify an employee’s identity.)
- Do not leave your door ajar if you are going down the hall for ice. Someone may enter when you are not looking.
- Know where the stairs are located in case of a fire. Do not use elevators. Also, count the number of doors to the nearest exit in case you cannot see in a smoke-filled hallway.
- Valuables, airline tickets, and money should be kept in a hotel safety deposit box or in a room safe, if available.

Procedures in Case of a Fire in the Hotel

- Leave the hotel as quickly as possible. If you cannot, stay in your room and call the operator or security to let them know you are in your room.
- Put your hand on the room door to see if it is hot before opening it. If it is, do not open it quickly. Open it just a crack to see what is on the other side, and be prepared to slam it quickly if necessary.
- If you leave your room, take your room key with you. Shut your room door to keep smoke out. You may have to return if the exit is blocked. Remember the way back to your room as you go to the exit in case you need to return.
- If necessary, drop to your knees to avoid smoke. Tie a wet towel around your nose and mouth to act as a smoke filter. Fold it into a triangle and put the corner in your mouth.
- Do not take the elevator when you smell smoke or if you know that there is a fire in the building.
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Keep the Annual Meeting Close at Hand

Download the 2014 App for Real-Time Updates

➤ Receive announcements
➤ Check the program schedule, posters, and general information
➤ Review the exhibitor list and booth numbers
➤ Customize your schedule and add appointments
➤ Access session information, including full abstracts
➤ Create your personal schedule and to-do lists
➤ Schedule Posters by Appointment in addition to poster author time
➤ Connect with your iPad-specific version

Download Now.
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Available for iOS (iPhone and iPad) and Android devices; Blackberry and Windows phone users have access to a mobile website that will offer the same functionality. Search the app store for “AACCI2014”; or go to mobileapp.aaccnet.org for app store links and mobile website link.

When accessing the app for the first time, you will have the option to set a password. If you choose not to set a password, no password will be needed to access the app features.

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- TIC Gums Inc.
AACC International’s Annual Meeting
Seven Scientific Initiatives
The AACC International Annual Meeting focuses on seven scientific initiatives that guide the program and provide members with relevant information, strong scientific content, and significant opportunities for disseminating research findings.

Biotechnology & Sustainability
conventional breeding • genetic modification • interaction effects of environment on gene expression • global climate change • reducing energy consumption • social/political/financial impacts

Chemistry & Interactions
fundamental whole cereal, starch, and protein chemistry • related polymer science approaches • chemical interactions of component parts

Engineering & Processing
physical processing of grains, pulses, and food products • fuels, industrial chemicals, and other in-process materials • more efficient engineering processes and equipment

Food Safety & Regulatory
microbes • contaminants • hazards • regulatory issues • legal challenges

Health & Nutrition
health and nutrition of cereals and pulses • social impact of health and nutrition initiatives • medical reports

Ingredients & Innovations
raw materials • new discoveries of novel ingredients • applications of ingredients • reduce ingredient costs

Quality & Analytical Methods
analytical methods development and changes • measuring quality of grain, ingredients, or finished foods • rheology

The Top Science from the Top Scientists
The science-packed AACCI Annual Meeting gives you more top-notch scientific content to choose from and more time scheduled each day to attend the sessions.

Session Formats for 2014!

Traditional
- **Symposia** – aimed at optimal knowledge transfer through regular 20-minute talks with time for topical questions.
- **Technical Sessions** – featured 20-minute talks covering new scientific insights and technological advancements in the field.
- **Hot Topics** – hot off the news…these sessions provide the latest information and updates on new and developing topics in the industry.

Interactive
- **Science Cafés** – a combination of shorter or more elaborate position talks with debate and discussion.
- **Conversations Matter** – a new format for the exchange of science. Conversations Matter provide more engagement/conversation in the topic/discussion area between the presenter and the audience to allow for a more meaningful exchange of content and conversation.

In Memory of

Koushik Seetharaman
1966–2014
2013 AACCI Annual Meeting Program Chair

**Koushik Seetharaman Memorial Fund**
In honor of Koushik’s unyielding support and work with students, AACCI has established the Koushik Seetharaman Memorial Fund to continue his work to support increased student participation and engagement in AACCI.

Donations will be accepted during the annual meeting at the AACCI Central located in the Exhibit Hall and online at https://my.aaccnet.org/Core/Donations/Gift.aspx
Registration Hours
Prefunction Area, 3rd floor

Sunday, October 5  12:00 – 7:00 p.m.
Monday, October 6  7:30 a.m. – 6:30 p.m.
Tuesday, October 7  7:30 a.m. – 5:00 p.m.
Wednesday, October 8  7:30 a.m. – 2:30 p.m.

Speaker Ready Room
Room 558A, CC

Sunday, October 5  2:00 – 7:00 p.m.
Monday, October 6  7:00 a.m. – 5:30 p.m.
Tuesday, October 7  7:00 a.m. – 5:30 p.m.
Wednesday, October 8  7:00 a.m. – 12:00 p.m.

Exhibition Hall—Exhibit and Poster Hours
Hall BC

Sunday, October 5
8:00 a.m. – 2:00 p.m.  Exhibit Set-Up & Exhibitor Registration
5:00 – 7:00 p.m.  Grand Opening Exhibition

Monday, October 6
7:00 – 10:00 a.m.  Poster Set-Up by Authors
10:00 a.m. – 7:00 p.m.  Poster Viewing
4:00 – 7:00 p.m.  Exhibits with Beer and Poster Viewing with Authors Present
Student Poster Authors Present
(4:00 – 5:00 p.m.)
Poster Authors Present
(odd-numbered posters 5:00 – 6:00 p.m.)

Tuesday, October 7
8:00 a.m. – 2:30 p.m.  Poster Viewing
12:00 – 2:15 p.m.  Lunch with the Exhibitors
Poster Authors Present
(even-numbered posters 1:00 – 2:00 p.m.)
2:30 – 4:00 p.m.  Exhibit and Poster Take-Down

AACCI Central Bookstore
East Area, 5th floor

AACCI Central Demonstration Station
Hall BC, Exhibits

Sunday, October 5
5:00 – 7:00 p.m. (Hall BC, Exhibits)

Monday, October 6
9:00 a.m. – 3:00 p.m. (East Area, 5th floor)
4:00 – 7:00 p.m. (Hall BC, Exhibits)

Tuesday, October 7
9:00 – 11:00 a.m. (East Area, 5th floor)
12:00 – 2:15 p.m. (Hall BC, Exhibits)

Wednesday, October 8
9:00 – 11:00 a.m. (East Area, 5th floor)

Concession Service Available
A variety of breakfast items, beverages, snacks, and lunch items will be available for purchase at the convention center at the Metro Café (3rd level) and Terrace Café (4th level).

Monday, October 6  7:30 a.m. – 2:30 p.m.
Tuesday, October 7  7:30 a.m. – 12:00 noon
Wednesday, October 8  7:30 a.m. – 2:30 p.m.

New and Complimentary!
Conference Recordings Available to All Meeting Attendees
Miss a session or presentation? Recordings of presentations, with author approval, will be available to meeting attendees within three weeks of the meeting, FREE! Watch for emails after the meeting with more information on how to stay connected to the 2014 annual meeting and the outstanding science.

Open Meeting Room
A meeting room will be available for groups of 14 people or fewer at the Omni. Sign up at the Registration Desk located in the Prefunction Area, 3rd floor.

Photo Release
Photographs will be taken at the 2014 AACC International Annual Meeting. By attending this meeting, you agree to allow AACCI’s use of your photo in any AACCI publications or website.

AACCI Membership Now Includes Access to CFW Online
CFW Online gives members full access to every issue of Cereal Foods World. Have this cutting-edge journal at your fingertips wherever you go. And online access is included in your AACCI membership.* What a great member benefit!

AACCI Annual Meeting Sessions
Scientific & Technical Resources
Your Work

cfw.aaccnet.org

Not a Member?
Join at the Registration Desk.

*Excludes Corporate Membership
Meeting Facilities Addresses

**Rhode Island Convention Center**  
One Sabin Street  
Providence, RI 02903  
401.458.6000

**Omni Providence**  
One West Exchange Street  
Providence, RI 02903  
401.598.8000

**Marriott Courtyard**  
32 Exchange Terrace at Memorial Blvd.  
Providence, RI 02903  
401.272.1191

**Biltmore**  
11 Dorrance Street  
Providence, RI 02903  
401.421.0700

Offsite Venues

**Cincinnati Section Meeting and Dinner**  
Union Station Brewery  
36 Exchange Terrace  
Providence, RI 02903  
401.274.2739  
*(walking distance from convention center)*

**Cereals&Europe Dinner**  
Union Station Brewery  
36 Exchange Terrace  
Providence, RI 02903  
401.274.2739  
*(walking distance from convention center)*

**Student Division Social and Dinner**  
Rí Rá Irish Pub  
50 Exchange Terrace  
Providence, RI 02903  
401.272.1953  
*(walking distance from convention center)*

**Carbohydrate Division Dinner**  
The Dorrance  
60 Dorrance Street  
Providence, RI 02903  
401.521.6000  
*(walking distance from convention center)*

Medical Emergencies

The nearest medical facilities are:  
**RI Hospital – Level 1 Trauma**  
593 Eddy Street  
Providence, RI 02903  
401.444.4000

**The Miriam Hospital**  
164 Summit Avenue  
Providence, RI 02906  
401.793.2500

**Roger Williams hospital**  
825 Chalkstone Avenue  
Providence, RI 02908  
401.456.2000
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Our Molasses Products
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Through collaboration with our experts, your goals can be realized.

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Specialty Ingredients

For inquiries, samples, detailed information or to place an order, please contact your Domino Specialty Ingredients representative, or visit our web site at DominoSpecialtyIngredients.com 800.446.9763
Invest in the Next Generation of Cereal Grain Scientists

Support the AACCI Foundation

Foundation activities invest in the future of our industry by providing scholarships, fellowships, and programming for students and early career professionals excelling in relevant curricula and working in our field of science.

Stop by AACCI Central in the Exhibit Hall to make your donation to the AACCI Foundation and be entered into a drawing to win complimentary registration for the 2015 Centennial meeting.

Proceeds go to the AACCI Foundation.
Meeting Highlights

**Premeeting Sessions**

**Sunday, October 5**

**Short Course:** Chemometrics without Equations (or Hardly Any)
8:30 a.m. – 3:00 p.m.

**Premeeting C-Cell Workshop:** Development of a Bakery Quality Score through Image Analysis
12:30 – 3:30 p.m.
See page 26 for description and speakers.

**Opening General Session Reception**

**Sunday, October 5**
3:30 – 4:00 p.m.

**Opening General Session and Awards Ceremony**

4:00 – 5:00 p.m.

A beverage reception kicks off the opening for the 2014 Annual Meeting, followed by the Opening General Session! Get updates on what your association is doing to further the advancement of grain science, help honor AACCI members who have made significant contributions to the field of grain science, and see who will receive the William F. Geddes Memorial Award.

**Grand Opening Exhibition**

**Sunday, October 5**
5:00 – 7:00 p.m.

Network with colleagues and reconnect with friends while you visit with more than 100 of the industry’s leading suppliers during this casual and festive event. Light appetizers and beverages will be served.

**Student Product Development Competition Presentations**

**Monday, October 6**
9:00 a.m. – 12:20 p.m. **Competition Presentations**
4:00 – 5:00 p.m. **Poster Presentations**

This competition highlights grain-based food product development skills and innovations from our up-and-coming scientists. Watch the finalists as they present their innovative ideas, and join them later on by their posters in the exhibit hall. See page 28 for full details. All attendees are invited to attend and encourage these new innovators!

**Special Sessions**

**Baking Industry Focus Special Sessions:**

**Monday, October 6**
8:30 a.m. – 12:20 p.m.
**Baking Market Trends**

**Tuesday, October 7**
8:00 a.m. – 12:20 p.m.
**Regulatory Influences of Baking Performance**
2:20 – 5:30 p.m.
**Technology for the Baker in Response to Regulations and Market Trends**

For a detailed list of presentations and speakers see page 33 of the program book.

**Milling & Baking Division Lunch** – Continue the discussion from Monday, 12:30–2:00 p.m. where Glenn Gaesser, Arizona State University, will be keynote speaker addressing the topic “Grains, Body Weight, and Health.”
Preregistration is required; this ticketed lunch is open to anyone.

**Conservations Matter**

**Monday, October 6**
2:00 – 4:00 p.m.
**Conversations Matter**... on DON in Cereals – Keys to Successful Global Management
See page 30 for speakers.

**Tuesday, October 7**
2:30 – 4:30 p.m.
**Conversations Matter**... on Overcoming Barriers to Whole Grain Consumption
See page 34 for speakers.

**Wednesday, October 8**
2:00 – 4:00 p.m.
**Conversations Matter**... on the Use of GMOs to Improve Cereal Grains
See page 37 for speakers.

**Hot Topics**

**Monday, October 6**
2:00 – 4:00 p.m.
**Carbohydrate Quality and Health Impact: The Good, the Bad and the Ugly!**
See page 29 for speakers.

**Wednesday, October 8**
2:00 – 4:00 p.m.
**FSMA/GFSI – Tools for the Trade**
See page 36 for speakers.
Exhibits with Beer and Poster Viewing

**Monday, October 6**
4:00 – 7:00 p.m.

*Student Poster Authors Present (4:00 – 5:00 p.m.)
Poster Authors Present (odd-numbered posters 5:00 – 6:00 p.m.)*

Grab a beer, iced tea, or lemonade and visit with industry suppliers at their exhibits, talk with poster authors, and learn more about AACCI’s innovations.

Best Student Research Paper Competition

**Tuesday, October 7**
8:30 – 11:00 a.m.

This competition challenges students to demonstrate superior presentation skills, highlights the best research conducted and presented by students, and offers an opportunity for students to interact with the AACCI community at an early stage in their career. This session will showcase the top six finalists. A detailed listing of presenters is included on page 31.

Lunch with the Exhibitors and Poster Viewing

**Tuesday, October 7**
12:00 – 2:15 p.m.

Grab a complimentary lunch and continue the networking and education as you meet with industry suppliers and talk with poster authors.

Speed Mentoring Social

**Tuesday, October 7**
4:30 – 5:30 p.m.

*(Supported by the Professional Development Panel and the Education Division)*

Quick exchanges with multiple contacts provide the chance to seek career and research guidance, hear about the experiences of others, potentially find a long-term mentor/protégé match, and make connections that could last a lifetime. Light appetizers and refreshments will be available. *Preregistration is required.*

Savoring Federal Hill – An Insider’s Culinary Tour

**Tuesday, October 7**
9:00 a.m. – 12:00 p.m. and

**Wednesday, October 8**
9:00 a.m. – 12:00 p.m.

Professional chef and cookbook author Cindy Salvato offers the “Savoring Federal Hill” tour through various retailers to meet the chefs, bakers, and ravioli makers and gain tips on real Italian cooking. Participants will see the Old World bakeries and Italian specialty stores; sample delicious fresh bread, sweets, wine, and cheeses; watch ravioli makers and bakers create their delicacies; and get a behind-the-scenes visit into the kitchens of the Hill’s top culinary destinations. *Fee and preregistration required.*

Closing General Session and AACCI Historical Happy Hour with Keynote Speaker Peter Shewry – “The Last 50 Years in Cereal Research: Achievements and Challenges”

**Wednesday, October 8**
4:15 – 6:00 p.m.

Join us for diamond daiquiris at this year’s closing as we look at the advances in cereal research from 1965 to 2014 in preparation for AACCI International’s centennial celebration in 2015 with a presentation by Peter Shewry, Distinguished Research Fellow, Rothamsted Research, United Kingdom and longtime AACCI member. This session will also include the following award presentations – Texture Technologies Quality Research Best Presentation Award for 2014, Best Student Research Paper Competition, and the Cecil F. Pinney Travel Award.

*“The Last 50 Years in Cereal Research: Achievements and Challenges” – Peter Robert Shewry*

Cereal researchers have benefitted from the same revolution in biology as other disciplines, driven by advances in technologies underpinning genomics and chemical analysis. These technologies have facilitated the generation of huge datasets that themselves pose challenges for interpretation and application. While they have had significant impacts in some aspects of cereal research, such as the application of molecular breeding and transgenesis to crop improvement, advances in other areas, notably aspects of crop quality, have been disappointing. Peter will focus on identifying both achievements over the past 50 years and challenges for the future. He will also acknowledge the legacy of the previous generation of cereal chemists, a number of whom he was fortunate to meet early in his own career.
Meeting Highlights (continued)

Approved Methods Technical Committee Meetings

These meetings take place at the Omni Hotel.

**Monday, October 6**
7:00 – 8:30 a.m.
- Asian Products  Room Washington
- Bioactive Compounds Methods  Room Bristol
- Molecular Biomarkers for Grain  Room Kent
- Oat and Barley Products  Room South County
- Physical Testing Methods  Room Newport
- Pulse and Legume  Room Executive Board Room
- Vitamins, Minerals, and Lipids  Room Blackstone

**Tuesday, October 7**
7:00 – 8:30 a.m.
- Bread Baking Methods  Room Newport
- Chemical Leavening Agents  Room Bristol
- Food Safety and Microbiology  Room South County
- Protein and Enzyme Methods  Room Blackstone
- Rice Milling and Quality  Room Washington
- Spectroscopic Methods  Room Kent
- Yeast Evaluation  Room Executive Board Room

**Wednesday, October 8**
7:00 – 8:30 a.m.
- Dietary Fiber and Other Carbohydrates  Room Kent
- Experimental Milling  Room Washington
- Methods for Grain and Flour Testing  Room South County
- Pasta Products Analysis  Room Newport
- Soft Wheat and Flour Products  Room Bristol
- Statistical Advisory  Room Blackstone

2014 AACCI Awardee Presentations

Phil Williams Applied Research Lecture Award
**Current Issues in Milling Session**
*Monday, October 6*
10:40 a.m. • 552 AB, CC

“Applying material state properties to optimize rice drying,” presented by Terry Siebenmorgen, University of Arkansas, Fayetteville, AR, U.S.A.

Carl Wilhelm Brabender Award
**Rheological and Spectroscopic Methods**
*Tuesday, October 7*
10:40 a.m. • 556 AB, CC

“Influence of viscoelasticity of wheat kernels, doughs on flour yield and bread volume evaluated by stress relaxation and creep-recovery tests,” presented by Juan de Dios Figueroa Cárdenas, CINVESTAV Unidad Queretaro, Queretaro, Qro, Mexico

Young Scientist Research Award
**Gut Microbiota, the New Frontier—The Role of Cereal Grains and Fiber**
*Wednesday, October 8*
10:40 a.m. • 552 AB, CC

“Cereal grains: Impact on gut microbiota and health,” presented by Devin Rose, University of Nebraska, Lincoln, NE, U.S.A.

A Gluten-Free Book That’s Easy to Digest!

See this and other titles **ON SALE** at the AACCI Central Bookstore and Demonstration Station. Buy any 2 books and get a free book light. Buy a 3rd book, and get free shipping too. Hurry, while supplies last!

**Locations and Hours**
AACCI Central Bookstore, East Area, 5th Floor
- **Monday** .................................................... 9:00 a.m. – 3:00 p.m.
- **Tuesday** .................................................... 9:00 – 11:00 a.m.
- **Wednesday** ............................................... 9:00 – 11:00 a.m.

And visit our NEW AACCI Central ‘Demonstration Station’ in the Exhibit Hall!
- **Sunday** .................................................... 5:00 – 7:00 p.m.
- **Monday** .................................................... 4:00 – 7:00 p.m.
- **Tuesday** .................................................... 12:00 p.m. – 2:15 p.m.
### Divisions, Sections, Alumni Meetings, and Events

Network with attendees who specialize in specific subject areas, work in various geographic locations, or are fellow alumni by participating in these meetings, events, and socials. Check at the Registration Desk for availability and to purchase tickets. **Preregistration is required.** For events not taking place at the Omni or the Rhode Island Convention Center (CC), see page 11 for location addresses.

<table>
<thead>
<tr>
<th><strong>Saturday, October 4</strong></th>
<th></th>
<th>Room</th>
</tr>
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<tbody>
<tr>
<td>4:00 – 6:00 p.m.</td>
<td>Milling &amp; Baking Division Executive Committee and Advisory Board Meeting</td>
<td>Newport, Omni</td>
</tr>
<tr>
<td>6:30 – 9:00 p.m.</td>
<td>Cincinnati Section Meeting and Dinner†</td>
<td>Offsite, Union Station Brewery</td>
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<tr>
<th><strong>Sunday, October 5</strong></th>
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<th>Room</th>
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<tbody>
<tr>
<td>5:00 – 6:00 p.m.</td>
<td>Student Division Executive Committee and University Representative Meeting</td>
<td>Exec. Board Room, Omni</td>
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<tr>
<th><strong>Monday, October 6</strong></th>
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<th>Room</th>
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<tbody>
<tr>
<td>12:30 – 2:00 p.m.</td>
<td>Engineering &amp; Processing Division Meeting and Lunch*</td>
<td>550 A, CC</td>
</tr>
<tr>
<td>12:30 – 2:00 p.m.</td>
<td>Milling &amp; Baking Division Meeting and Networking Lunch*</td>
<td>Grand Ballroom B, CC</td>
</tr>
<tr>
<td>12:30 – 2:00 p.m.</td>
<td>Nutrition Division Meeting and Lunch*</td>
<td>550 B, CC</td>
</tr>
<tr>
<td>12:30 – 2:00 p.m.</td>
<td>Rice Division Lunch*</td>
<td>Bristol, Omni</td>
</tr>
<tr>
<td>2:30 – 4:00 p.m.</td>
<td>Student Division Business Meeting</td>
<td>South County, Omni</td>
</tr>
<tr>
<td>5:30 – 6:00 p.m.</td>
<td>Carbohydrate Division Executive Committee Meeting</td>
<td>Grand Ballroom E, CC</td>
</tr>
<tr>
<td>6:00 – 7:00 p.m.</td>
<td>Carbohydrate Division Meeting</td>
<td>Grand Ballroom B, CC</td>
</tr>
<tr>
<td>7:00 – 9:30 p.m.</td>
<td>Cereals Europe Section Dinner†</td>
<td>Offsite, Union Station Brewery</td>
</tr>
<tr>
<td>7:00 – 10:00 p.m.</td>
<td>Student Division Social and Dinner†</td>
<td>Offsite, Rí Rá Irish Pub</td>
</tr>
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<thead>
<tr>
<th><strong>Tuesday, October 7</strong></th>
<th></th>
<th>Room</th>
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</thead>
<tbody>
<tr>
<td>4:30 – 5:30 p.m.</td>
<td>Biotechnology Division Business Meeting</td>
<td>Washington, Omni</td>
</tr>
<tr>
<td>4:30 – 5:30 p.m.</td>
<td>Protein Division Business Meeting</td>
<td>Blackstone, Omni</td>
</tr>
<tr>
<td>5:30 – 6:30 p.m.</td>
<td>Protein and Biotechnology Division Joint Social*</td>
<td>Bristol, Omni</td>
</tr>
<tr>
<td>6:00 – 9:00 p.m.</td>
<td>Carbohydrate Division Dinner†</td>
<td>Offsite, The Dorrance</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th><strong>Wednesday, October 8</strong></th>
<th></th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 – 8:15 a.m.</td>
<td>Kansas State University Breakfast*</td>
<td>Grand Ballroom B, CC</td>
</tr>
<tr>
<td>7:00 – 8:30 a.m.</td>
<td>North Dakota State University Alumni and Friends Breakfast*</td>
<td>Grand Ballroom E, CC</td>
</tr>
<tr>
<td>12:30 – 1:30 p.m.</td>
<td>Rheology Division Meeting and Lunch*</td>
<td>550 B, CC</td>
</tr>
</tbody>
</table>

* Preregistration – ticket required † offsite location

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### AACCCI Members Are Great!

**You fortify our association and make it strong! Thank you for your continued support.**

### Stop by AACCCI Central in the Exhibit Hall

Find out how you can help support the future of the association, and learn about the last 100 years of cereal grain science.

### Get a Free Pair of AACCCI Headphones

Share your association—let a colleague know why they should be a member of AACCCI, and receive a free pair of AACCCI headphones. Help grow the AACCCI community today!

**Sunday**
5:00 – 7:00 p.m.

**Monday**
9:00 a.m. – 3:00 p.m.

**Tuesday**
9:00 – 11:00 a.m.
### Scientific Sessions-at-a-Glance

Sessions are held in the Rhode Island Convention Center (CC).

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sunday, October 5</strong></td>
<td>8:30 a.m. – 3:00 p.m.</td>
<td>Pre-Meeting Short Course: Chemometrics without Equations (or Hardly Any) • Washington, Omni</td>
</tr>
<tr>
<td></td>
<td>12:30 – 3:30 p.m.</td>
<td>Pre-Meeting C-Cell Workshop: Development of a Bakery Quality Score through Image Analysis • Kent, Omni</td>
</tr>
<tr>
<td></td>
<td>3:30 – 5:00 p.m.</td>
<td>Opening General Session and Awards Ceremony (3:30 p.m. Reception, 4:00 p.m. General Session) • Narragansett Ballroom, Omni</td>
</tr>
<tr>
<td></td>
<td>5:00 – 7:00 p.m.</td>
<td>Grand Opening Exhibition &amp; Reception • Hall BC, CC</td>
</tr>
<tr>
<td><strong>Monday, October 6</strong></td>
<td>7:00 – 8:30 a.m.</td>
<td>Approved Methods Technical Committee Meetings • See page 16 in the Program Book for listing.</td>
</tr>
<tr>
<td></td>
<td>8:30 a.m. – 12:20 p.m.</td>
<td>Milling and Baking Focus Session: Baking Market Trends • Grand Ballroom D, CC</td>
</tr>
</tbody>
</table>
|                      | 8:30 – 10:10 a.m.   | Symposium: Cereal Foods: Opportunities in the Oriental World • Engineering & Processing; Health & Nutrition; Ingredients & Innovations • 551AB, CC  
Technical: Modification of Cereal Ingredients • Chemistry & Interactions • 555AB, CC |
|                      | 9:00 a.m. – 12:20 p.m. | Student Product Development Competition • 553AB, CC |
|                      | 9:00 a.m. – 12:10 p.m. | Supplier Innovation Session I • Grand Ballroom C, CC |
|                      | 10:40 a.m. – 12:20 p.m. | Technical: Current Issues in Milling • Engineering & Processing • 552AB, CC  
Symposium: Protein-Starch Interactions and their Importance in End-Product Quality • Chemistry & Interactions; Engineering & Processing; Ingredients & Innovations; Quality & Analytical Methods • 551AB, CC |
|                      | 12:20 – 2:00 p.m.   | Poster Viewing and Lunch on Your Own • Division Lunc hes |
|                      | 2:00 – 3:50 p.m.    | Supplier Innovation Session II • Grand Ballroom C, CC               |
|                      | 2:00 – 4:00 p.m.    | Science Café: Accurate Gluten Quantitation in Foods and Beverages – A Mission Impossible? • 552AB, CC  
Hot Topic: Carbohydrate Quality and Health Impact: The Good, the Bad and the Ugly! • 551AB, CC |
|                      | 4:00 – 7:00 p.m.    | Beer and Poster Viewing (student poster authors only present from 4:00 – 5:00 p.m.; odd-numbered poster authors only present 5:00 – 6:00 p.m.) • Hall BC, CC |
|                      | Open Evening        | Division and Section Socials and Dinners                             |
| **Tuesday, October 7** | 7:00 – 8:30 a.m.    | Approved Methods Technical Committee Meetings • See page 16 in the Program Book for listing. |
|                      | 8:00 a.m. – 12:20 p.m. | Milling and Baking Focus Session: Baking Industry Focus Sessions: Regulatory Influences of Baking Performance • Grand Ballroom D, CC |
|                      | 8:30 – 10:10 a.m.   | Symposium: A Fresh Look at Yeast Functionality in Leavened Cereal Dough Systems • Chemistry & Interactions; Engineering & Processing; Quality & Analytical Methods • 551AB, CC  
Best Student Research Paper Competition • All Initiatives • 554AB, CC (ends at 11:00 a.m.)  
Technical: Biopolymer Structure • Chemistry & Interactions • 555AB, CC |
|                      | 9:00 – 10:50 a.m.   | Supplier Innovation Session III • Grand Ballroom C, CC             |
|                      | 10:40 a.m. – 12:20 p.m. | Technical: Digestive Properties of Starch • Health & Nutrition • 555AB, CC  
Symposium: Emerging Genetic Methods in Cereal Grain Quality Improvement • Biotechnology & Sustainability • 552AB, CC |
|                      | 12:00 – 2:15 p.m.   | Light Lunch with the Exhibitors • Hall BC, CC  
Poster Viewing (even-numbered poster authors present 1:00 – 2:00 p.m.) |
|                      | 2:20 – 5:30 p.m.    | Milling and Baking Focus Session: Technology for the Baker in Response to Regulations & Market Trends • Grand Ballroom D, CC |
|                      | 2:30 – 4:30 p.m.    | Conversations Matter...on Overcoming Barriers to Whole Grain Consumption • 554AB, CC  
Science Café: Perennial Grasses: Can they Replace Annual Grains in the Future? • 552AB, CC |
|                      | Open Evening        | Division Socials and Dinners                                        |
| **Wednesday, October 8** | 7:00 – 8:30 a.m.    | Approved Methods Technical Committee Meetings • See page 16 in the Program Book for listing. |
|                      | 8:30 – 10:10 a.m.   | Symposium: Enzymes in Cereal-Based Food Products • Chemistry & Interactions; Ingredients & Innovations • 552AB, CC  
Technical: Extrusion Technology for Cereal Products • Engineering & Processing • 556AB, CC |
|                      | 10:40 a.m. – 12:20 p.m. | Technical: Effects of Ingredients and Additives on Cereal Product Quality • Ingredients & Innovations • 555AB, CC  
Symposium: Gut Microbiota, the New Frontier – The Role of Cereal Grains and Fiber • Health & Nutrition • 552AB, CC |
<p>|                      | 12:30 – 2:00 p.m.   | Lunch on Your Own • ICC Lunch • Division Lunches                   |
|                      | 2:30 – 4:30 p.m.    | Hot Topic: FSMA/GFSI – Tools for the Trade • 551AB, CC              |
|                      | 4:15 – 6:00 p.m.    | Closing Session • Narragansett Ballroom, Omni                      |
|                      |                     | <strong>The above schedule is subject to change.</strong>                      |</p>
<table>
<thead>
<tr>
<th>Symposium: Noninvasive Sensor Techniques • Engineering &amp; Processing; Quality &amp; Analytical Methods • 552AB, CC</th>
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<tbody>
<tr>
<td>Technical: Structure and Functionality of Dietary Fiber • Ingredients &amp; Innovations • 555AB, CC</td>
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<tr>
<td>Conversations Matter… on DON in Cereals – Keys to Successful Global Management • 554AB, CC</td>
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<tr>
<td>Science Café: Starch Bioengineering, Structure and Function • 555AB, CC</td>
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<tr>
<td>Symposium: Current and Future Potentials of Sprouted Grains as Healthy Ingredients • Health &amp; Nutrition; Ingredients &amp; Innovations • 552 AB, CC</td>
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<tr>
<td>Technical: Methods for Seed Quality Assessment • Quality &amp; Analytical Methods • 556AB, CC</td>
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<tr>
<td>Technical: Rheological and Spectroscopic Methods • Quality &amp; Analytical Methods • 556AB, CC</td>
</tr>
<tr>
<td>Symposium: Solutions with Pulse Ingredients in Product Development Applications • Engineering &amp; Processing; Health &amp; Nutrition; Ingredients &amp; Innovations; Quality &amp; Analytical Methods • 551AB, CC</td>
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<tr>
<td>Science Café: Statistics Supporting Food Safety and Additional AACCI initiatives • 551AB, CC</td>
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<tr>
<td>Technical: Reformulating Cereal Foods for Special Purposes • Ingredients &amp; Innovations • 555AB, CC</td>
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<tr>
<td>Symposium: The Use of New Technologies in the Determination and Enhancement of Rice Grain Quality • Engineering &amp; Processing; Quality &amp; Analytical Methods • 551AB, CC</td>
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<tr>
<td>Technical: Phenolic Compounds: Interactions and Health Effects • Chemistry &amp; Interactions • 556AB, CC</td>
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<tr>
<td>Symposium: Quest for World’s Protein Needs – Cereal &amp; Legume Proteins; Chemistry and Food Applications • Biotechnology &amp; Sustainability; Ingredients &amp; Innovations • 551AB, CC</td>
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<tr>
<td>Conversations Matter…on the Use of GMO’s to Improve Cereal Grains • 554AB, CC</td>
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<tr>
<td>FRIDAY, OCTOBER 3</td>
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9:00 a.m. – 12:10 p.m.  Supplier Innovation Session I (descriptions p. 27)  Grand Ballroom C, CC  • Best Cooking Pulses, Inc. (9:00 – 9:30 a.m.)  • FOSS A/S (9:40 – 10:10 a.m.)  • DSM Nutritional Products (10:20 – 10:50 a.m.)  • Lallemend Baking Solutions (11:00 – 11:30 a.m.)  • Kudos Blends (11:40 a.m. – 12:10 p.m.)

9:00 a.m. – 12:20 p.m.  Student Product Development Competition Presentations  553 AB, CC  9:00 a.m. – 3:00 p.m.  AACCICentral Bookstore Open  East Area, 5th Floor, CC  10:00 a.m. – 7:00 p.m.  Poster Viewing  Hall BC, CC

10:40 a.m. – 12:20 p.m.  Scientific Sessions (descriptions pp. 28 – 29)  555 AB, CC  • Current Issues in Milling – includes Phil Williams  Applied Research Award, Terry Siebenmorgen – Technical (Scientific Initiative: Engineering & Processing)  • Protein-Starch Interactions and Their Importance in End-Product Quality – Symposium (Scientific Initiatives: Chemistry & Interactions; Engineering & Processing; Ingredients & Innovations; Quality & Analytical Methods)  • Structure and Functionality of Dietary Fiber – Technical (Scientific Initiative: Ingredients & Innovations)

12:20 – 2:00 p.m.  Lunch Break (cash concessions available)

12:30 – 2:00 p.m.  Engineering & Processing Division Meeting and Lunch*  550 A, CC  12:30 – 2:00 p.m.  Milling & Baking Division Meeting and Networking Lunch with featured speaker Glenn Gaesser – Grains, Body Weight and Health*  Grand Ballroom B, CC

12:30 – 2:00 p.m.  Nutrition Division Meeting and Lunch*  550 B, CC  12:30 – 2:00 p.m.  Rice Division Lunch*  Bristol, Omni

2:00 – 3:50 p.m.  Supplier Innovation Session II  Grand Ballroom C, CC  • Innophos Inc. (2:00 – 2:30 p.m.)  • DSM Food Specialties (2:40 – 3:10 p.m.)  • CHOPIN Technologies Inc. (3:20 – 3:50 p.m.)

2:00 – 4:00 p.m.  Hot Topic: Carbohydrate Quality and Health Impact: The Good, the Bad, and the Ugly!

2:00 – 4:00 p.m.  Scientific Sessions (descriptions pp. 29 – 30)  554 AB, CC  • Accurate Gluten Quantitation in Foods and Beverages – A Mission Impossible? – Science Café  • Conversations Matter... on DON in Cereals – Keys to Successful Global Management  • Starch Bioengineering, Structure and Function – Science Café

2:30 – 4:00 p.m.  2015 Centennial Planning Meeting, by invitation  Newport, Omni

2:30 – 4:00 p.m.  Student Division Business Meeting  South County, Omni

2:30 – 4:30 p.m.  Food Safety System Task Force Meeting  Washington, Omni

4:00 – 7:00 p.m.  AACCICentral Demonstration Station Open  Hall BC, CC

4:00 – 7:00 p.m.  Beer and Poster Viewing  Hall BC, CC

Student Poster Authors Present (4:00 – 5:00 p.m.)

Poster Authors Present (odd-numbered posters 5:00 – 6:00 p.m.)

4:00 – 7:00 p.m.  Exhibition Open  Hall BC, CC

5:30 – 6:00 p.m.  Carbohydrate Division Executive Committee Meeting  Grand Ballroom E, CC

6:00 – 7:00 p.m.  Carbohydrate Division Meeting  Grand Ballroom B, CC

7:00 – 9:30 p.m.  Cereals&Europe Section Dinner*†  Offsite, Union Station Brewery

7:00 – 10:00 p.m.  Student Division Social and Dinner*†  Offsite, Rí Rá Irish Pub

TUESDAY, OCTOBER 7

7:00 – 8:00 a.m.  Education Division Meeting*  550 B, CC

7:00 – 8:00 a.m.  Grains for Health Foundation Breakfast Meeting*  553 A, CC

7:00 – 8:00 a.m.  Past Presidents’ Breakfast  Grand Ballroom E, CC

7:00 – 8:30 a.m.  Approved Methods Technical Committee Meetings  Newport, Omni  Bristol, Omni  South County, Omni  Blackstone, Omni  Washington, Omni  Kent, Omni  Exec. Board Room, Omni

*ticket required • † offsite event
Daily Meeting Schedule and Sessions *(Tuesday continued)*

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>7:00 a.m. – 5:00 p.m.</td>
<td>Room Available for Small Meetings</td>
</tr>
<tr>
<td>7:00 a.m. – 5:30 p.m.</td>
<td>Speaker Ready Room</td>
</tr>
<tr>
<td>7:30 a.m. – 5:00 p.m.</td>
<td>Registration Open</td>
</tr>
<tr>
<td>8:00 a.m. – 12:20 p.m.</td>
<td>Milling and Baking Focus Session: Regulatory Influences of Baking Performance</td>
</tr>
<tr>
<td>8:00 a.m. – 2:30 p.m.</td>
<td>Poster Viewing</td>
</tr>
<tr>
<td>8:30 – 10:10 a.m.</td>
<td><strong>Scientific Sessions</strong> <em>(descriptions pp. 30 – 31)</em></td>
</tr>
<tr>
<td></td>
<td>• A Fresh Look at Yeast Functionality in Leavened Cereal Dough Systems – Symposium <em>(Scientific Initiatives: Chemistry &amp; Interactions; Engineering &amp; Processing; Quality &amp; Analytical Methods)</em></td>
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<tr>
<td></td>
<td>• Biopolymer Structure – Technical <em>(Scientific Initiative: Chemistry &amp; Interactions)</em></td>
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<tr>
<td></td>
<td>• Current and Future Potentials of Sprouted Grains as Healthy Ingredients – Symposium <em>(Scientific Initiatives: Health &amp; Nutrition; Ingredients &amp; Innovations)</em></td>
</tr>
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<td></td>
<td>• Methods for Seed Quality Assessment – includes Walter Bushuk Award, Silvia Thanhäuser – Technical <em>(Scientific Initiative: Quality &amp; Analytical Methods)</em></td>
</tr>
<tr>
<td>8:30 – 11:00 a.m.</td>
<td><strong>Best Student Research Paper Competition</strong></td>
</tr>
<tr>
<td>9:00 – 10:50 a.m.</td>
<td><strong>Supplier Innovation Session III</strong> <em>(descriptions p. 32)</em></td>
</tr>
<tr>
<td></td>
<td>• Beplex International <em>(9:00 – 9:30 a.m.)</em></td>
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<tr>
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<td>• QualySense <em>(9:40 – 10:10 a.m.)</em></td>
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<td>• Almond Board of California <em>(10:20 – 10:50 a.m.)</em></td>
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<tr>
<td>9:00 – 11:00 a.m.</td>
<td><strong>AACC</strong> Central Bookstore Open</td>
</tr>
<tr>
<td>9:00 – 12:00 a.m.</td>
<td><strong>Tour:</strong> Savoring Federal Hill – An Insider’s Culinary Tour <strong>†</strong> <em>(Preregistration required. Meet at 8:45 a.m. at the Registration Desk – Prefunction area, 3rd floor)</em></td>
</tr>
<tr>
<td>10:40 a.m. – 12:20 p.m.</td>
<td><strong>Scientific Sessions</strong> <em>(descriptions pp. 32 – 33)</em></td>
</tr>
<tr>
<td></td>
<td>• Digestive Properties of Starch – Technical <em>(Scientific Initiative: Health &amp; Nutrition)</em></td>
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<td></td>
<td>• Emerging Genetic Methods in Cereal Grain Quality Improvement – Symposium <em>(Scientific Initiative: Biotechnology &amp; Sustainability)</em></td>
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<tr>
<td></td>
<td>• Rheological and Spectroscopic Methods – includes C.W. Brabender Award, Juan de Dios Figueroa Cárdenas – Technical <em>(Scientific Initiative: Quality &amp; Analytical Methods)</em></td>
</tr>
<tr>
<td></td>
<td>• Solutions with Pulse Ingredients in Product Development Applications – Symposium <em>(Scientific Initiatives: Engineering &amp; Processing; Health &amp; Nutrition; Ingredients &amp; Innovations; Quality &amp; Analytical Methods)</em></td>
</tr>
<tr>
<td>12:00 – 2:15 p.m.</td>
<td><strong>AACC</strong> Central Demonstration Station Open</td>
</tr>
<tr>
<td>12:00 – 2:15 p.m.</td>
<td><strong>Lunch with the Exhibitors and Poster Viewing</strong></td>
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<tr>
<td></td>
<td><strong>Poster Authors Present</strong> <em>(even-numbered posters 1:00 – 2:00 p.m.)</em></td>
</tr>
<tr>
<td>1:00 – 2:00 p.m.</td>
<td>Professional Development Panel Meeting</td>
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<tr>
<td>2:20 – 5:30 p.m.</td>
<td><strong>Milling and Baking Focus Session:</strong> Technology for the Baker in Response to Regulations and Market Trends</td>
</tr>
<tr>
<td>2:30 – 4:00 p.m.</td>
<td><strong>Exhibit and Poster Take-Down</strong></td>
</tr>
<tr>
<td>2:30 – 4:30 p.m.</td>
<td><strong>Scientific Sessions</strong> <em>(descriptions p. 34)</em></td>
</tr>
<tr>
<td></td>
<td>• Conversations Matter… on Overcoming Barriers to Whole Grain Consumption</td>
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<tr>
<td></td>
<td>• Perennial Grasses: Can They Replace Annual Grains in the Future? – Science Café</td>
</tr>
<tr>
<td></td>
<td>• Statistics Supporting Food Safety and Additional AACC Initiatives – Science Café</td>
</tr>
<tr>
<td>3:30 – 5:00 p.m.</td>
<td><strong>China Strategies Task Force Meeting</strong></td>
</tr>
<tr>
<td>4:30 – 5:30 p.m.</td>
<td>2015 Technical Program Planning Meeting</td>
</tr>
<tr>
<td>4:30 – 5:30 p.m.</td>
<td><strong>Biotechnology Division Business Meeting</strong></td>
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<tr>
<td>4:30 – 5:30 p.m.</td>
<td><strong>Protein Division Business Meeting</strong></td>
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<tr>
<td>4:30 – 5:30 p.m.</td>
<td><strong>Speed Mentoring Social</strong></td>
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<tr>
<td>5:30 – 6:30 p.m.</td>
<td><strong>Protein and Biotechnology Division Joint Social</strong></td>
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<tr>
<td>6:00 – 9:00 p.m.</td>
<td><strong>Carbohydrate Division Dinner</strong></td>
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</tbody>
</table>

*Daily Meeting Schedule and Sessions (Tuesday continued)*

**Office – The Dorrance**
**WEDNESDAY, OCTOBER 8**

7:00 – 8:15 a.m.  
**Kansas State University Breakfast***  
Grand Ballroom B, CC

7:00 – 8:30 a.m.  
**Approved Methods Technical Committee Meetings**  
- Dietary Fiber and Other Carbohydrates  
  Kent, Omni  
- Experimental Milling  
  Washington, Omni  
- Methods for Grain and Flour Testing  
  South County, Omni  
- Pasta Products Analysis  
  Newport, Omni  
- Soft Wheat and Flour Products  
  Bristol, Omni  
- Statistical Advisory  
  Blackstone, Omni

7:00 – 8:30 a.m.  
**North Dakota State University Alumni Breakfast***  
Grand Ballroom E, CC

7:00 – 8:30 a.m.  
**Scientific Advisory Panel**  
Grand Ballroom C, CC

7:00 a.m. – 12:00 p.m.  
**Speaker Ready Room**  
558 A, C

7:00 a.m. – 5:00 p.m.  
**Room Available for Small Meetings**  
Exec. Board Room, Omni

7:30 a.m. – 2:30 p.m.  
**Registration Open**  
Prefunction Area, 3rd Floor, CC

8:30 – 10:10 a.m.  
**Scientific Sessions** (descriptions pp. 34 – 35)  
- Enzymes in Cereal-Based Food Products – Symposium  
  (Scientific Initiatives: Chemistry & Interactions; Ingredients & Innovations)  
  552 AB, CC  
- Extrusion Technology for Cereal Products – Technical  
  (Scientific Initiative: Engineering & Processing)  
  556 AB, CC  
- Reformulating Cereal Foods for Special Purposes – Technical  
  (Scientific Initiative: Ingredients & Innovations)  
  555 AB, CC  
- The Use of New Technologies in the Determination and Enhancement of Rice Grain Quality – Symposium  
  (Scientific Initiatives: Engineering & Processing; Quality & Analytical Methods)  
  551 AB, CC

9:00 – 11:00 a.m.  
**AACC Central Bookstore Open**  
East Area, 5th Floor, CC  
**Foundation Board Meeting**  
Grand Ballroom C, CC

9:00 a.m. – 12:00 p.m.  
**Tour: Savoring Federal Hill – An Insider’s Culinary Tour ***†**  
(Preregistration required. Meet at 8:45 a.m. at the Registration Desk – Prefunction area, 3rd floor)  
Offsite

10:00 – 11:00 a.m.  
**Nominating Committee Meeting**  
Grand Ballroom E, CC

10:40 a.m. – 12:20 p.m.  
**Scientific Sessions** (descriptions pp. 35 – 36)  
- Effects of Ingredients and Additives on Cereal Product Quality – Technical (Scientific Initiative: Ingredients & Innovations)  
  555 AB, CC  
- Gut Microbiota, the New Frontier – The Role of Cereal Grains and Fiber – includes Young Scientist Research Award, Devin Rose – Symposium (Scientific Initiative: Health & Nutrition)  
  552 AB, CC  
- Phenolic Compounds: Interactions and Health Effects – Technical (Scientific Initiative: Chemistry & Interactions)  
  556 AB, CC  
- Quest for World’s Protein Needs – Cereal & Legume Proteins: Chemistry and Food Applications – Symposium (Scientific Initiatives: Biotechnology & Sustainability; Ingredients & Innovations)  
  551 AB, CC

12:30 – 1:30 p.m.  
**Rheology Division Meeting and Lunch***  
550 B, CC

12:30 – 2:00 p.m.  
**ICC Luncheon***  
553 A, CC

12:30 – 2:00 p.m.  
**Lunch Break (cash concessions available)**  
South County, Omni

12:30 – 3:30 p.m.  
**Approved Methods Technical Committee Chairs Meeting and Lunch**  
551 AB, CC

2:00 – 4:00 p.m.  
**Hot Topic: FSMA/GFSI – Tools for the Trade**  
551 AB, CC

2:00 – 4:00 p.m.  
**Scientific Sessions** (descriptions p. 37)  
- Conversations Matter… on the Use of GMOs to Improve Cereal Grains  
  554 AB, CC  
- Shelf Life – Navigating the Meaning and Measurement of Shelf Life in Grain Ingredients and Foods – Science Café  
  552 AB, CC

*ticket required • † offsite event

continued
4:15 – 6:00 p.m. Closing General Session and AACCI Historical Happy Hour with Keynote Speaker Peter Shewry – “The Last 50 Years in Cereal Research: Achievements and Challenges” Join us for diamond daiquiris as we take a look at the advances in cereal research from 1965 to 2014 in preparation for AACCI’s centennial celebration in 2015. This session will also include the following award announcements – Texture Technologies Quality Research Presentation Award for 2014, Best Student Research Paper Competition, and the Cecil F. Pinney Travel Award.

Visit CENTENNIAL CORNER

2015 marks the 100-year anniversary of AACCI. Follow the signs to Centennial Corner and take part in the celebration!

- Watch the food trends video and share your own thoughts for the future
- View the presentation of AACCI Highlights: 1966–2014
- Pick up a reprint of the Cereal Foods World articles on carbohydrates and rheology, complete with historic timelines
- Get details on the 2015 Centennial Meeting in Minneapolis, Minnesota, October 18-21, 2015
- Pick up a badge ribbon to show your commitment to attending the Centennial meeting and contributing to the next 100 years!
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SUNDAY, OCTOBER 5

Premeeting Short Course: Chemometrics without Equations (or Hardly Any)
8:30 a.m. – 3:00 p.m. • Washington, Omni Hotel
The target audience for this workshop are those getting started in chemometrics and want a solid introduction to the fundamentals, and managers that are interested in having a better understanding of the problems faced in multivariate measurements and techniques and possibilities available for their applications. This introductory course concentrates on two areas of chemometrics: (1) exploratory data analysis and pattern recognition and (2) regression. Participants learn to apply techniques such as Principal Component Analysis (PCA), SIMCA, Principal Component Regression (PCR) and Partial Least Squares regression (PLS). The most commonly used methods of outlier detection and data pretreatment with also be illustrated. An emphasis will be put on understanding the chemometric process without having to learn matrix algebra.

Premeeting C-Cell Workshop: Development of a Bakery Quality Score through Image Analysis
12:30 – 3:30 p.m. • Kent, Omni Hotel
Organizer: Steven Pike, Calibre Control International Ltd, United Kingdom
Explore the development of bakery product scoring systems utilizing key parameters measured by C-Cell.

MONDAY, OCTOBER 6

8:30 a.m. – 12:20 p.m.
Milling and Baking Focus Session: Baking Market Trends
Special Session • Grand Ballroom D, CC
Sponsor: Milling & Baking Division
8:30 a.m.
Session Introduction – Jennifer Robinson
8:35 a.m. • 1-S
Global strategies for baked goods. S. SEIBOLD (1), (1) General Mills, Minneapolis, MN, U.S.A.
9:05 a.m. (no abstract submitted)
9:35 a.m. • 2-S
Bakery trends through the eye of Panera...T. GUMPEL (1). (1) Panera Bread, Sarasota, FL, U.S.A.
10:05 a.m. (no abstract submitted)
Bakery sustainability 2014 – How are we doing? K. TROLEVSKY, Consultand, Burien, WA U.S.A.
10:35 a.m.
Break
10:50 a.m. • 3-S
11:20 a.m. • 4-S
11:50 a.m. • 5-S
Oatmeal & Satiety - Quaker Oats Center of Excellence/Pepsi-Co.Y. CHU (1), M. O’Shea (2), Y. Shi (2). (1) Quaker Oats Center of Excellence, PepsiCo Nutrition, Barrington, IL, U.S.A.; (2) PepsiCo Nutrition, Barrington, IL, U.S.A.
11:50 a.m. • 6-S
Withdrawn
12:20 p.m.
Wrap Up – Panel Discussion

Sessions – Monday Morning (8:30 – 10:10 a.m.)
(listed in alphabetical order by title)
Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.
Find complete details on the meeting website at www.aaccnet.org/meetings/annual/program/pages
Cereal Foods: Opportunities in the Oriental World
Symposium • 551 AB, CC
Scientific Initiatives: Engineering & Processing; Health & Nutrition; Ingredients & Innovations
Organizers: Weining Huang, Jiangnan University, Wuxi, China; Jessy Feng Wang, MagiBake International, Inc., Wuxi, China
Moderators: Bob Cracknell, AACC Int. China Strategies Task Force, Australia, Harold Corke, University of Hong Kong, Hong Kong, China; Weining Huang, Jiangnan University, Wuxi, China
Sponsor: China Strategies Task Force
8:30 a.m. • 8-S
New approaches to measurement of texture in starch-based foods. H. CORKE (1). (1) University of Hong Kong, Hong Kong, China
8:50 a.m. • 9-S
Traditional sourdough steamed bread industrialization in China: characterization and profile analysis of flavor compounds. N. Liu (1), X. Cheng (1), Y. Sun (1), W. Huang (1), N. Li (2), F. Arnaut (3), (1) Jiangnan University, Wuxi, China; (2) Puratos China, Guangzhou, China; (3) Puratos NV/SV, Brussels, Belgium
9:10 a.m. • 10-S
The role of cross-cultural sensory research in testing for quality of oriental products. V.A. SOLAH (1), R. Liu (2), Y. Wei (2), G.B. Crosbie (3). (1) Nutrition, Dietetics and Food Science, School of Public Health, Curtin University, Perth, Western Australia, Australia; (2) Institute of Agro-Products Processing Science and Technology, Chinese Academy of Agriculture Science /Key Laboratory of Agro-Products Processing, Ministry of Agriculture, Beijing, PR China, Beijing, China; (3) Crosbie Grain Quality Consulting, East Fremanle, Western Australia and Curtin University, Perth, Western Australia, Australia, Perth, Australia
9:30 a.m. • 11-S
Use of rice flour in baked goods: Recent studies in Japan. H. OKUSU (1). (1) Nippon Flour Mills, Kanagawa, Japan
9:50 a.m. • 12-S
Genetic variation and molecular improvement of the quality of Japonica rice. Q. LIU (1). (1) Yangzhou University, Yangzhou, China

Modification of Cereal Ingredients • Technical • 555 AB, CC
Scientific Initiative: Chemistry & Interactions
Moderator: Sherrill Cropper, Kansas State University, Manhattan, KS, U.S.A.
8:30 a.m. • 36-O
Effect of alkali treatment on waxy wheat starch. L. COPELAND (1), S. Al-Dhaher (1). (1) Univ.of Sydney, Sydney, NSW, Australia
8:50 a.m. • 37-O
Modification of wheat bran proteins by enzymatic treatment. E. ARTE (1), K. Katina (1), E. Nordlund (2). (1) University of Helsinki, Helsinki, Finland; (2) VTT Technical Research Centre, Espoo, Finland

Noninvasive Sensor Techniques and Its Potential Application in Cereal Processing • Symposium • 552 AB, CC
Scientific Initiatives: Engineering & Processing: Quality & Analytical Methods
Organizers: Mario Jekle, TU München, Research Group Cereal Process Engineering, Freising, Germany; Chris L. Miller, Kansas State University, Manhattan, KS, U.S.A.
Moderators: Mario Jekle, TU München, Research Group Cereal Process Engineering, Freising, Germany; Guillermo Belido, Novozymes Switzerland AG, Dittingen, Switzerland
8:30 a.m. • 13-S
Ultrasound as a noninvasive technique for assessing dough properties during process operations. M.G. SCANLON (1), S. Kerherve (2), A. Strybulevych (2), D.W. Hatcher (3), J.H. Page (2). (1) Food Science, University of Manitoba, Winnipeg, MB, Canada; (2) Physics & Astronomy, Winnipeg, MB, Canada; (3) Grain Research Laboratory, Canadian Grain Commission, Winnipeg, MB, Canada
8:50 a.m. • 14-S
Image analysis techniques for processing of cereal products. T. BECKER (1). (1) Technische Universitat Munchen, Freising, Germany
9:10 a.m. • 15-S
Visible and Near-IR imaging and spectroscopy for grading factors in wheat. S.R. DELWICHE (1). (1) USDA, Beltsville, MB, U.S.A.
9:30 a.m. • 16-S
Monitoring of sourdough fermentation by using fluorescence spectroscopy. B. HITZMANN (1), B. Grote (1). (1) Univ. of Hohenheim, Stuttgart, Germany

Supplier Innovation Session I
9:00 a.m. – 12:10 p.m. • Grand Ballroom C, Convention Center
9:00 – 9:30 a.m.
Company Name: Best Cooking Pulses, Inc.
Name of Product: Best Pulses Flours
Contact Person: Margaret Hughes
Presenter's Name: Margaret Hughes
Presentation Category: Ingredients
Explore the potential of cereal/pulse flour blends to maximize complete protein in bakery products, without the need for fractionation.
9:40 – 10:10 a.m.
Company Name: FOSS A/S
Name of Product: New grain analysis solutions from FOSS
Contact Person: Darren Robey
Presenter's Name: Darren Robey
Presentation Category: Instruments/Equipment/Services
New Foss Infratec, New EyeFoss, Image Analysis and New Falling Number solution from FOSS.
10:20 – 10:50 a.m.
Company Name: DSM Nutritional Products
Name of Product: OatWell Oat Beta-Glucan
Contact Person: Marlena Hidlay
Presenter's Name: Marlena Hidlay
Presentation Category: Ingredients
Overview of OatWell Oat beta-glucan, a soluble oat fiber with and FDA approved cardiovascular health claim, and category market research.
11:00 – 11:30 a.m.
Company Name: Lallemand Baking Solutions
Name of Product: Enzyme based dough conditioners and yeast products
Contact Person: Jan van Eijk
Presenter's Name: Jan van Eijk
Presentation Category: Ingredients
Products (enzyme based dough conditioners, glutathione yeast, starters) and latest developments (yeast for mold inhibition and proof tolerant yeast).
11:40 a.m. – 12:10 p.m.
Company Name: Kudos Blends
Name of Product: KUDOS™ Potassium Bicarbonate/ KUDOS™ SALP Replacer
Contact Person: Amy Clarke
Presenter's Name: Siobhan Foley
Presentation Category: Ingredients
Giving bakers options to produce healthier products – Reducing sodium, increasing potassium & removing aluminum in chemically leavened baked goods.
continued
Get a glimpse of the future of the grain science industry as these young scientists show off their product development skills! This exciting competition challenges students to develop a new product containing at least one cereal product as the main ingredient. All attendees are invited to view the oral and poster presentations. Come cheer on your alma mater!

10:00 a.m. – 12:20 p.m.

**Student Product Development Competition** • 553 AB, CC

**Organizer/Moderator:** AACC Student Division PDC Chair, Elena de la Pena, North Dakota State University


**Welcome.** Elena de la Pena, North Dakota State University, Student Division PDC Chair

9:00 a.m.

**Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.**

**Current Issues in Milling** • Technical • 552 AB, CC

**Scientific Initiatives: Engineering & Processing**

**Moderators:** Ming-Hsu Chen, University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.

10:40 a.m. • 13-O

**Phil Williams Applied Research Award** - Applying material state properties to optimize rice drying. T. SIEBENMORG (1). (1) Univ.of Arkansas, Fayetteville, AR, U.S.A.

11:20 a.m. • 12-O

Dry fractionation of wheat bran into arabinoxylans enriched fraction and its contribution to the sustainability of arabinoxylans enriched bread. J. WANG (1), E. Smits (1), M. Buisman (1), R.M. Boom (1), M.A. Schutyser (1). (1) Wageningen University, Wageningen, Netherlands

11:40 a.m. • 14-O

How wheat breaks: New insights from compositional analysis and modelling. G. CAMPBELL (1), S. Galindez-Najera (1), C. Barron (2), V. Lullien-Pellerin (2). (1) Univ.of Manchester, Manchester, United Kingdom; (2) INRA, Montpellier, France

12:00 p.m. • 15-O

Impact of jet-milling on physicochemical properties of wheat flour, dough and breads. A. LAZARIDOU (1), D. Vouris (1), C.G. Biladeris (1), P. Zoumpoulakis (2). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, 541 24 Greece; (2) Institute of Organic and Pharmaceutical Chemistry, National Hellenic Research Foundation, Vas. Constantinou 48, Athens, Greece

**Protein–Starch Interactions and Their Importance in End-Product Quality** • Symposium • 551 AB, CC

**Scientific Initiatives: Chemistry & Interactions; Engineering & Processing; Ingredients & Innovation**

**Organizers:** Clyde Don, CDC Foodphysica, Driel, Netherlands; Katharina Konitzer, Deutsche Forschungsanstalt für Lebensmittelchemie, Freising, Germany; Robin Connelly, DuPont Nutrition & Health, St. Louis, MO, U.S.A.; Monjur Hossen, Kellogg Company, Kalamazoo, MI, U.S.A.

**Moderators:** Arnaud Dubat, Chopin Technologies, Paris, France; Martin Scanlon, University of Manitoba, Winnipeg, Canada

Sponsors: Rheology Division, Protein Division

10:40 a.m. • 17-S

The role of Gliadin and Glutenin in protein-starch interactions. C. DON (1), R. Mossel (2), P. Koehler (3), A. Dubat (4). (1) CDC Foodphysica, Driel, Netherlands; (2) Cargill BV, Bergen op Zoom, Netherlands; (3) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany; (4) Chopin Technologies, Villeneuve la Garenne, France

11:00 a.m. • 18-S

Probing for interactions with ultrasound...M.G. SCANLON (1), F. Koksel (1), A. Strybulevych (2), J.H. Page (2). (1) Food Science, University of Manitoba, Winnipeg, MB, Canada; (2) Physics & Astronomy, Winnipeg, MB, Canada

11:20 a.m. • 19-S


11:40 a.m. • 20-S

Rheology of dough and major flour components starch and protein...B.S. SROAN (1), T.J. Schober (1). (1) Nestle R&D, Solon, OH, U.S.A.

12:00 p.m. • 21-S

Effects of protein-starch interactions from the perspectives of an Engineer...M. JEKLE (1), T. Becker (1). (1) Technische Universität München, Freising, Germany

**Structure and Functionality of Dietary Fiber** • Technical • 555 AB, CC

**Scientific Initiatives: Ingredients & Innovations**

**Moderators:** Thanh Hien Vu, Kansas State University, Manhattan, KS, U.S.A.

10:40 a.m. • 54-O

Arabinoxylan content and characteristics during the preparation of pancakes. A.M. KISZONAS (1), E. Fuerst (2), C.F. Morris (1). (1) USDA-ARS Western Wheat Quality Lab, Pullman, WA, U.S.A.; (2) Washington State University, Pullman, WA, U.S.A.

11:00 a.m. • 55-O

Structural characterization of feruloylated and non-feruloylated dietary fiber polysaccharides from a.m.aranith and quinoa. D. WEFERS (1), B. Gmeiner (1), D. Schmitt (1), L. Nguyen (1), C.E. Tył (2), M. Bunzel (1). (1) Karlsruhe Institute of Technology, Karlsruhe, Germany; (2) University of Minnesota, Saint Paul, MI, U.S.A.
11:20 a.m. • 56-O
Revealing the link between water distribution and texture properties in bran rich pasta. T. STEGLICH (1), D. Bernin (2), M. Langton (3). (1) SIK – The Swedish Institute for Food and Biotechnology, Gothenburg, Sweden; (2) Swedish NMR Centre, University of Gothenburg, Gothenburg, Sweden; (3) Department of Food Science, Swedish University of Agricultural Sciences, Uppsala, Sweden

11:40 a.m. • 57-O
Effects of extrusion parameters on in vitro starch digestibility and beta glucan solubility of whole grain oats. S. BRAHMA (1), S.A. Weier (1), D.J. Rose (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.

12:00 p.m. • 58-O
Enzymic modification and measurement of wheat flour arabinoxylan. B.V. MCCLEARY (1), V. McKie (1), J. Larkin (1), A. Draga (1). (1) Megazyme International Ireland, Bray, County Wicklow, Ireland

Hot Topic – Carbohydrates Quality and Health Impact: The Good, the Bad, and the Ugly! • 551 AB, CC
Scientific Initiatives: Health & Nutrition
Organizers & Moderators: Satya Jonnalagadda, Kerry, Beloit, WI, U.S.A.; Anne Birkett, Kellogg Company, Battle Creek, MI, U.S.A.
Sponsors: Nutrition Division, Carbohydrate Division
Financial Sponsor: General Mills, Inc.

32-S
Are all carbohydrates created equal?—An overview. N.M. MCKEOWN (1). (1) USDA HNRCA at Tufts University, Boston, MA, U.S.A.

33-S
Cereal grain foods intake trends: Contribution to nutrient intake and diet quality. J. AHUJA (1). (1) Nutrient Data Laboratory, Beltsville Human Nutrition Research Center, Agricultural Research Service, USDA, Beltsville, MD, U.S.A.

34-S
Design of wholesome cereal foods: What about carbohydrates? K.S. POUTANEN (1). (1) VTT, Espoo, Other, Finland

35-S

Sessions – Monday Afternoon (2:00 – 4:00 p.m.)
(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Accurate Gluten Quantitation in Foods and Beverages—A Mission Impossible? • Science Café - 552 AB, CC
Scientific Initiative: Health & Nutrition
Organizers & Moderators: Katharina Konitzer, Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany; Clyde Don, CDC Foodphysica, Driel, Netherlands
Sponsors: Protein Division, Protein and Enzymes Technical Committee
Financial Sponsor: R-Biopharm AG

22-S
An overview of recent developments and current status of gluten ELISA methods. C. DON (1), K. Tilley (2), K. Konitzer (3), P. Koehler (3). (1) USDA-ARS, Manhattan, KS, U.S.A.; (2) CDC Foodphysica, Driel, Netherlands; (3) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

23-S
Comparison of extraction methods for gluten analysis. S. HAAS-LAUTERBACH (1), T. Weiss (1), C. Goesswein (1), T. Dubios (1). (1) R-Biopharm, Darmstadt, HI, Germany

24-S
Pros and cons of immunological methods. M. TILLE (1), C. Don (2), K. Konitzer (3), P. Koehler (3). (1) USDA-ARS, Manhattan, KS, U.S.A.; (2) CDC Foodphysica, Driel, Netherlands; (3) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

25-S
Challenges of accurate gluten quantitation in selected foods. K. KONITZER (1), H. Wieser (1), P. Koehler (1). (1) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

26-S

Conversations Matter...on DON in Cereals – Keys to Successful Global Management • CC Room 554AB
Organizer and Moderator: Glen Weaver, Ardent Mills, Omaha, NE, U.S.A.; Andreia Bianchini, University of Nebraska, Lincoln, NE U.S.A.

Deoxynivalenol (DON = VOMITOXIN) is a mycotoxin produced by Fusarium species, which infect numerous grains mostly in the field before harvest. DON has inherent toxicity. Its presence in cereal grains has the potential for widespread human exposure, since the primary route of DON exposure is consumption of contaminated grains. In the USA, the USDA as well as producers, millers, and processors monitor for the presence of DON in order to prevent contaminated grains from entering the food supply.

Speakers:
David Miller, Carleton University, Northfield, MN, U.S.A.
Felicia Wu, Michigan State University, East Lansing, MI, U.S.A.
Lauren Posnick Robin, FDA/CFSAN, College Park, MD, U.S.A.

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aaccnet.org
Starch Bioengineering, Structure, and Function • Science Café • 555 AB, CC
Scientific Initiatives: Biotechnology & Sustainability
Organizer: Andreas Blennow, University of Copenhagen, Frederiksberg C, Denmark
Moderators: Andreas Blennow, University of Copenhagen, Frederiksberg C, Denmark; Eric Bertolt, Abo Akademi University, Turku, Finland
27-S
Understanding starch biosynthesis in order to control its structure, composition and properties. S. ZEEMAN (1). (1) ETH Zurich, Switzerland
28-S
Understanding roles of starch synthases in the determination of starch structure and function in barley. Z. Li (1), A. Regina (1), M.K. Morell (2), S.A. Jobling (3). (1) CSIRO Plant Industry, Canberra, ACT, AB, Australia; (2) International Rice Research Institute, Manila, AB, Philippines; (3) CSIRO Plant Industry, Canberra, ACT, AB, Australia
29-S
Barley grain composition and metabolism over development and germination...A. BLENNOW (1). (1) Univ.of Copenhagen, Frederiksberg C, Denmark
30-S
Influence of starch synthase III on the cluster structure of maize starch. F. ZHU (1), E. Bertolt (2), K. Seetharaman (2). (1) University of Auckland, Auckland, New Zealand; (2) University of Minnesota, St. Paul, MN, U.S.A.
31-S
Unique properties and applications of waxy wheat flour and starch. Y. SHI (1). (1) Kansas State University, Manhattan, KS, U.S.A.

Supplier Innovation Session II
2:00 – 3:50 p.m. • Grand Ballroom C, Convention Center
Company Name: Innophos Inc.
Name of Product: Leavening Systems to Meet Regulation Driven Requirements
Contact Person: Barbara Bufe Heidolph
Presenter’s Name: Barbara Bufe Heidolph
Presentation Category: Ingredients:
In some regional areas, regulations have created restrictions for the use of SALP. Alternative leavening systems have been developed.

2:40 – 3:10 p.m.
Company Name: DSM Food Specialties
Name of Product: Baking Enzymes
Contact Person: Brian Fatula
Presenter’s Name: Caroline Van Benschop
Presentation Category: Ingredients:
ADA replacement: An innovative Enzyme Solution.

3:20 – 3:50 p.m.
Company Name: CHOPIN Technologies Inc.
Name of Product: Alveolab & SRC
Contact Person: Ian Trood
Presenter Name: Ian Trood
Presentation Category: Instruments/Equipment/Services
Improved flour quality testing is now available by utilizing the completely new Alveolab and automated SRC devices.

Tuesday, October 7
8:00 a.m. – 12:20 p.m.
Milling and Baking Focus Session: Regulatory Influences of Baling Performance • Special Session • Grand Ballroom D, CC
Scientific Initiatives: Chemistry & Interactions
Sponsor: Milling & Baking Division
8:00 a.m.
Session Introduction – Jennifer Robinson
8:05 a.m. • 36-S
Whole grains in schools and the WIC program: Regulations and successes to date. J. ADAMS (1). (1) Wheat Foods Council, Ridgway, CO, U.S.A.
8:35 a.m. • 37-S
9:05 a.m. • 38-S
Formulating to remove partially hydrogenated oils (PHO). L. MOREHART (1). (1) Cargill, Plymouth, MN, U.S.A.
9:35 a.m. • 39-S
Wheat lipids - Impact in bread making B. PAREYT (1), L.R. Gerits (1), J.A. Delcour (1) (1) Laboratory of Food Chemistry and Biochemistry, KU Leuven, Leuven, Belgium
10:05 a.m.
Break
10:20 a.m. (no abstract submitted)
10:50 a.m. • 41-S
The Evolution of Gluten-Free Baking to Enhance Nutrition Utilizing Whole Grains V. KLIMCZAK (1). (1) Bay State Milling, Quincy, MA, U.S.A.
11:20 a.m. • 42-S
Strategies for acrylamide mitigation. D. ORTIZ (1) (1) Kellogg Company, Battle Creek, MI, U.S.A.
11:50 a.m. • 43-S
Sodium reduction and other regulatory impacts on bakers. C.R. MOON (1). (1) Flowers Foods Inc, Thomasville, GA, U.S.A.

Session – Tuesday Morning (8:30 – 10:10 a.m.)
(listed in alphabetical order by title)
Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.
A Fresh Look at Yeast Functionality in Leavened Cereal Dough Systems • Symposium • 551 AB, CC
Scientific Initiatives: Ingredients & Innovations
Organizer & Moderator: Christophe Courtin, KU Leuven, Leuven, Belgium
8:30 a.m. • 56-S
Yeast production and tuning: An industrial perspective. P. KRASUCKI (1). (1) AB Mauri, Chesterfield, MO, U.S.A.
8:50 a.m. • 57-S
Contribution of yeast to flavor of cereal based products. M. STEINHAUS (1), P. Schieberle (1). (1) Deutsche Forschungsanstalt Fuer Lebensmittelchemie (German Research Center for Food Chemistry), Freising, Germany
9:10 a.m. • 58-S
Sourdough systems in cereal fermentation and the role of yeast in them. K.K. KATINA (1). (1) University of Helsinki, Helsinki, Other, Finland

9:30 a.m. • 59-S
Evaluating the impact of yeast fermentation on bread dough matrix rheology. C.M. COURTIN (1), M. Rezaei (1), V. Jayaram (1), (1) KU Leuven, Leuven, Other, Belgium

9:50 a.m. • 60-S
Nutritional aspects related to the use of yeast in bread making. J. VERSPREET (1), E. Dornez (1), J.A. Delcour (1), C.M. Courtin (1). (1) KU Leuven, Heverlee, Belgium

Biopolymer Structure • Technical • 555 AB, CC
Scientific Initiatives: Chemistry & Interactions
Moderator: Enoch T. Quayson, University of Minnesota, St. Paul, MN, U.S.A.

8:30 a.m. • 1-O
The structural evolution of gluten in refined and whole grain breads: A study of soft and hard wheat breads from flour to final product. J.E. BOCK (1), K. Seetharaman (2). (1) University of Guelph, Guelph, ON, Canada; (2) University of Minnesota, St. Paul, MN, U.S.A.

8:50 a.m. • 2-O
Conformational changes of polymers in model batter systems. N. HESSO (1), C. Loisel (1), S. Chevallier (1), A. Marti (2), A. Le-Bail (1), K. Seetharaman (2). (1) ONIRIS - UMR CNRS GEPEA 6144, Nantes, LA, France; (2) University of Minnesota, St. Paul, MN, U.S.A.

9:10 a.m. • 3-O
Changes in structural conformation of proteins in wheat flour doughs enriched with intermediate wheatgrass (Thinopyrum intermedium) flour. A. MARTI (1), J.E. Bock (2), J.E. Bock (2), M. Pagani (3), M. Pagani (3), K. Seetharaman (4), K. Seetharaman (4). (1) Department of Food, Environmental and Nutritional Sciences, University of Milan, Milan, Italy; (2) University of Guelph, Guelph, ON, Canada; (3) Department of Food, Environmental and Nutritional Sciences, University of Milan, Milan, Italy; (4) University of Minnesota, St. Paul, MN, U.S.A.

9:30 a.m. • 4-O
Modification of cell wall structure during malting process in spring and winter barley cultivars. D. STOCK (1), M. Gastl (1), T. Becker (1). (1) Technische Universität Munchen, Freising, Germany

9:50 a.m. • 5-O
Macromolecular properties of oxidatively degraded barley (1→3) (1→4)-β-D-glucans. N.H. MAINA (1), N. Makela (1), T. Sonntag-Strohm (1). (1) University of Helsinki, Helsinki, Finland

Current and Future Potentials of Sprouted Grains as Healthy Ingredients • Symposium • 552 AB, CC
Scientific Initiatives: Health & Nutrition, Ingredients & Innovations
Organizers: Elsayed Abdelaal, Agriculture and Agri-Food Canada, Guelph, ON, Canada; Robert Serrano, Grain Mills, Eugene, OR, U.S.A.; Boris Nemzer, FutureCeuticals, Momence, IL, U.S.A.; Liyi Yang, Texas A&M University, College Station, TX, U.S.A.

Moderators: Elsayed Abdelaal, Agriculture and Agri-Food Canada, Guelph, ON, Canada; Robert Serrano, Grain Mills, Eugene, OR, U.S.A.

Sponsor: Bioactive Compounds Technical Committee
Financial Sponsor: Buhler AG, GrainMills, FutureCeuticals

8:30 a.m. • 61-S
The Flavors of Diet-Based Chronic Disease Prevention Trials: Lessons from the Field. J.W. FAHEY (1). (1) Johns Hopkins University, School of Medicine, Baltimore, MD, U.S.A.

8:50 a.m. • 62-S
Physiology and genetics of low input malting and brewing. G.B. FINCHER (1). (1) University of Adelaide, Adelaide, Other, Australia

9:10 a.m. • 63-S
Seed sanitation: Secret of safe sprout production and risk management associated with manufacturing of sprouted products. H. FENG (1). (1) University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.

9:30 a.m. • 64-S
Innovations in pulse processing technology and equipment. J. HUNTER (1). (1) Buhler Inc, Minneapolis, MN, U.S.A.

Methods for Seed Quality Assessment • Technical • 556 AB, CC
Scientific Initiatives: Quality & Analytical Methods
Moderator: Yinmin Wei, Chinese Academy Agricultural Sciences, Beijing, China; Katharina Konitzer, German Research Center for Food Chemistry, Freising, Germany

8:30 a.m. • 31-O
Walter Bushuk Graduate Research Award - Development of improved methods to evaluate the gluten quality of wheat flours. S.M. THANHAUSER (1), H. Wieser (1), P. Koehler (1). (1) German Research Center for Food Chemistry, Freising, Germany

8:50 a.m. • 32-O
Comparison of quality-related alleles among Australian and North American wheat classes exported to Japan. T.M. IKEDA (1), M. Yanaka (2), K. Takata (2). (1) NARO, Western Region Agric Res Ctr, Fukuyama, Japan; (2) NARO, Western Region Agric Res Ctr, Fukuyama, Japan

9:10 a.m. • 33-O
Application of LC-MS-MS to identify niacin in cereal grain aleurolayer layers of yellow corn, barley and wheat. V.U. NDOLO (1), T. Beta (1), G.R. Fulcher (1). (1) University of Manitoba, Winnipeg, MB, Canada

9:30 a.m. • 34-O

9:50 a.m. • 35-O
Critical assessment of the formation of extracellular yeast derived hydrogen peroxide during dough fermentation. M. REZAEI (1), E. Dornez (2), K.J. Verstrepen (1), C.M. Courtin (1). (1) KU Leuven, Heverlee, Belgium; (2) KU Leuven, Heverlee, Belgium

Best Student Research Paper Competition • 554 AB, CC
Organizer: Professional Development Panel, Sean Finnie, PDP Chair, Cargill, Inc., Plymouth, MN, U.S.A.

Moderators: see addendum


8:30 a.m.
Session Introduction

8:35 a.m. • 50-S
Improving aqueous stability of sorghum 3-deoxyanthocyanin pigments for food colorant application. D. HERRMAN (1), J. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.

continued
9:00 a.m. • 51-S
Effect of extrusion conditions on pasting behaviour and microstructure of re-fabricated rice: A response surface analysis. S.Z. HUSSAIN (1), B. Singh (1). (1) Department of Food Science and Technology, Punjab Agricultural University Ludhiana, Ludhiana, PA, India

9:25 a.m. • 52-S
Improving wheat milling and baking quality via development of novel Puroindoline alleles. J.D. KAMMERAD (1), J.M. Martin (1), S. Cuesta (2), A. Hogg (1), M. Giroux (1). (1) Montana State University, Bozeman, MT, U.S.A.; (2) University of Cordoba, Cordoba, Spain

9:50 a.m. • 53-S
Arabinoxylan hydrolyzates as immunomodulators. M.M. MENDIS (1), E. Leclerc (1), S. Simsek (1). (1) North Dakota State University, Fargo, ND, U.S.A.

10:15 a.m. • 54-S
Analysis and baking activity of lipase reaction products in wheat breadmaking. M. SCHAFFARCZYK (1), P. Koehler (2), H. Ostdal (3). (1) German Research Center for Food Chemistry, Freising, Germany; (2) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Other, Germany; (3) Novozymes A/S, Bagsvaerd, Denmark

10:40 a.m. • 55-S
The contribution of glutathione to the destabilizing effect of yeast on wheat dough. C. VERHEYEN (1), M. Jekle (1), T. Becker (1). (1) TU MAIschenchen, Institute of Brewing and Beverage Technology, Freising, Germany

Supplier Innovation Session III

9:00 – 10:50 a.m. • Grand Ballroom C, Convention Center
9:00 – 9:30 a.m.
Company Name: Bepex Intenational
Name of Product: Custom Whole Grain & Flour Heat Treatment
Contact Person: Rob Grady
Presenter’s Name: Peter Koenig
Presentation Category: Instruments/Equipment/Services
Capabilities to produce unique whole grain ingredients by controlled manipulation of moisture, particle size temperature and time under controlled shear.

9:40 – 10:10 a.m.
Company Name: QualySense
Name of Product: QSorter Explorer
Contact Person: Francesco Dell’Endice
Presenter’s Name: Francesco Dell’Endice
Presentation Category: Instruments/Equipment/Services
The QSorter is a single kernel analyzer and sorter. It’s ideal for food R&D and for quality inspection.

9:50 a.m. • 51-S
Effect of extrusion conditions on pasting behaviour and microstructure of re-fabricated rice: A response surface analysis. S.Z. HUSSAIN (1), B. Singh (1). (1) Department of Food Science and Technology, Punjab Agricultural University Ludhiana, Ludhiana, PA, India

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Contact Person: Rob Grady
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Capabilities to produce unique whole grain ingredients by controlled manipulation of moisture, particle size temperature and time under controlled shear.

9:40 – 10:10 a.m.
Company Name: QualySense
Name of Product: QSorter Explorer
Contact Person: Francesco Dell’Endice
Presenter’s Name: Francesco Dell’Endice
Presentation Category: Instruments/Equipment/Services
The QSorter is a single kernel analyzer and sorter. It’s ideal for food R&D and for quality inspection.

Session – Tuesday Morning (10:40 a.m. – 12:20 p.m.)
(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Digestive Properties of Starch • Technical • 555 AB, CC
Scientific Initiatives: Health & Nutrition
Moderators: Vicky Solah, Curtin University, Perth Australia; Fengdan Chang, South China University of Technology, Guangdong, China

10:40 a.m. • 17-O
Structure of α-Limit Dextrin Influences the Rate and Quantity of Dietary Glucose Released by Small Intestinal α-Glucosidase. A. MUNIANDY (1), A. Lin (1). (1) Whistler Center for Carbohydrate Research, Purdue University, West Lafayette, IN, U.S.A.

11:00 a.m. • 18-O
The effect of changing wheat particle size on human post-prandial metabolism and degree of starch digestion. T. GRASSBY (1), C. Edwards (1), M. Grundy (1), S. Berry (1), J. Sanderson (1), P. Ellis (1). (1) King’s College London, London, United Kingdom

11:20 a.m. • 19-O
Acute effects of consuming sorghum-based breakfast meals on objective and subjective measures of satiety. A. STEFOSKA-NEEDHAM (1), E.J. Beck (1), L.C. Tapsell (1). (1) University of Wollongong, Wollongong, Australia

11:40 p.m. • 20-O
Enzyme-resistant starch from a.morphous matrices: Mechanisms and approaches. B. ZHANG (1), S. Dhitai (1), B.M. Flanagan (1), P. Luckman (2), P.J. Halley (2), M.J. Gidley (1). (1) Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, University of Queensland, Brisbane, Australia; (2) Australian Institute for Bioengineering and Nanotechnology, School of Chemical Engineering, University of Queensland, Brisbane, Australia

Emerging Genetic Methods in Cereal Grain Quality Improvement • Symposium • 552 AB, CC
Scientific Initiatives: Biotechnology & Sustainability
Organizer: Andreas Blennow, University of Copenhagen, Frederiksberg C, Denmark
Moderators: Andreas Blennow, University of Copenhagen, Frederiksberg C, Denmark; Christian Ruzanski, Carlsberg Laboratory, Copenhagen, Denmark

10:40 a.m. • 70-S
Increasing resistant starch content in wheat grain using TILLING. B. HAZARD (1), X. Zhang (1), M. Naemeh (1), J. Dubcovsky (1). (1) University of California, Davis, Davis, CA, U.S.A.

11:00 a.m. • 71-S
Targeted mutagenesis using TALENs as means to improve cereal grain quality. I.B. HOLME (1). (1) Aarhus University, Slagelse, Denmark

11:20 a.m. • 72-S
TALENs and CRISPR/Cas9: Genome editing tools for wheat. J. GIL-HUMANES (1), N.J. Baltes (1), D.F. Voytas (1). (1) Univ.of Minnesota, St. Paul, MN, U.S.A.

12:00 p.m. • 73-S
Epitope tagging to study gluten deposition, interactions and impact on grain functionality. P. TOSI (1), P.R. Shewry (2), C. Schnis Gritsch (2), J. Freeman (2), W. Funatsuuki (3). (1) University of Reading, Reading, United Kingdom; (2) Rothamsted Research, Harpenden, United Kingdom; (3) NARO Western Region Agricultural Research Center, Hiroshima, Japan

This presentation will showcase how California almonds can provide practical solutions for common development challenges in cereal and bar formulations.
Rheological and Spectroscopic Methods  •  Technical  •
556 AB, CC
Scientific Initiatives: Quality & Analytical Methods
Moderator: Deanna Scheff, Kansas State University, Manhattan, KS, U.S.A.

10:40 a.m.  •  51-O
Carl Wilhelm Brabender Award - Influence of viscoelasticity of wheat kernels, doughs on flour yield and bread volume evaluated by stress relaxation and creep-recovery tests. J. FIGUEROA CARDENAS (1), Z.J. Hernandez (1), P. Rayas-Duarte (2). (1) CINVESTAV Unidad Queretaro, Queretaro, Qro, Mexico; (2) Robert M. Kerr Food & Agricultural Products Research & Technology Center, Stillwater, OK, OK, U.S.A.

11:20 a.m.  •  50-O
Potential of Raman Spectroscopy as a Tool for Rapid Detection and Identification of Aflatoxins and Fumonisins in Maize. K. LEE (1), T.J. Herrman (1), J. Davis (1), S. Murray (1), Y. Deng (1), Y. Bisrat (1). (1) Texas A&M Univ, College Station, TX, U.S.A.

11:40 a.m.  •  52-O
Utilisation of an X-ray micro-computed tomography (µCT) density calibration to estimate whole maize kernel density for hardness classification. A. GUELPA (1), A. Du Plessis (2), M. Kidd (3), M. Manley (1). (1) Stellenbosch University, Stellenbosch, South Africa; (2) CT Scanner, CAF; Stellenbosch University, Stellenbosch, South Africa; (3) Centre for Statistical Consultation, Stellenbosch University, Stellenbosch, South Africa

Solutions with Pulse Ingredients in Product Development
Applications  •  Symposium  •  551 AB, CC
Scientific Initiative: Engineering & Processing, Health & Nutrition, Ingredients & Innovations, Quality & Analytical Methods
Organizers: Ning Wang, Canadian Grain Commission, Winnipeg, MB, Canada; Tanya Der, Pulse Canada, Winnipeg, MB, Canada; Heather Maskus, Canadian International Grains Institute, Winnipeg, MB, Canada
Moderators: Lindsay Bourne, Canadian International Grains Institute, Winnipeg, MB, Canada, Heather Maskus, Canadian International Grains Institute, Winnipeg, MB, Canada
Sponsor: Pulse and Legume Technical Committee
Financial Sponsor: Best Cooking Pulses, Inc.

10:40 a.m.  •  65-S
Digestibility and nutritional quality of food products containing pulse ingredients. J. BOYE (1). (1) Agriculture Agri-Food Canada, St Hyacinthe, QC, Canada

11:00 a.m.  •  66-S
Gluten-free pasta/noodles from pulses: Processing and quality characteristics. N. WANG (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada

11:20 a.m.  •  67-S
Pulse fractionation and by-product utilization. R. TYLER (1). (1) University of Saskatchewan, Saskatoon, SK, Canada

11:40 a.m.  •  68-S
The effects of yellow pea flour on the physical and sensory properties of Asian noodles. L. BOURRE (1), H. Maskus (1), D. An (1), K. Kaminska (1), E. Assefaw (1), C. Findlay (2). (1) Canadian International Grains Institute, Winnipeg, MB, Canada; (2) Compusense Inc., Guelph, ON, Canada

12:00 p.m.  •  69-S
Application of Canadial pea flour in Chinese biscuits. C. Qu (1), Y. KIM (1), F. Wang (1), X. Wang (1). (1) International Grains Institute, Henan University of Technology, Zhengzhou, China
Conversations Matter... on Overcoming Barriers to Whole Grain Consumption • Room 554 AB, CC
Organizer and Moderator: Devin Rose, University of Nebraska, U.S.A.
6-O

7-O
Perceived barriers to increased whole-grain consumption by older adults in long-term care facilities. *M. COFFMAN (1), M.A. Coffman (1), M. Gamiere (1). (1) University of Maine, Orono, ME, U.S.A.
*presented by Mary Ellen Camire

8-O
Factors influencing the use and consumption of brown rice in Chinese restaurants. T. LlU (1), X. Wang (2), L.F. Marquart (2), (1) University of Minnesota, St Paul, MN, U.S.A.; (2) University of Minnesota, Saint Paul, MN, U.S.A.

Perennial Grasses: Can They Replace Annual Grains in the Future? • Science Café • 552 AB, CC
Organizers: Baraem Ismail, University of Minnesota, St. Paul, MN, U.S.A.; Mirko Bunzel, Karlsruher Institut für Technologie (KIT), Karlsruhe, Germany; Donald Wyse, University of Minnesota, St. Paul, MN, U.S.A.
Moderators: see addendum
Sponsor: General Mills, Inc.

79-S
Developing cropping systems that produce food and ecosystem services. D. WYSE (1), (1) Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN, U.S.A.

80-S
Perennial crop production may be a cost-effective practice for meeting environmental goals. W.F. LAZARUS (1), D. Mulla (2). (1) University of Minnesota, Department of Applied Economics, St. Paul, MN, U.S.A.; (2) University of Minnesota, Department of Soil, Water and Climate, St. Paul, MN, U.S.A.

81-S

82-S
Chemical composition of intermediate wheatgrass. M. BUNZEL (1), C.E. Tyl (2), B. Ismail (2). (1) Karlsruher Institute of Technology, Karlsruhe, Germany; (2) University of Minnesota, St. Paul, MN, U.S.A.

83-S
Incorporation of Intermediate wheat grass in food products. T.C. SCHOENFUSS (1), K. Seetharaman (1), D.G. Peterson (1). (1) University of Minnesota, Department of Food Science and Nutrition, St. Paul, MN, U.S.A.

Statistics Supporting Food Safety and Additional AACCI Initiatives • Science Café • 551 AB, CC
Organizer & Moderator: Michelle Manderfeld, General Mills Inc., Minneapolis, MN, U.S.A.
Sponsor: Statistical Advisory Committee

3:30 p.m. • 74-S

2:30 p.m. • 75-S
Food Safety & FSMA: Validation Studies and Sampling Plans. STEVENS (1). (1) General Mills, Minneapolis, MN, U.S.A.

3:10 p.m. • 76-S
Designing a collaborative study. T.C. NEelsen (1), (1) Independent, Port Byron, IL, U.S.A.

3:00 p.m. • 77-S
Efficient Design of Experiments. M.M. MANDERFELD (1). (1) General Mills, Minneapolis, MN, U.S.A.

3:50 p.m. • 78-S
Introduction: Food Safety & FSMA: The Important Role of Statistics. STEVENS (1). (1) General Mills, Minneapolis, MN, U.S.A.

WEDNESDAY, OCTOBER 8

Sessions – Wednesday Morning (8:30 – 10:10 a.m.)

830 a.m. • 89-S
New a.m.ylase based freshness solutions in baking. G. BELLIDO (1), A. Christen (1), H. Ostdal (2). (1) Novozymes Switzerland AG, Dittingen, Switzerland; (2) Novozymes A/S, Bagsvaerd, Denmark

850 a.m. • 90-S
Elucidating the role of wheat endogenous lipids in bread making. L.R. GERITS (1), B. Pareyt (1), J.A. Delcour (1). (1) KU Leuven, Leuven, Belgium

910 a.m. • 91-S
Molecular understanding of endoxylanase functionality in cereal based processing. C.M. COURTIN (1). (1) KU Leuven, Leuven, Belgium

930 a.m. • 92-S
Enzymes in gluten-free bread making. C.M. ROSELL (1). (1) Institute of Agrochemistry and Food Technology (IATA-CSIC), Paterna, AB, Spain

950 a.m. • 93-S
Malting process-induced enzymatic changes—Application in beverages. M. RITTENAUER (1). (1) TUM - Weihenstephan, Freising, Germany
Extrusion Technology for Cereal Products • Technical •
556 AB, CC
Scientific Initiatives: Engineering & Processing

Moderator: Joseph Kwnsi Gayin, University of Guelph, Guelph, ON, Canada
8:30 a.m. • 26-O
8:50 a.m. • 27-O
Effect of bran fermentation on structural and textural properties of high fibre extrudates. N. SOZER (1), K. Katina (2), K. Poutsanen (1). (1) VTT Technical Research Centre of Finland, Espoo, Finland; (2) University of Helsinki, Helsinki, Finland
9:10 a.m. • 28-O
Stochastic study of flow and expansion of starch-based melts during extrusion – Model development and validation. P. Manepalli (1), H. Dogan (1), J. Mathew (2), S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) FritoLay Research & Development, Plano, TX, U.S.A.
9:30 a.m. • 29-O
Sorghum-Based Extruded Pet Food: Impact of Particle Size and Process Conditions on Physico-Chemical Attributes. T. Putarov (1), F. Cesar Sa (2), M. Joseph (3), A. Carciofi (2), S. ALAVI (4). (1) Sao Paulo State University (UNESP), Botucatu, Brazil; (2) Sao Paulo State University (UNESP), Jaboticabal, Brazil; (3) Kansas State University, Manhattan, KS, U.S.A.; (4) Kansas State Univ, Manhattan, KS, U.S.A.
9:50 a.m. • 30-O
Second generation snacks from mixtures of cottonseed meal and nixtamalized maize flours produced by single screw extrusion. E. DELGADO (1), D. Reyes-Jaquez (2), N. Flores (1), T. Wedeggaernter (3). (1) New Mexico State University, Las Cruces, NM, U.S.A.; (2) Instituto Tecnologico de Durango, Durango, Mexico; (3) Cotton Inc, Cary, NC, U.S.A.

Reformulating Cereal Foods for Special Purposes • Technical •
555 AB, CC
Scientific Initiatives: Ingredients & Innovations

Moderator: Iker Rodriguez Garcia, Instituto Politecnico Nacional Ceprobi, Y autepec Morelos, Mexico; Susan Kamper, General Mills, Minneapolis, MN, U.S.A.
8:30 a.m. • 45-O
Insights into aeration and foam stabilization mechanisms for gluten-free dough. D. ELGETI (1), A. Stuttgen (1), M. Jekle (1), T. Becker (1). (1) Technische Universitat Munchen, Freising, Germany
8:50 a.m. • 46-O
Playing With Pressure During Dough Mixing: An Overview In The Case Of Salt & Lipid Reduction In Dough. A. LE BAIL (1), n. NAIR (2), M. SADOT (3), G. LERAY (3), s. CHEVALLIER (3), J. CHEIO (4). (1) GEPEA - CNRS - UMR 6144, Nantes, France; (2) Indian Institute of Crop Processing Technology, Thanjavur, India; (3) ONIRIS-UMR CNRS GEPEA 6144, Nantes, France; (4) VMI, Rue Joseph Gaillard, 85600 Montaigu, France, Montaigu, France
9:10 a.m. • 47-O
The technical feasibility, microbial quality and consumer acceptance of reducing salt in bread with a mineral salt high in magnesium. H.L. MITCHELL (1), D. Rolf (1). (1) Smart Salt, Arnold, CA, U.S.A.
9:30 a.m. • 48-O
9:50 a.m. • 49-O

The Use of New Technologies in the Determination and Enhancement of Rice Grain Quality • Symposium • 551 AB, CC
Scientific Initiatives: Engineering & Processing; Quality & Analytical Methods

Organizer: John Manful, Africa Rice Center, Republic of Benin
Moderators: John Manful, Africa Rice Center, Republic of Benin; Jinsong Bao, Zhejiang University, China
Sponsor: Rice Division
8:30 a.m. • 84-S
New technologies for measuring chalkiness in rice. T. SIEBEN-MORGEN (1). (1) Univ.of Arkansas, Fayetteville, AR, U.S.A.
8:50 a.m. • 85-S
Harnessing the omics as they come online for pushing the boundaries of understanding rice grain quality. M.A. FITZGERALD (1). (1) University of Queensland, St Lucia, Australia
9:10 a.m. • 86-S
Genetics of eating and cooking qualities revealed by genome-wide association mapping. J. BAO (1). (1) Zhejiang University, Hangzhou, AB, China
9:30 a.m. • 87-S
Paddycheck: A new technology for determining the milling quality on paddy rice. H. ANDREN (1). (1) Pertem Instruments AB, Hagersten, Sweden
9:50 a.m. • 88-S

Sessions – Wednesday Morning (10:40 a.m. – 12:20 p.m.)
(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Effects of Ingredients and Additives on Cereal Product Quality • Technical • 555 AB, CC
Scientific Initiatives: Ingredients & Innovations

Moderator: Nesrin Hesso, ONIRIS, Nantes, France
10:40 a.m. • 21-O
Impact of concentration, granule size and swelling power on pasting properties of blends of different starches. J. WATER-SCHOOT (1), S.V. Gomand (1), E. Fierens (1), J.A. Delcour (1). (1) KULeuven, Leuven, Belgium
11:00 a.m. • 22-O
Starch modification with stearic acid for 'clean' label starches. M. EMMAMBUX (1). (1) Univ of Pretoria, Pretoria, South Africa
11:20 a.m. • 23-O
Impact of different yeasts on wheat bread quality. M. HEIT-MANN (1), M. Heitmann (1). (1) University College Cork, Cork, Ireland
11:40 a.m. • 24-O
A new glucose oxidase from Penicillium for baking application. C. van Benschop (1), J. GODEFROOIJ (2). (1) DSM Food Specialties, Delft, Netherlands; (2) DSM, Delft, Zuid Holland, Netherlands
Gut Microbiota, the New Frontier—The Role of Cereal Grains and Fiber • Symposium • 552 AB, CC
Scientific Initiatives: Health & Nutrition

Organizers & Moderators: Satya Jonnalagadda, Kerry, Beloit, WI, U.S.A.; Rhonda Witwer, Beneo Institute, Morris Plains, NJ, U.S.A.

Sponsor: Nutrition Division

10:40 a.m. • 100-S
Young Scientist Research Award – Cereal grains: Impact on gut microbiota and health. D. ROSE (1). (1) University of Nebraska, Lincoln, NE, U.S.A.

11:20 a.m. • 99-S

11:40 a.m. • 101-S
Cereal fibers: Impact on gut microbiota and health. G.C. FAHEY (1). (1) University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.

12:00 p.m. • 102-S

Phenolic Compounds: Interactions and Health Effects •
Technical • 556 AB, CC
Scientific Initiative: Chemistry & Interactions

Moderator: Victoria Ndolo; University of Manitoba, Winnipeg, MB, Canada

10:40 a.m. • 40-O
Artificial induction of phenolics in wheat grains O. RAMOS (1), R.L. Madl (1). (1) Kansas State Univ, Manhattan, KS, U.S.A.

11:00 a.m. • 41-O
Effects of sorghum polyphenols on wheat protein profile during tortilla processing. K.L. Dunn (1), A.L. GIRARD (1), S.R. Bean (2), J.M. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.; (2) USDA-ARS-GMPRC, Manhattan, KS, U.S.A.

11:20 a.m. • 42-O
Effect Of Malting On Flavonoid Compounds And Antioxidant Activity In Four Australian Sorghums. A. KHODDAMI (1), M.A. Wilkes (1), T.H. Roberts (1). (1) Department of Plant and Food Science, Faculty of Agriculture and Environment, University of Sydney, Sydney, Australia

11:40 a.m. • 43-O
Phenolic Compounds and Antioxidant Properties during Production of Bread from Purple-Colored Wheat Grains L. YU (1), T. Beta (2). (1) Univ.of Manitoba, Winnipeg, MB, Canada; (2) University of Manitoba, Winnipeg, MB, Canada

12:00 p.m. • 44-O
Synergistic effect of combining sorghum and cowpea polyphenols on reducing LPS-induced inflammation in non-malignant colon myofibroblast in vitro. S. AGAH (1), L. Yang (1), J. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.

Quest for World’s Protein Needs—Cereal & Legume Proteins: Chemistry and Food Applications • Symposium • 551 AB, CC
Scientific Initiatives: Biotechnology & Sustainability, Ingredients & Innovations

Organizer: Monjur Hossen, Kellogg Company, Battle Creek, MI, U.S.A.

Moderators: Monjur Hossen, Kellogg Company, Battle Creek, MI, U.S.A.; Katharina Koritzer, Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

Sponsor: Protein Division

10:40 a.m. • 94-S
Cereal proteins: Fundamental understanding for processing applications. F. BONOMI (1), A. Barbieri (1), S. Lametti (1), M. Marengo (1), M. Miriani (1), M. Pagani (1). (1) University of Milan, DeFENS, Milan, Italy

11:00 a.m. • 95-S

11:20 a.m. • 96-S
Towards ‘Synthetic Meat’? Advances in texturization and extraction of cereal and legume proteins. S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.

11:40 a.m. • 97-S
Cereal protein based biomaterials for food applications. L. CHEN (1), Z. Tian (1). (1) University of Alberta, Edmonton, AB, Canada

12:00 p.m. • 98-S
Protein in Ready-to-Eat Cereals & Snacks: Challenges and Opportunities. M. ASIF (1), M. Hossen (1), V. Ghorpade (1). (1) Kellogg, Battle Creek, MI, U.S.A.

Sessions – Wednesday Afternoon (2:00 – 4:00 p.m.)
(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Conversations Matter…on the Use of GMO’s to Improve Cereal Foods • Room 554 AB, CC
Organizer and Moderator: Derek Stewart, The James Hutton Institute, United Kingdom

Increasing the fiber content of wheat to combat chronic disease. P. SHEWRY, Distinguished Research Fellow, Rothamsted Research, United Kingdom

10-O
Developing plants yielding nutritionally-beneficial starches by site-directed mutagenesis. R.G. GILBERT (1), C. Li (1), I.D. Godwin (12), M. Turner (1). (1) Univ.of Queensland/ Huazhong University of Science & Technology, Brisbane, Australia

11-O
Aspergillus nidulans α-L-arabinofuranosidase has high activity on wheat arabinoxylan and a surface binding site interacting with plant polysaccharides. B. SVENSSON (1), C. Wilkens (2), S. Andersen (2), B.O. Petersen (3), D. Cockburn (2), O. Hindsgaul (4), M. Abou Hachem (5). (1) Technical Univ.of Denmark, Lyngby, Denmark; (2) DTU Systems Biology, Lyngby, Denmark; (3) Carlsberg Laboratory, Valby, Denmark; (4) Carlsberg Laboratory, Valby, Denmark; (5) DTU Systems Biology, Lyngby, Ecuador
Shelf Life—Navigating the Meaning and Measurement of Shelf Life in Grain Ingredients and Foods • Science Café • 552 AB, CC

Scientific Initiative: Quality & Analytical Methods

Organizer: Elizabeth Arndt, Ardent Mills, Denver, CO, U.S.A.

Moderators: see addendum

103-S
Defining and measuring shelf-life in foods and ingredients. Protecting the sensory gold standard while preventing food waste. M. SEWALD (1). (1) General Mills Inc./Medallion Labs, Minneapolis, MN, U.S.A.

104-S
Origins of Bitterness in aged whole-wheat flour and related bread products. D.G. PETERSON (1), B. Qing (1), D. Jiang (1). (1) Univ. of MN, Dept. of Food Science and Nutrition, Falcon Heights, MN, U.S.A.

105-S
From kernel to table—An overview of conditions and timing in the grain supply chain. B. DAY (1). (1) Ardent Mills, Denver, CO, U.S.A.

106-S
Shelf-life indicators in whole grain flours. D. ROSE (1). (1) Univ. of Nebraska, Lincoln, NE, U.S.A.

107-S
Effects of whole wheat flour storage on quality and consumer preference of baked goods and pasta. E.A. ARNDT (1). (1) Arden Mills, Denver, CO, U.S.A.

Hot Topic: FSMA/GFSI – Tools for the Trade • 551 AB, CC
Organizer: Barbara B. Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.

Moderator: Barbara B. Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.; Gina Clapper, AOCS, Urbana, IL, U.S.A.

This hot topic session will look at the science of bulk material food safety management systems with related traceability, in preparation for FSMA. The practical use of the AACCI Food Safety Systems Task Force products will be presented along with case studies for participants to gain added perspective on this important issue.

2:00 p.m.
Background/History of Food Safety – Presenter to be announced

How to Evaluate a Facility for Weakness Regarding Food Safety/Traceability: Three Case Studies

2:15 p.m.
Case Study: Bulk Grain – Charles Hurburgh, Iowa State University, Ames, IA U.S.A.

2:35 p.m.

2:55 p.m.
Case Study: Bakery – Yan Li, Kellogg Company, Battle Creek, MI U.S.A.

3:15 p.m.
Environmental Monitoring Practices (EMP), Lakshmikantha Channaiah, AIB International, Manhattan, KS U.S.A.

3:25 p.m.
Specification Limitations – Terry Nelsen, Retired, Port Byron, IL U.S.A.

3:35 p.m.
Shelf Life Testing – Development of Standardized Methods – Mark Sewald, General Mills, Minneapolis, MN U.S.A.

3:45 p.m.
How to Get Involved – Barbara B. Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.

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How it works:

In a radio frequency Pasteurization System, the RF generator creates an alternating electric field between two electrodes. The material to be treated is conveyed (in bags or in bulk) between the electrodes causing the polar water molecules in the material to continuously reorient themselves to face opposite electrode. Friction resulting from this molecular movement causes the material to rapidly heat volumetrically (i.e.: simultaneously in all dimensions).

The illustration above depicts a radio frequency heating system with material between the electrodes. The figures in the material represent polar water molecules. Note how the polar water molecules face the oppositely charged electrode. When the electric field reverses, as the RF generator oscillates at 40.68 mHz, the molecular agitation cause a rapid and uniform temperature rise. The very rapid and precisely controllable RF heating process offers the advantages of reduced processing times, maintenance of protein functionality, and consistent log reductions.
Analytical Methods
Scientific Initiative: Quality & Analytical Methods

1-P Spectroscopic Methods for Aflatoxin Analysis in Maize: A Comparison of Raman, FT-NIR and FTIR Spectroscopies.
K. LEE (1), T.J. Herrman (1), J. Davis (1), S. Murray (1), Y. Deng (1). (1) Texas A&M Univ, College Station, TX, U.S.A.

2-P Surface-Enhanced Raman Spectroscopy as a Rapid, Inexpensive, and Accurate Tool for Detection of Aflatoxins in Maize.
K. LEE (1), T.J. Herrman (1), Y. Bisrat (1), S. Murray (1). (1) Texas A&M Univ, College Station, TX, U.S.A.

3-P An Example of NIR Calibration Development Limit: Alveographic Criteria on Common Wheat Flour.
A. DUBAT (1), O. Le Brun (1), N. Boinot (1). (1) CHOPIN Technologies, Villeneuve la Garenne, France

4-P X-ray density scanning as a technique for the characterization of extruded food products.

5-P WITHDRAWN

6-P Improved allergen testing in raw & processed food products – Achieving better sensitivity, throughput, & reliability.
A. Schreiber (1), L. Bailey (2), M. WOODCOCK (2). (1) AB SCIEX, Toronto, Canada; (2) AB SCIEX, Framingham, MA, U.S.A.

7-P Innovations for high-throughput, multi-mycotoxin quantitation in cereals & grains.
O. Cabrices (1), A. Schreiber (2), L. Bailey (3), M. WOODCOCK (3). (1) Gerstel, Inc., Linthicum, MD, U.S.A.; (2) AB SCIEX, Toronto, Canada; (3) AB SCIEX, Framingham, MA, U.S.A.

8-P Evaluating the Kramer Shear cell and Ottawa cell for determining texture of cooked macaroni.
Y. LIU (1), F.A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.

9-P Evaluation of nuclear magnetic resonance spectroscopy for monitoring hydrolytic rancidity in intermediate wheatgrass (Thinopyrum intermedium)
C. TYL (1), M. Bunzel (2), B. Ismail (1). (1) Univ.of Minnesota, Saint Paul, MN, U.S.A.; (2) Karlsruhe Institute of Technology, Karlsruhe Germany

10-P A comparative study of two testing methods for degree of gelatinization in pelleted animal feed.
L. Zhu (1), L. Lewis (1), C. Jones (1), Y. Shi (1), S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.

11-P Comparing Various Methods of Quantifying Reducing sugars and improving the measurement.
Y. Shao (1), . LIN (1). (1) Purdue University, West Lafayette, IN, U.S.A.

continued
12-P Determining pentosan content of whole wheat and flour by the phloroglucinol colorimetric assay and GLC of alditol acetates of arabinoxylose.
Y. Wu (1), A. Rogiewicz (1), H. D. Sapirstein (1), B. A. Slominski (1). (1) Univ. of Manitoba, Winnipeg, MB, Canada

13-P The Molecular BioMarkers for Grain Technical Committee.
R. D. Shillito (1). (1) Bayer CropScience LP, Morriville, NC, U.S.A.

14-P A stable isotope dilution LC-MS/MS method for the quantification of ferulic acid and its microbial metabolites.
A. Hildebrand (1), M. Waterstraat (1), D. Brockmann (2), D. D. Gallaher (2), A. Y. Arikawa (2), M. Bunzel (1). (1) Karlsruhe Institute of Technology, Karlsruhe, Germany; (2) University of Minnesota, St. Paul, MN, U.S.A.

Cake, Cookies & Donuts
Scientific Initiative: Ingredients & Innovations

15-P Amylase and phospholipase combination improves cake desirable attributes.
D. L. Austin (1). (1) Novozymes, Wake Forest, NC, U.S.A.

16-P Impact of sugar and egg proteins on the physico-chemical properties of cake batters.
N. Hess (1), P. Le-Bail (2), C. Loisel (1), J. Chevalier (1), A. Marti (3), A. Le-Bail (1), K. Seetharaman (3). (1) ONRIS - UMR CNRS GEPEA 6144, Nantes, LA, France; (2) INRA, Nantes, LA, France; (3) Univ. of Minnesota, St. Paul, LA, U.S.A.

17-P WITHDRAWN

18-P The development of a clean label high ratio cake concentrate.
T. Penny (1). (1) Horizon Milling, Burlington, ON, Canada

19-P Comparison of two AACC methods for sugar-snap cookies and influence of altitude on cookie diameter.

20-P Application of whole Japanese sweet chestnut (C. crenata) flour in cookies.

21-P Improvement of Volume and Appearance of High Ratio Cake Baked from Non-chlorinated Soft Wheat Flour.
B. Baik (1), T. Donelson (1). (1) Soft Wheat Quality Laboratory, USDA ARS-Corn, Soybean & Wheat Quality Research Unit, Wooster, OH, U.S.A.

22-P Texture profile analysis in wheat flour dough and donuts with added flour peel Oxalis tuberosa.
N. Guemes-Vera (1), E. Santos Ribera (1), J. Espino Manzano (1), J. Piloni Martin (1), J. Hernandez Uribe (1). (1) Univ. Autónoma del Estado de Hidalgo, Tulancingo, Mexico

Conversations: Whole Grain
Scientific Initiative: Health & Nutrition

23-P Preference mapping of commercial whole wheat breads.
A. J. Bernstein (1), D. J. Rose (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.

Corn & Tortillas
Scientific Initiative: Engineering & Processing

24-P Corn tortilla elaborated with an ecological nixtamalization: proximal composition and starch digestibility.
L. A. bello-perez (1), P. C. Flores-Silva (2), J. D. Figueroa-Cardenas (3). (1) Ceprofi-IPN, Yatepec, Morelos, Mexico; (2) Instituto Politecnico Nacional, Yatepec, Morelos, Mexico; (3) CINVESTAV, Queretaro, Mexico

25-P Production of nixtamalized corn flour and tortillas fortified with bean (Phaseolus vulgaris) seed coat extract.
A. Salinas Valdes (1), J. R. Sordo Alfaro (1), A. Lavin Diaz de Leon (1), R. A. Chavez-Santosoy (1), E. Perez Carrillo (2). (1) ITESM, Monterrey, Mexico; (2) Tec de Monterrey, Monterrey, Mexico

26-P Effect of microwave treatment and moisture content on physicochemical properties of corn flour.
L. Roman (1), M. M. Martinez (1), C. M. Rosell (2), M. Gomez (1). (1) Valladolid University, Palencia, Spain; (2) Institute of Agrochemistry and Food Technology (IATA-CSIC), Paterna (Valencia), Spain

27-P Characterising maize hardness using rapid visco analyser (RVA) viscosgrams and locally weighted partial least squares (LW-PLS) regression models.
A. Guelpa (1), M. Beviaquez (2), F. Marini (3), K. O'Kennedy (3). (1) University of Rome, Rome, Italy; (2) Sasko Strategic Services, Division of Pioneer Foods (Pty.), Paarl, South Africa; (4) Institute of Forest Biomaterials and Technology, Swedish University of Agricultural Sciences, Umea, Sweden

28-P Partial characterization of physicochemical and functional properties of starches of Mexican blue maize obtained by wet-milling.
M. Uriarte-Aceves (1), P. Sanchez-Pena (1), C. Reyes-Moreno (1), J. Milan-Carrillo (1). (1) Universidad Autonoma de Sinaloa, Culiacan, Mexico

29-P Effect of processing on the fatty acid profiles and antioxidant capacity of pigmented creole maize races for production of tortillas.

30-P The effect of temperature induced stress cracks on the process quality of yellow dent corn.
D. Scheff (1), J. Frederick (1), C. VanBibber (1), A. Bingham (1), H. Dogan (1), K. Ambrose (1). (1) Kansas State Univ, Manhattan, KS, U.S.A.

31-P Development of a laboratory scale corn flaking procedure to simulate commercial processing conditions and to characterize flake product.
G. Kandhola (1), N. J. Engeseth (2), M. Bohn (2), K. D. Rausch (2). (1) Univ. of Illinois At Urbana Champaign, Champaign, IL, U.S.A.; (2) Univ. of Illinois at Urbana Champaign, Champaign, IL, U.S.A.


Dietary Fiber
Scientific Initiative: Quality & Analytical Methods

33-P Polysaccharide composition of triticate (Triticosecale) produced over three years in the Great Plains of the USA.
J. Yang (1), D. Rose (2), P. Baenziger (2). (1) Univ. of Nebraska-Lincoln, Lincoln, NE, U.S.A.; (2) Univ. of Nebraska-Lincoln, Lincoln, NE, U.S.A.
43-P Evaluation of functionality of internal pea fiber in high moisture food systems.
C. PERERA (1). (1) Roquette America Inc, Geneva, IL, U.S.A.

45-P The importance of dietary fiber derived from added fiber, a case study with Resistant Maltodextrin.
A. BUCK (1). (1) Archer Daniels Midland Co, Decatur, IL, U.S.A.

**Germination**
*Scientific Initiative: Quality & Analytical Methods*

46-P Germination loss of silo stored barley is a result of membrane integrity disruption and partially, low ascorbate peroxidase activity.
J. MOLOI (1). M.T. Labuschagne (2). (1) Univ.of the Free State, Bloemfontein South Africa; (2) University of the Free State, Bloemfontein South Africa

47-P WITHDRAWN

48-P Effect of Processing Conditions during the Partial Germination of Whole Yellow Peas on the Quality of Spaghetti and Extruded Snacks.
P. FROHLICH (1), G. Boux (1), L. Malcolmson (1). (1) Canadian International Grains Institute, Winnipeg, MB, Canada

49-P Optimization of the germination bioprocess of amaranth seeds to increase the antioxidant activity, total phenolic and flavonoid contents.
J.X. PERALES SÁNCHEZ (1), R. Gutierrez Dorado (2), C. Reyes Moreno (2), M.A. Gomez Favela (2), J. Milan Carrillo (2), A. Valdez Ortiz (2), E. Cuevas Rodriguez (2). (1) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico; (2) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico

M. HEIRAS PALAZUELOS (1), D. Ruelas Zavala (2), C. Reyes Moreno (2), J. Garzon Tiznado (2). (1) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico; (2) Universidad de la Salle, Mexico

**Ingredients**
*Scientific Initiative: Ingredients & Innovations*

51-P Improvement of dietary fiber, ferulic acid and calcium contents in pan bread enriched with nejayote solids from white maize (Zea mays).
B.A. ACOSTA-ESTRADA (1), M.A. Lazo-Valez (1), J.A. Gutierrez-Urbe (1), J.O. Serna-Saldavar (1). (1) Instituto Tecnologico y de Estudios Superiores de Monterrey (ITESM), Monterrey Mexico

52-P WITHDRAWN

53-P Sensory effects of replacing sodium chloride with a mineral salt high in magnesium in white bread.
H. MITCHELL (1), D. Rolf (1). (1) Smart Salt Inc, Arnold, CA, U.S.A.

54-P Microbial effects of replacing sodium chloride with a mineral salt high in magnesium in white bread.
H. MITCHELL (1), D. Rolf (1). (1) Smart Salt Inc, Arnold, CA, U.S.A.

55-P Chinese steamed bread from quinoa-wheat composite flour.
S. WANG (1), A. Opassathavorn (2), F. Zhu (2). (1) Niagara College, Niagara-on-the-lake, ON, Canada; (2) University of Auckland, Auckland New Zealand

56-P Fat Reduction in Hot Press Whole Wheat Flour Tortilla With Inulin and Oatmeal.
I. PALOMERA SANTANDREU (1), S. Payan Tamez (1), A. Martinez Martinez (1), A. Martinez-Olea (1), S. Guajardo-Flores (1), E. Perez-Carrillo (1). (1) ITESM, Monterrey Mexico

57-P Effect of xanthan gum on improvement of the bread height and volume on baking with frozen and thawed dough.
M. SEGUCHI (1), A. Tabara (1), N. Morimoto (1). (1) Kobe Women's University, Kobe Japan

58-P WITHDRAWN

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continued
59-P Evaluation of the effects of hydrocolloids on frozen dough properties during proofing with the Rheo F4.
G. VERICEL (1). (1) CHOPIN Technologies, Villeneuve la Garenne, NY, France

60-P Using almonds as ingredients: predicting lipid release from particle size.
T. GRASSBY (1), M. Grundy (1), P. Ellis (1). (1) King’s College London, London United Kingdom

61-P Functional properties of raw and extruded gluten free flours.
G. KAUR CHANDI (1), S. G Rudra (2), A. Mahendru (3), J. Nishad (3), N. Juthar (3), C. Kaur (2). (1) Brabender GmbH & Co. KG Kulturstein 51-55 47055 Duisburg, Germany, Brampton, ON, Canada; (2) Indian Agricultural Research Institute, New Delhi India; (3) Indian Agriculture Research Institute, New Delhi India

62-P Gel from ground chia (Salvia hispanica L.) as hydrocolloid for wheat bread production.
V. Zettel (1), A. Kramer (1), F. Hecker (1), B. HITZMANN (1). (1) University of Hohenheim, Stuttgart Germany

63-P Physico-chemical and functional properties of the main nutrients of flax seeds.
V. MARKINA (1), M. Kirveva (2). (1) St Petersburg Univ, St-Petersburg Russia; (2) St Petersburg University St-Petersburg Russia

64-P The Wheat Austrone Ingredient in Breakfast Cereals
W. VON REDING (1). (1) Buhler AG, Obergreger, ZG Switzerland

Legumes

Scientific Initiative: Ingredients & Innovations

65-P Development and Quality Evaluation of Navy Bean Flour Steamed Bread.
D. AN (1), E. Assafaw (1), B. Fu (2). (1) Canadian International Grains Institute, Winnipeg, MB, Canada; (2) Canadian Grain Commission, Winnipeg, MB, Canada

66-P Development of a partial germination process for yellow peas and resultant pea flours in white layer cakes.
J. HAN (1), A. Buchko (1). (1) Government of Alberta, Leduc, AB, Canada

67-P Characterization of protein content, starch morphology and compositions in field peas.
J. LU (1). (1) Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

68-P Molecular and sensory approachesto the characterization of soybean-enriched rice-based snacks.

69-P Germinated wheat and pulse flours and their baking applications

70-P Physicochemical properties of starch from selected Canadian grown lentils.
Q. LIU (1), Z. Lu (2), K. Humphries (2), E. Donner (2), D. Ramdath (2). (1) Agric & Agri-Food Canada, Guelph, ON, Canada; (2) Agriculture and Agri-Food Canada, Guelph, ON, Canada

71-P Development of gluten-free breads enriched with chickpea and acorn flours using response surface methodology.
I. Glountenoudi-Eskitzi (1), A. LAZARIDOU (1), A.M. Goulas (1), C.G. Biliaderis (1). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, P.O. Box 235, Thessaloniki, 541 24, Greece, Thessaloniki Greece

72-P Effects of particle size reduction by air-milling on the properties of Phaseolus Vulgaris L. var. Pinto bean flour.
F. SUMARGO (1), W.S. Ratnapake (1), S.A. Weier (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.

73-P Wheat-pea composite flour quality and its effect on bread quality.
L.D. DAVIES-HOES (1), M.G. Scanlon (1), D.L. Nizio (2). (1) Univ of Manitoba, Winnipeg, MB, Canada; (2) Agriculture and Agri-Food Canada, Winnipeg, MB, Canada

74-P Effect of Germination Time on Proximate Composition of Desi Chickpea (Cicer arietinum L.) Cultivars Grown in Northwest of Mexico.
M. HEIRAS PALAZUELOS (1), D. Ruelas Zavala (2), C. Reyes Moreno (2), J. Garzan Tiznado (2). (1) Universidad Autonoma de Sinaloa, Cullacan, Sinaloa Mexico; (2) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico

Millering & Baking

Scientific Initiative: Quality & Analytical Methods

75-P Effect of water diffusion into wheat kernels during tempering on the hardness of wheat kernels.
Y. Harima (1), N. Tsuge (2). (1) Hokkaido University of Agriculture, Sapporo, Japan; (2) Nippon Veterinary and Life Science University, Chiba, Japan

76-P Test Baking: What Does Loaf Volume Tell Us?
B. DUPUIS (1), B. Fu (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada

77-P Cold plasma: a novel technology for flour treatment.
N. Bahrami (1), G.A. Chope (2). (1) Indian Agricultural Research Institute, New Delhi India; (2) Indian Agriculture Research Institute, New Delhi India

78-P A Systematic Study Of Bakingsettings For Obtaining Small Scale Bread.
C. ROSELL (1). (1) IATA - CSIC, Paterna, Valencia Spain

79-P Dark, Hard and Vitreous Kernel Content Effect on Flour and Baking Quality of Hard Red Spring Wheat.
T. BAASANDORJ (1), J. Ohm (2). (1) USDA, Fargo, ND, U.S.A.; (2) USDA-ARS, Fargo, ND, U.S.A.; (3) North Dakota State University, Fargo, ND, U.S.A.

A. LE-BAIL (1), A. Rzigue (2), K. Marmi (3), E. Purlis (4), V. Jury (3), J. Monteau (3), J. Grua (3), C. Prost (3). (1) GEPEA - CNRS, Nantes France; (2) ONIRIS - UMR GEPEA-CNRS 6144, Nantes France; (3) ONIRIS - UMR GEPEA - CNRS 6144, Nantes France; (4) CIDCA - CONICET La Plata - Universidad Nacional de La Plata Argentina, La Plata Argentina

81-P Effect of postharvest conditions on grain quality.
D. RAMCHANDRAN (1), K.D. Rausch (1), M.E. Tumbleson (1), V. Singh (1). (1) University of Illinois, Urbana-Champaign, IL, U.S.A.

82-P The suggested mechanism of First Break milling on debranned wheat described with the Double Normalised Kumaraswamy Breakage Function.
S. Galindez-Najera (1), G. CAMPBELL (1). (1) Unicof Manchester, Manchester United Kingdom

83-P Characterization of bread samples enriched with fish flour (Cobia, Rachycentruruscanadum).
F. Fagundes (1), M. Salas-Mellado (2), L. Azzini (3), M. Marengo (3), M. Zanoletti (3). S. Iametti (3), M. PAGANI (3). (1) Food Technology Laboratory (LTA), Universidade Federal do Rio Grande, Rio Grande DR Brazil; (2) Food Technology Laboratory (LTA), Universidade Federal do Rio Grande, Rio Grande DS Brazil; (3) DeFENS, University of Milan, Milan Italy
Pasta & Noodles

Scientific Initiative: Quality & Analytical Methods

84-P Milling moisture treated black beans (Phaseolus vulgaris L.) using a burr mill/roller mill milling system.
H. ANDO (1), C.E. Carter (1), F.A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.

85-P Adaptation of conventional wheat flour milling system to refine sorghum, corn and cowpea grains.
M. Joseph (1), L. Zhu (1), A. Adedeji (2), J. Gwirtz (3), S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) McGill University, Montreal Canada; (3) JAG Services, Inc., Manhattan, KS, U.S.A.

86-P Influence of Storage Time of Wheat Flour and Grain on Reliability of End-Use Quality Evaluation.
B. BAIK (1), T. Donelson (1), T. Ji (1). (1) Soft Wheat Quality Laboratory, USDA ARS Corn, Soybean & Wheat Quality Research Unit, Wooster, OH, U.S.A.

87-P Impact and mitigations of high altitude on wheat/flour quality analysis.

88-P True cost of increased mill extraction yield with a low stability wheat crop.

P. KRISHNAN (1). (1) South Dakota State Univ, Brookings, SD, U.S.A.

Phenolics, Antioxidants & Health

Scientific Initiative: Health & Nutrition

96-P Concentrations of phenolic compounds in grain sorghum and their relevance to performance of broiler chickens offered sorghum-casein diets.
A. KHODDAMI (1), H.H. Truong (2), S.Y. Liu (2), T.H. Roberts (3), P.H. Selle (2). (1) Faculty of Agriculture and Environment, University of Sydney, Sydney Australia; (2) Poultry Research Foundation, The University of Sydney, Sydney Australia; (3) Department of Plant and Food Science, Faculty of Agriculture and Environment, University of Sydney, Sydney Australia

E. ABDEL-AAL (1), F. Huc (2), I. Rabalski (1). (1) Agriculture and Agri-Food Canada, Guelph, ON, Canada; (2) University of Saskatchewan, Saskatoon, SK, Canada

98-P Effects of the interaction of sorghum proanthocyanidins with unleached corn starch on starch digestibility.
D.B. AMOAKO (1), J.M. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.

99-P Relationship between degree of sprouting and total phenolic compounds of eight soft wheat varieties with diverse milling properties grown in Michigan.
J. SUN (1), Y. Ai (1), B. Karakkat (1), E. Olson (1), P.K. Ng (1). (1) Michigan State Univ, East Lansing, MI, U.S.A.

100-P Effects of Germination on Phenolic Acid Contents and Related Enzyme Activities in Brown Rice.
D. CHO (1), S. Lim (1). (1) Korea University, Seoul South Korea

101-P WITHDRAWN

102-P Iron and zinc concentration in white flour of bread wheat cultivars grown in the three production regions of South Africa.
M.T. LABUSCHAGNE (1), A. van Biljon (2). (1) Univ of the Free State, Bloemfontein South Africa; (2) University of the Free State, Bloemfontein South Africa

103-P WITHDRAWN

104-P Inhibition of nitric oxide production in lipopolysaccharide-activated RAW 264.7 macrophages by tortillas elaborated through extrusion.
J. AGUAYO (1), S. Mora-Rochin (2), E. Cuevas-Rodriguez (2), H. Lopez-Moreno (2), C. Reyes-Moreno (2), J. Milan-Carrillo (2). (1) Univ de Sinaloa, Culiacan, AR, Mexico; (2) Universidad Autonoma de Sinaloa, Culiacan Sinaloa, AR, Mexico

105-P WITHDRAWN

106-P Tocopherols, phenolic content, antioxidant activity of raw and sprouted quinoa and amaranth.
G. BALAKRISHNAN (1), R. Goodrich Schneider (1). (1) University of Florida, Gainesville, FL, U.S.A.

107-P Inactivation of condensed tannins in sorghum flour by alkali treatment.
A.I. Adetunji (1), J.R. Taylor (1). (1) University of Pretoria, Pretoria South Africa

Protein & Gluten

Scientific Initiative: Chemistry & Interactions

108-P Gluten structural evolution during pasta processing in refined and whole grain pasta: the influence of mixing, drying, and cooking.
J.E. BOCK (1), R. West (1), S. Iametti (2), F. Bonomi (2), M. Marengo (2), K. Seetharaman (3). (1) University of Guelph, Guelph, ON, Canada; (2) Universita Degli Studi di Milano, Milan Italy; (3) University of Minnesota, St. Paul, MN, U.S.A.

109-P WITHDRAWN

continued
Rheology

Scientific Initiative: Quality & Analytical Methods

121-P Evaluation of Texture Differences among Varieties of Cooked Quinoa.
G. WU (1), C.F. Morris (2), K.M. Murphy (1). (1) Washington State University, Pullman, WA, U.S.A.; (2) USDA-ARS Western Wheat Quality Lab, Pullman, WA, U.S.A.

122-P Physicochemical properties of hard red spring wheat flour/hydrocolloid blends measured with micro-viscoamlyograph.
K. WHITNEY (1), S. Simsek (1). (1) North Dakota State Univ, Fargo, ND, U.S.A.

123-P Thermal, pasting and gel textural properties of nine types of starches.
S. Li (1), Y. Zhang (1), Y. WEI (2), W. Zhang (1), B. Zhang (1). (1) Inst of Agro-Products Processing Sci & Tech, CAAS, Beijing China; (2) Inst of Agro-Products Processing Sci & Tech, CAAS, Beijing China.

124-P Prediction of Noodles and Steam Bread Score With the Mixolab.
A. DUBAT (1), H. Sun (2), H. Yu (3), O. Le Brun (1), J. Latehounia (1), N. Boinot (1). (1) CHOPIN Technologies, Villeneuve la Garenne France; (2) Academy of State Administration of Grain, Beijing China; (3) Chopin (Beijing) Trading Company Ltd., Beijing China.

125-P Assessment of white and whole wheat flour quality using the micro-viscoamylograph.
K. WHITNEY (1), D. Olsen (1), S. Simsek (2). (1) North Dakota State Univ, Fargo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.

126-P Physical and molecular characterization of starches from Orzya glaberrima accessions.
J.K. GATYN (1), J. Manful (2), E. Berlofi (3), K. Seetharaman (4). (1) University of Guelp, Guelpfh, ON, Canada; (2) Africa Rice Center, Cotonou Benin; (3) University of Minnesota, St Paul, MN, U.S.A.; (4) Associate Professor, Dept. of Food Science and Nutrition, Univ of Minnesota, St Paul, MN, U.S.A.

127-P Viscosity measurement of β-glucan containing cereal products using Rapid Visco Analyser: A collaborative study.
T.H. Gamel (1), E.M. ARDEL-AAL (1), S.M. Tosh (2). (1) Agriculture and Agri-Food Canada, Guelpfh, ON, Canada; (2) Agric and Agri-Food Canada, Guelpfh, ON, Canada.

128-P A study of factors influencing the farinograph absorption of Canadian hard red winter wheats with a focus on pentosan content.
Y. WU (1), H.D. Sapsrizen (1), R.J. Graf (2). (1) Univ.of Manitoba, Winnipeg, MB, Canada; (2) Agriculture and Agri-Food Canada Lethbridge Research Centre, Lethbridge, AB, Canada.

129-P Physical and rheological approaches for defining the overall quality of cowpea-enriched breakfast cereals.
M. PAGANI (1), L. Baffour (2), I. Manful (3), P. Johnson (4), S. Firibu (2), L. Azzini (1), M. Zanoletti (1), S. Iametti (1). (1) DeFENS, University of Milan, Milan Italy; (2) International Crops Research Institute for the Semi-Arid Tropics, ICRISAT, Patancheru, India; (3) The Swedish University of Agricultural Sciences, Alnarp Sweden.

130-P Effects of nitrogen availability during grain filling on the wheat protein-Alveograph W linear relationship.
D. VAZQUEZ (1), A.G. Berger (2), E. Johansson (3). (1) INIA, La Estanzuela Uruguay; (2) INIA, La Estanzuela Uruguay; (3) The Swedish University of Agricultural Sciences, Alnarp Sweden.

131-P A modified dough preparation protocol for Extensograph test of dough strength.
B. Fu (1), B. Dupuis (1), J. SUCHY (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada.

132-P Effects of enzymes and emulsifiers on the rheological properties of whole-wheat flour and the quality attributes of whole-wheat raw noodle.
M. Niu (1), G. HOU (2), J. Kindelspire (3), P. Krishnan (3), Z. Chen (1). (1) Jiangnan University, Wuxi China; (2) Wheat Marketing Center, Portland, OR, U.S.A.; (3) South Dakota State University, Brookings, SD, U.S.A.

133-P Evaluating Dough Mixing Properties at Different Mixing Speeds with Farinograph-AT.

134-P Characterization of Increased Elastic Compression-Recovery Behavior of Gluten Treated with β-Glucan-Containing Oat Bran Materials.
S.R. KAHN (1), S.J. Mulvaney (1). (1) Cornell University, Ithaca, NY, U.S.A.
135-P Understanding the Surface Properties of Flour from Different Wheat Classes and their Relation to Flow Behavior.

136-P Impact of intermediate wheat grass (Thinopyrum intermedium) on dough rheological properties.
X. QIU (1), A. Marti (2), K. Seetharaman (1). (1) University of Minnesota, St. Paul, MN, U.S.A.; (2) University of Milan, Milan Italy.

137-P The influence of abiotic stress conditions on Mixsmart characteristics of two commercial bread wheat cultivars.
M.J. MOLOI (1), M.T. Labuschagne (1). (1) University of the Free State, Bloemfontein South Africa

Rice Scientific Initiative: Engineering & Processing

138-P Effect of soaking temperature on properties of cominged rice.
K. LEETHANAPANICH (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.

139-P Effects of soaking and steaming regimes on the quality of artisanal parboiled rice.
J. MANFUL (1), S. Nindendeng (1), S. Graham-Acquaah (1), D. Tchatcha (2). (1) Africa Rice Center, Cotonou Benin; (2) University of Abomey Calavi, Cotonou Benin

140-P Influence of growing location on anthocyanin composition and antioxidant activity of several colored rice.
S. BAE (1), Y. Jin (1), D. Seong (1), Y. Kim (1), Y. Cho (1), H. Shin (1). (1) Gyeongsangnam-do Agricultural Research & Extension Services, Jinju South Korea

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143-P Milled Rice Fissuring Rates of Pureline- and Hybrid-Cultivar Lots.
S. MUKHOPADHYAY (1), T.J. Siebenmorgen (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.

144-P Impact of Rapid Moisture Adsorption on Rice Milling Yields.
S. MUKHOPADHYAY (1), T.J. Siebenmorgen (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.

145-P Exploring Rice Quality Traits of Importance to Export Markets.

146-P Micronutrient Fortified Extruded Rice Kernels: Impact of Processing and Formulation on Physico-Chemical Attributes.
A. Adedeji (1), M. Joseph (2), S. ALAVI (3). (1) McGill University, Montreal Canada; (2) Kansas State University, Manhattan, KS, U.S.A.; (3) Kansas State Univ, Manhattan, KS, U.S.A.

147-P Effect of water treatment on rice grain quality.
R.J. BRYANT (1), M. Anders (2), K. Yeater (3). (1) USDA ARS DBNRRC, Stuttgart, AR, U.S.A.; (2) University of Arkansas Rice Research and Extension Center, Stuttgart, AR, U.S.A.; (3) USDA, ARS, Southern Plains Area, College Station, TX, U.S.A.

148-P Changes in morphology of starch in parboiled rice kernels.
S. Sittipol (1), Y. SHI (1). (1) Kansas State University, Manhattan, KS, U.S.A.

149-P Effects of manufacturing factors and rice flour properties on the physicochemical characteristics of whole rice bread.
M. Su (1), S. LU (1). (1) China Grain Products R&D Institute, Taipei Taiwan

Starch Digestion Scientific Initiative: Health & Nutrition

150-P Repeated cooking and freezing of whole wheat flour modifies in vitro starch digestion and fecal fermentation.
J.A. ARCILA-CASTILLO (1), D.J. Rose (1). (1) University of Nebraska Lincoln, Lincoln, NE, U.S.A.

151-P α-Amylorysis of Great Northern bean starches isolated from five selected cultivars.
H. WANG (1), W.S. Ratnayake (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.

152-P Development of rice products with slower digestibility.
R. HSU (1). (1) China Grain Product R&D Institute, New Taipei Taiwan

153-P Kinetics of starch digestion of Mexican blue maize varieties as whole grain flours and isolated starches obtained by wet-milling.
M. URIARTE-ACEVES (1), P. Sanchez-Pena (1), R. Gutierrez-Dorado (1), C. Reyes-Moreno (1), J. Milan-Carrillo (1). (1) Universidad Autonoma de Sinaloa, Culiacan Mexico

154-P Impact of processing conditions and botanical source on the structures of starch hydrolysates following salivary and luminal amylas.
K.K. NANTANGA (1), E. Bertofi (2), K. Seetharaman (2). (1) Uniof Namibia, Windhoek, ON, Namibia; (2) University of Minnesota, St. Paul, MN, U.S.A.

155-P Synergistic Amylomaltase and Branching Enzyme Catalysis To Suppress Cassava Starch Digestibility.
W. Sorndech (1), D. Sagnelli (1), A. BLENNOW (2), S. Tongta (3). (1) University of Copenhagen, Frederiksberg C Denmark; (2) Univ.of Sao Paulo, Sao Paulo, Brazil; (3) Institute of Chemical and Engineering Sciences (ICES), A*STAR, Singapore Singapore; (3) Suranaree University of Technology, Amphur Muang Thailand

156-P Slowly digestible enriched starch powder from gelatini-nized high-amylase starch by hydrothermal treatment.
E. AGAMA-ACEVEDO (1), B. Lee (2), B.R. Hamaker (2). (1) CEPRO-BI-IPN, Yaupec, Morelos Mexico; (2) Purdue University, West Lafayette, IN, U.S.A.

157-P Processing methods to improve sorghum digestibility.
J. LI (1), Y. Wang (1), G. Atungulu (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.

158-P Polyphenols have multiple effects on the intestinal α-glucosidases.
M. SIMSEK (1), R. Quezada-Calvillo (2), R. Quezada-Calvillo (3), B.L. Nichols (3), B.R. Hamaker (1). (1) Whister Center for Carbohydrate Research, Food Science, Purdue University, West Lafayette, IN, U.S.A.; (2) Department of Chemistry, San Luis Potosi Mexico; (3) Pediatrica-Nutrition, Houston, TX, U.S.A.

159-P Direct in-vitro assay of resistant starch in phosphorylated cross-linked starch.

Starch Structure & Properties Scientific Initiative: Chemistry & Interactions

160-P Application of the novel food emulsifier aggregates to flour or starch based products.
A. OGAWA (1), S. Arima (2). (1) Mitsubishi-Kagaku Foods Corporation, Yokohama-city Japan; (2) Mitsubishi-Kagaku Foods Corporation, Yokohama Japan
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161-P Molecular Encapsulation by amylase of two essential poly-unsaturated fatty acids.
P. LE BAIL (1). (1) INRA, Nantes France

162-P Characterizing the structure of Hylon VIII maize starch.
G. PEYMANPOUR (1), K. Seetharaman (2), E. Bertoft (3), M. Marcone (1), I. Tettlow (4). (1) Dept. of Food Science, University of Guelph, Guelph, ON, Canada; (2) Dept. of Food Science and Nutrition, University of Minnesota, St. Paul, MN, U.S.A.; (3) Dept. of Food Science, Uppsala BioCenter, Swedish University of Agricultural Sciences, Uppsala Sweden; (4) Dept. of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada

163-P Rheological properties of chestnut and normal maize starches esterified with octenyl succinic anhydride.
V.d. Santos (1), G.A. SEHN (1), M. Schmiele (1), Y.K. Chang (1), C.J. Steel (1). (1) State University of Campinas, Campinas Brazil

164-P Freeze-drying changes the structure and digestibility of B-polymorphic starches.
B. ZHANG (1), K. Wang (1), J. Hasjim (1), E. Li (1), B.M. Flanagan (1), M.J. Gidley (1), S. Dhattal (1). (1) Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, University of Queensland, Brisbane Australia

165-P Genetic differences in starch synthases control starch fine structure and gelatinization properties in rice.
K. WANG (1), J. Hasjim (2), E. Li (1), R.J. Henry (1), R.G. Gilbert (3). (1) Univ of Queensland, Brisbane Australia; (2) Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, University of Queensland, Brisbane Australia; (3) Univ of Queensland/Huazhong Uni of Science & Technology, Brisbane Australia

166-P Preparation and characterization of water-dispersible starch-fatty acid complexes.
T. SEO (1), S. Lim (1). (1) Korea University, Seoul South Korea

167-P Physicochemical properties of starch produced by intercrossing between normal and waxy maize.
H. YANGCHENG (1), H. Jiang (2), J. Jane (1). (1) Iowa State University, Ames, IA, U.S.A.; (2) Ingredion, Bridgewater, NJ, U.S.A.

168-P Observations on the structure of starch from barley grown under constant light conditions.
A. GOLDSTEIN (1), E. Bertoft (2), A. Blenno (3), K. Seetharaman (2), (1) Dept. of Food Science and Nutrition, University of Minnesota, St Paul, MN, U.S.A.; (2) Dept. of Food Science and Nutrition, University of Minnesota, St. Paul, MN, U.S.A.; (3) Dept. of Plant and Environmental Sciences, University of Copenhagen, Frederiksberg C Denmark

169-P Unit and internal chain profiles of amylopectin from African rice (Oryza glaberrima).
J.K. GAYIN (1), E. Bertoft (2), J. Manful (3), K. Seetharaman (4). (1) University of Guelph, Guelph, ON, Canada; (2) University of Minnesota, St Paul, MN, U.S.A.; (3) Africa Rice Center, Cotonou Benin; (4) Dept. of Food Science and Nutrition, Univ of Minnesota, St Paul, MN, U.S.A.

170-P Properties of Starches from Hybrid and Pureline Rice Cultivars.
J. PATINDOL (1), J. Li (2), Y. Wang (2), T. Siebemorgen (2). (1) Univ of Arkansas, Fayetteville, AR, U.S.A.; (2) University of Arkansas, Fayetteville, AR, U.S.A.

171-P Starch nanoparticles formed by rapidly cooling dispersions of jet-cooked amyllose-oleic acid complexes.
E.C. FELKER (1), G.F. Fonta (1), J.A. Kenar (1). (1) USDA ARS NCAUR, Peoria, IL, U.S.A.

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173-P Influence of diet on the in vitro fecal fermentation properties of whole grain wheat.
J. YANG (1), D. Rose (2). (1) Univ of Nebraska, Lincoln, NE, U.S.A.; (2) Univ of Nebraska, Lincoln, NE, U.S.A.

174-P Enzymatic Hydrolysis of Whole Grain Amaranth.

175-P Quality Improvement of Whole Wheat Parboiled Alkaline Noodles.

176-P WITHDRAWN

177-P Effect of durum cultivar and growing environment on cooking qualities of whole-wheat pasta.
L. DENG (1), F.A. Manthey (2). (1) North Dakota State Univ, Fargo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.

178-P Influence of wholegrain wheat flour and extrusion conditions on texture characteristics of breakfast cereals before and after immersion in milk.
L.C. Oliveira (1), M.G. Reis (2), C.J. STEEL (1). (1) University of Campinas (UNICAMP), Campinas, SP Brazil; (2) Instituto de Tecnologia de Alimentos (ITAL), Campinas, SP Brazil

179-P Pre-milling interventions to reduce the microbial load of straight-grade and whole grain flours with minimal impact on flour functionality.
L. Sabillã’n (1), J. Stratton (1), D. Rose (2), R. Flores (1), A. BIANCHINI (1). (1) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.; (2) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.

180-P Pre-milling interventions to reduce lipase activity and lipid degradation of straight-grade and whole grain flours during storage.
L. Sabillã’n (1), A. Bianchini (1), J. Stratton (1), R. Flores (1), D. Rose (2). (1) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.; (2) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.

181-P WW bread consumer segmentation by cluster analysis.

182-P An indirect rapid heat moisture treatment method in improving functionality of whole wheat flour.
M. KHAMIS (1), J. Wilson (2), H. Dogan (3). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) USDA ARS, Manhattan, KS, U.S.A.; (3) Kansas State Univ, Manhattan, KS, U.S.A.

183-P Evaluating the effects of rapid indirect heat moisture treatment on whole wheat flour protein.
M. KHAMIS (1), S. Bean (2), H. Dogan (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) USDA ARS, Manhattan, KS, U.S.A.

184-P Whole grain likeability among undergraduate college students.
T. MELLETTE (1), M.E. Campire (2), M. Dougherty (2). (1) University of Maine, Bangor, ME, U.S.A.; (2) University of Maine, Orono, ME, U.S.A.

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The Wright Group
The XIM Group LLC
Thymly Products
TIC Gums Inc.
United Flour Mill Co Ltd
US Energy Partners LLC
USA Rice Federation
USDA-GIPSA Technology & Science Division
Wenger Manufacturing Inc
Yucebas Machinery Analytical Equipment Industry
Congratulations to the following members selected to receive AACCI awards in honor of their significant contributions to the field of cereal grain science. Please join us at the Opening General Session and Awards Ceremony October 5, 2014, to celebrate their accomplishments. Lecture times for individual awards are noted below.

**AACC International Fellows**

The AACC International Board of Directors established a Fellows Program in 1985 to honor association members who have made distinguished contributions to the field of cereal science and technology in research, industrial achievement, leadership, education, administration, communication, or regulatory affairs. Anyone who has been a member for at least 10 years and made such a contribution is eligible.

**Clodualdo “Ody” Maningat**, Ph.D., is currently Vice President, R&D and Technical Services at Manildra Milling Corporation and Adjunct Faculty at the Department of Grain Science and Industry, Kansas State University. He was previously Vice President, Applications Technology and Technical Services at MGP Ingredients, Inc. He is a member/former chair of the Advisory Board of Food Processing Center, University of Nebraska, Lincoln. He has published a book, 31 papers and 41 patents. Dr. Maningat received his B.S. Chemistry (Adamson University, Philippines), M.S. Agricultural Chemistry (University of the Philippines), and Ph.D. Grain Science (Kansas State University). He is a professional member of AACCI, IFT, ACS and ASB.

**Terry Nelsen** has served as a statistical resource for AACCI for many years. In addition to being a team member on many research and technical projects, he continues as a consultant to the Approved Methods Committee. He organized and was the initial chair of the Statistics Committee. He is a long time member of the Check Sample Committee and has served on several Technical Committees. He organized and presented many stats symposia at AACCI meetings. Retired from USDA-ARS, he stays active with AACCI, does a bit of stats consulting and enjoys life on a small farm in northwestern Illinois.

**Carl Wilhelm Brabender Award**

The Carl Wilhelm Brabender Award was established to honor the distinguished contributions to the application of rheology in milling and baking. Sponsored jointly by C.W. Brabender Instruments, Inc., South Hackensack, NJ, and Brabender OHG, Duisberg, Germany, the award is presented every three years and is administered alternately by AACC International and the Arbeitsgemeinschaft Getreideforschung, Detmold, Germany. The award provides a plaque and a travel grant to enable the recipient to visit scientists and laboratories in other parts of the world. Recipients are professionally active in rheology.

**Juan de Dios Figueroa Cárdenas** is a professor in the department of Material Science, where he works with the Bio-organic materials group at CINVESTAV-IPN (Center for Advanced Studies and Research of the National Polytechnic Institute in Querétaro, Mexico). Dr. Figueroa has worked together with a multidisciplinary group of physicists, chemists, engineers, and electronic specialists to improve the making of the tortilla and rheology by applying the tools of modern science and tackle social and health problems that are important to Mexico and the World and do high-quality research at the same time. Juan explores the basic principles that govern functionality of grains for industrial applications. His areas are the Maxwell (stress relaxation) and Kelvin-Voigt (creep) generalized models for studying visco-elastic properties and high fiber-low fat tortillas to prevent obesity, diabetes type II and cardiovascular diseases. He developed the Dry nixtamalization; Wet ecological nixtamalization; Ohmic process among other technologies.

This year’s award lecture, Influence of viscoelasticity of wheat kernels, doughs on flour yield and bread volume evaluated by stress relaxation and creep-recovery tests, will take place at 10:40 a.m., Tuesday, October 7.
Edith Christensen Award for Outstanding Contributions in Analytical Methodology

This award recognizes scientific and technical contributions that have advanced the grain science field. Recipients of the award have demonstrated excellence through their contributions to the development of new analytical technologies, the application of new analytical technologies to cereal grain products, and/or the application of existing analytical technologies to solving detection and measurement problems in the field of grain science. They have also demonstrated leadership in methods activity within AACCI.

Elaine Sopiwnyk joined Cigi in 2000 and currently holds the position of director of science and innovation. In this role Elaine oversees applied research conducted at Cigi that assists with creating value and opportunities for Canadian field crops. Elaine has considerable knowledge related to methods used to analyze grain quality, which she has gained through extensive international travel. Prior to joining Cigi, Elaine was a cereal quality biologist at the Agriculture and Agri-Food Canada Cereal Research Centre in Winnipeg, MB, where she evaluated and analyzed the quality of cereal grains and their end products. Elaine holds an M.S. degree in foods and nutrition from the University of Manitoba.

Excellence in Teaching Award

The Excellence in Teaching Award is presented to a member and teacher who has made significant contributions through teaching in the broad field of cereal science and technology.

Les Copeland is a professor of agriculture at the University of Sydney. His research interests are the chemistry of food grains and plants, with emphases on the structure–function relationships of food starches, effects of growing conditions on cereal grain quality, and origins of the human diet. Les also has worked extensively on the biochemistry of the nitrogen-fixing symbioses of legumes. He teaches undergraduate courses in food and grain science and plant biochemistry and has acted as the primary supervisor for 34 Ph.D. students, many from diverse international backgrounds. Les is a former dean of agriculture and was the foundation president of the Australian Council of Deans of Agriculture. He has B.S. and Ph.D. degrees in biochemistry from the University of Sydney and is a graduate of the Australian Institute of Company Directors. He also held postdoctoral appointments at Yale University and the University of Buffalo and was a Fulbright Fellow at the University of California, Davis.

Texture Technologies Quality Research Awards

This two-part award is presented to an author who either writes or presents high quality research that broadly involves instrumental texture analysis. The Paper Award will be awarded to an author from either Cereal Chemistry or CFW that was published over the past year. The paper award will be presented for the first time this year. The Presentation Award will be awarded to an author who has presented a poster/paper at this year’s AACCI Annual Meeting. Submitted papers and posters are judged by the Texture Technologies Quality Research Award Committee.

Elaine Sopiwnyk

Robert (Bob) Anderssen specializes in mathematical modeling and has worked on electromagnetic induction in the earth, vibrating piano strings, wheat-flour dough rheology, drying of pasta, and analysis of NIR spectroscopic data. Currently, he is working on pattern formation in plants and the rheology of cereal grain hardness. He has been president of the Australian Mathematical Society and awarded the George Szekeres, Joe Moyal, and ANZIAM medals and is a Fellow of the Australian Mathematics Society.

*Joel Abecassis will accept the award on behalf of Anderssen.

Best Presentation Award

The recipient will be announced during the Closing Session on Wednesday, October 8.

Nominate Your Colleague for 2015 AACCI Awards

The call is now being made for 2015 AACCI award nominations to be presented in at the 2015 AACCI Annual Meeting. Nominations must be submitted on or before January 31, 2015, using the online nomination form at www.aaccnet.org/membership/awards/_layouts/AACCforms/AwardNomination.aspx

A full list of award descriptions, previous award winners, and criteria are found online www.aaccnet.org/membership/awards.
Phil Williams Applied Research Award

Established in 2005, the AACC International Phil Williams Applied Research Award is presented to an individual or team for their significant body of distinguished contributions to the application of science in the cereals area. The award consists of a $2,000 honorarium and a plaque. Recipients of the Phil Williams Applied Research Award are also accorded the status of AACCI fellow for their contributions leading to this award. Awardees will have the opportunity to present a lecture during an annual meeting of the association.

Terry Siebenmorgen is a university professor in the Food Science Department at the University of Arkansas. He also serves as director of the University of Arkansas Rice Processing Program, an industry-focused program that conducts rice processing research and is supported by rice producers and processing companies. Terry's research encompasses rice property characterization, drying, milling, and quality assessment. He also teaches food process engineering. Terry holds a B.S. degree in agricultural engineering from the University of Arkansas, an M.S. degree in agricultural engineering from Purdue University, and a Ph.D. degree in engineering from the University of Nebraska.

This year's award lecture, Applying material state properties to optimize rice drying, will take place at 10:40 a.m., Monday, October 6.

Young Scientist Research Award

The AACC Young Scientist Research Award is presented to an individual for outstanding contributions in basic and applied research to cereal science with the expectation that contributions will continue. This award recognizes research relevant to the broad aims and interests of AACC International. Awardees must not be older than 40 years by June 1 of the year the award is given. The recipient will receive a $1,000 honorarium and a plaque and will be encouraged to present a lecture at the AACC International meeting of the year in which the award is given.

Devin Rose received his Ph.D. degree from Purdue University for research focused on creating slowly fermentable dietary fibers for improved gut health. After completing his Ph.D. degree Rose worked as a postdoc with the USDA Agricultural Research Service on creating functional food ingredients from by-products of the grain milling industry. He is now an assistant professor at the University of Nebraska-Lincoln, where he teaches Food Carbohydrates, Sensory Evaluation, and Food Product Development Concepts courses. His research is focused on whole grain processing and gut health. He is an author or coauthor of 37 peer-reviewed publications.

This year's award lecture, Cereal grains: Impact on gut microbiota and health, will take place at 10:40 a.m., Wednesday, October 8.

William F. Geddes Memorial Award

The William F. Geddes Memorial Award was created in 1961 to honor the zeal and unselfish industry of an individual member and emphasize the importance of his or her contributions to the work of the association. Geddes served the association long and unselfishly as president (1938–1939), vice president (1937–1938), editor-in-chief of Cereal Chemistry (1943–1961), active member, and committee member. Over the long span of his association with AACC International, Geddes influenced the organization in many ways, contributing to its work and progress, increasing its usefulness to its members, and boosting its reputation in the fields of fundamental and applied cereal science.

2013 Recipient: Steven C. Nelson, AACC International
2014 Recipient: The name of the recipient is kept secret until unveiled during the Awards Ceremony.

Protein Division Walter Bushuk Graduate Research Award in Cereal Protein Chemistry

Best Paper Award

Recognizes Ph.D. students who have made outstanding contributions in basic and/or applied research in cereal protein chemistry. This award recognizes research in relevant to the broad aims of AACCI. The research can be either fundamental/basic or applied.

Silvia Maria Thanhäuser was born in 1985 in Schongau (southern Germany). After completing her A-levels, she joined the Technical University of Munich, where she studied food chemistry. After graduating, she began work on her Ph.D. thesis at the German Research Center for Food Chemistry in the Structure-Function Relationships of Biopolymers working group led by head Professor Peter Koehler. The main objectives of her research were characterization of wheat storage proteins correlated with baking quality and development of simple methods for protein quantitation. Currently, she is finishing her training with vocational studies in food law at the Bavarian Health and Food Safety Authority.

This year's award lecture, Development of improved methods to evaluate the gluten quality of wheat flours, will take place at 8:30 a.m., Tuesday, October 7.
Awardees of AACC International’s Analytical Accuracy awards, based on 2013 check sample results, have been announced. This is the 15th year of the AACC International Analytical Accuracy awards. Awardees receive a certificate suitable for posting and are listed in the 2014 Sept-Oct issue of CFW and on the AACCI website.

All subscribers to the AACCI check sample program series that include a proficiency rating option are eligible. Subscription to the proficiency program is not required but highly recommended. To be eligible for an award, laboratories must have met all the requirements for results submission in the award year.

The award in each series is presented to the laboratory submitting the most accurate analyses (the accuracy score). The accuracy score is determined with the same statistical procedures used to evaluate the proficiency ratings. The required analyses in each check sample series are considered first. In addition, to encourage subscribers to include the results of optional analyses in their reports, these results are also included if they improve the accuracy score.

Formal entry for the award competition is not necessary - all check sample subscribers in a given check sample series are automatically entered if they have submitted the required results on all samples for the award year.

The accuracy award results relate to the performance of the awardee’s analyst or laboratory and not that of other analysts and laboratories who may be equally qualified.

Check sample subscribers or others who would like more information about AACC International Check Sample and Proficiency Rating Service are invited to visit: www.aaccnet.org/resources/checksample.
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Volunteering to serve on an AACCi committee provides opportunities to gain skills and experience as well as the chance to give something back to the grains community while enriching your membership. Thank you to the following volunteers who served on the following committees; your dedication is appreciated!

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**Edith A. Christensen Award: Chair:** Anne R. Bridges  
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**Excellence in Teaching Award: Chair:** Randy L. Wehling  
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**Fellows: Chair:** Robert L. Cracknell  
**Members:** Ravindra N. Chibbar, Perry K.W. Ng, Peter R. Shewry, John R.N. Taylor

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**Nomination:** Chair: Stuart A. Craig  
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**Texture Technologies Quality Research Award Jury: Chair:** Baninder S. Sroan  
**Members:** Jayne E. Bock, Marc I. Johnson, Sathya Kalambur, Clodualdo C. Maningat, Mike Gidley, Jay-lin Jane, Sergio O. Povlsen, Martin G. Scanlon, Jennifer W. Gradnigo

**Young Scientist Research Award: Chair:** Deirdre E. Ortiz  
**Members:** Jinsong Bao, Mirko Bunzel, Kim B. Koch, Sergio O. Serna Saldivar, Jeanny E. Zimeri
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### AACC International Past Presidents

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*Deceased
Note: Presidential terms run from annual meeting to annual meeting. Year listed is year term began.
“As individuals, we bring a name and a face to the future of cereal grain science. Collectively, we will write the history of the next 100 years as we solve complicated global challenges. Be part of our next stage in history starting at the Centennial Meeting in Minneapolis.”
**Ingredients for Coatings: Batter & Breading Systems**

The perfect coating doesn’t have to be loaded with a dozen ingredients… especially not chemically modified ones. With state-of-the-art technology, Siemer is capable of adding functionality to standard flour – a single-ingredient solution to help you create a product that performs like no other for food service or the home kitchen. And you can include “natural” on its label.

- Highly controlled batter viscosity
- Superior adhesion to substrate
- Texture: crisp to crunchy
- Shear Stability
- Freeze-thaw stable
- Reconstitution in oven or fryer
- Extended hold times under heat lamp

**Flour Treated for Food Safety**

Food safety is top-of-mind in today’s market – something to consider when building a product with flour that may be consumed prior to applying a proper kill step. This Siemer treatment protects both your reputation and consumer wellbeing.

- Designed for food safety-sensitive applications
- Unique process for greater control of microbiological presence
- Functional properties of Soft Wheat Flour
- Flavor neutral
- Ideal for ice cream inclusions, refrigerated/frozen cookie dough, seasoning blends

**Ingredients for Nutritional Products**

Adding nutritional ingredients to your products can be difficult due to extremely short shelf lives. Siemer’s completely natural stabilization process lets you take popular food bars and other products to the shelf with the grain’s essential nutrients and pleasant, nutty flavor intact.

- Does not alter nutritional profile or label identification
- Extended shelf life (6-9 months) at ambient temperature
- Stabilized Wheat Germ, Wheat Bran and Whole Wheat Flour for Whole Grain claim
- Vitamin E, Omega 3, protein and fiber may be added to improve appeal of label and flavor
- Various granulations available in both Red and White Wheat varieties

Learn more about the benefits of heat-treated products.

Call 1.800.826.1065 or visit www.siemersi.com
Stop by these booths for exhibit-sponsored prize drawings on Monday and Tuesday!

Must be present to win.

★ Prize drawing booth

**Monday's Booths**
- **301/400** Cablevey Conveyors  
  Drawing: 4:30 p.m.  
- **602** FONA International  
  Drawing: 5:00 p.m.  
- **501/600** FOSS  
  Drawing: 5:15 p.m.  
- **304** Innophos Inc.  
  Drawing: 5:30 p.m.  
- **315** McCormick & Company, Inc.  
  Drawing: 6:00 p.m.  
- **310** Medallion Labs  
  Drawing: 6:30 p.m.

**Tuesday's Booths**
- **619** Bepex International LLC  
  Drawing: 12:15 p.m.  
- **602** FONA International  
  Drawing: 12:45 p.m.  
- **501/600** FOSS  
  Drawing: 1:15 p.m.  
- **707** Manildra Group USA  
  Drawing: 1:30 p.m.  
- **310** Medallion Labs  
  Drawing: 1:45 p.m.  
- **611** MGP  
  Drawing: 2:00 p.m.
## Numerical Listing of Exhibitors

Bold Type indicates an advertising company. Page numbers for advertisers are listed on the Advertiser’s Index on page 74.

| 103/202 | Perten Instruments | 502 | ICL Food Specialties |
| 104 | Balchem Encapsulates | 503 | Florida Food Products, Inc. |
| 105 | C-Cell by Calibre Control International Ltd. | 504 | Almond Board of California |
| 106 | Farmer Direct Foods Inc. | 505 | Buhler Inc. |
| 107 | Clasen Quality Coatings, Inc. | 509 | Grain Millers, Inc. |
| 112 | Lallemand Baking Solutions | 511 | Brookfield Engineering |
| 113 | BENEIO Inc. | 515 | ADM/Matsutani LLC |
| 114 | Nutraceuticals World | 517 | ADM |
| 115 | R-Biopharm Inc. | 521 | Carl Zeiss Microscopy, LLC |
| 119 | International Fiber Corp. | 602 | FONA International |
| 203/302 | DSM Nutritional Products | 603/702 | CHOPIN Technologies Inc. |
| 204 | Best Cooking Pulses, Inc. | 604 | The Mennel Milling Company |
| 205 | Firmenich Incorporated | 605 | Wenger Manufacturing Inc. |
| 206 | CEREX | 607 | Tree Top, Inc. |
| 207 | Thymly Products, Inc. | 608 | Gold Coast Ingredients Inc. |
| 211 | David Michael & Co. | 610 | Enzyme Development Corp. |
| 212 | Bunge North America | 611 | MGP |
| 213 | CE Elantech Inc. | 613 | Corbion |
| 214 | DuPont Nutrition & Health | 614 | Great Plains Analytical Laboratory |
| 219 | Malt Products Corporation | 616 | Research Products Company |
| 220 | SunOpta | 619 | Bepex International LLC |
| 221 | Penford Food Ingredients | 620 | NP Analytical Laboratories |
| 301/400 | Cablevey Conveyors | 621 | Ingredion Inc. |
| 303 | DSM Food Specialties U.S.A., Inc. | 703/802 | Ardent Mills |
| 304 | Innophos, Inc. | 704 | Radio Frequency Co. |
| 305 | Blue Diamond Growers | 705 | REVTECH |
| 306 | Riviana Foods Inc. | 706 | Budenheim |
| 309 | Baker Perkins Inc. | 707 | Manildra Group USA |
| 310 | Medallion Labs | 710 | QualySense AG |
| 311 | California Natural Products | 713 | Domino Specialty Ingredients |
| 312 | TIC Gums | 715 | Bruker Optics |
| 315 | McCormick & Company, Inc. | 718 | Dakota Specialty Milling |
| 317 | CPM Wolverine Proctor | 719 | NEXIRA |
| 318 | Sensus America, Inc. | 720 | Northern Crops Milling |
| 401 | C.W. Brabender* Instruments, Inc. | 721 | Prayon Inc. |
| 402 | Carmi Flavor & Fragrance Inc. | 804 | GNT USA, Inc. |
| 403 | Palsgaard Incorporated | 805 | VICAM, A Waters Business |
| 404 | Megazyme | 806 | Brolite Products Inc. |
| 405 | Glanbia Nutritional | 807 | Hesco, Inc. |
| 408 | Siemer Specialty Ingredients | 812 | J.Rettenmaier |
| 410 | California Fig Advisory Board | 813 | Church & Dwight Co., Inc. |
| 414 | Texture Technologies Corp. | 814 | Cereal Ingredients Inc. |
| 416 | MANE, Inc. | 815 | BI Nutraceuticals |
| 420 | Grain Processing Corporation (GPC) | 818 | Kudos Blends |
| 500 | Brabender* GmbH & Co. KG | 819 | ICC/MoniQA/HEALTHGRAIN |
| 501/600 | FOSS | 820 | Richardson Milling |
| | | 821 | SPEX SamplePrep |
Visit the 2014 Annual Meeting Exhibition to discover the latest products and services that advance the work of the industry. To help plan your time with the exhibitors and find your desired products and services, please use the following descriptions supplied directly from the exhibiting company. Exhibitors reserving space after this section went to press are listed in your Program Addendum.

Exhibits Hours
Hall BC, Rhode Island Convention Center

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<tr>
<td>Sunday, October 5</td>
<td>5:00 – 7:00 p.m.</td>
<td>Grand Opening Exhibition</td>
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<td>Monday, October 6</td>
<td>4:00 – 7:00 p.m.</td>
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<td>Tuesday, October 7</td>
<td>12:00 – 2:15 p.m.</td>
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Alphabetical Listing of Exhibitors

† AACC International Corporate Member
* Participant in Supplier Innovation Session

517† ADM, 4666 Faries Pkwy, Decatur, IL 62526 U.S.A.; Telephone: 1.800.637.5843; Web: www.adm.com; E-mail: food@adm.com. For more than a century, the people of ADM have transformed crops into products that serve vital needs. Today, 31,000 ADM employees around the globe convert oilseeds, corn, wheat and cocoa into products for food, animal feed, industrial and energy uses.

515† ADM/Matsutani LLC, 4666 Faries Parkway, Decatur, IL 62526 U.S.A.; Telephone: +1.217.451.4377 or +1.630.250.8720; Web: www.fibersol.com; E-mail: info@fibersol.com. Fibersol®, a supplier of soluble dietary fiber, offers a full line of fiber ingredients that can be used to improve the nutritional profile and increase the fiber content of any food application without compromising taste, quality and enjoyment for the consumer.

504* Almond Board of California, 1150 Ninth Street, Suite 1500, Modesto, CA 95354 U.S.A.; Telephone: +1.209.549.8262; Fax: +1.209.549.8267; Web: www.almonds.com; E-mail: staff@almondboard.com; Facebook: www.facebook.com/californiaalmonds; Twitter: @almonds. Consumers worldwide enjoy California almonds as a natural, wholesome and quality food product. The Almond Board of California promotes almonds through its research-based approach to all aspects of marketing, farming and production on behalf of the more than 6,000 California Almond growers and processors.

318† ANKOM Technology, 2052 O’Neil Rd., Macedon, NY 14502 U.S.A.; Telephone: +1.315.986.8090; Fax: +1.315.986.8091; Web: www.ankom.com; E-mail: ntedesch@ankom.com; Facebook: https://www.facebook.com/ANKOMTechnology; Twitter: https://twitter.com/ANKOMTech. ANKOM Technology manufactures and markets analytical instrumentation for the food and feed industry. Our latest system includes automating Total Dietary Fiber analysis following AOAC 991.43, 985.29, 2009.01 and 2011.25. Our Fat and Fiber systems will increase your productivity while reducing labor and cost.

703/ Ardent Mills, 1875 Lawrence Street, Denver, CO 80202 U.S.A.; Telephone: 1.800.851.9618; Web: www.ArdentMills.com. Ardent Mills offers the industry’s broadest range of flours, mixes, blends and specialty products, customized to meet your needs and backed by unrivaled technical support, customer service and the supply assurance of a coast-to-coast network of 40 community mills, three bakery-mix centers and a specialty bakery.

802† Balchem Encapsulates, 52 Sunrise Park Road, New Hampton, NY 10958 U.S.A.; Telephone: +1.845.326.5600; Web: www.balchem.com. Balchem specializes in development and manufacture of microencapsulated solutions for food and produces choline. Proprietary technology enables manufacturers to extend shelf life, enhance bioavailability, lower sodium content and develop innovative products. Our products are used in a variety of applications – nutritional fortification, dough leavening, meat enhancements and sodium reduction.

309† Baker Perkins Inc., 3223 Kraft Ave SE, Grand Rapids, MI 49512-2027 U.S.A.; Telephone: +1.616.784.3111; Fax: +1.616.784.0973; Web: www.bakerperkins.com; E-mail: bpinb@bakerperkins.com; Facebook: facebook.com/bakerperkinsgroup; Twitter: @bakerperkins. Baker Perkins supplies complete process lines and unit machines for breakfast cereals from flakes to co-extruded pillows. Either traditional rotary steam cookers or twin-screw cooker-extruders are used in conjunction with flaking rolls, toasters, shredders, dryers and spray coating units to form versatile plants that can be easily extended.

104 Balchem, 201 Littleton Road, 1st Floor, Morris Plains, NJ 07950 U.S.A.; Telephone: +1.973.867.2140; Fax: +1.973.867.2141; Web: www.balchem.com; E-mail: joe.onell@balchem.com. The BENCE Inc. portfolio consist of naturally derived functional food ingredients with nutritional and technical advantages derived from chicory roots, beet sugar and rice. Key nutritional benefits include ‘less fat,’ ‘less sugar,’ ‘added fiber’ or ‘gluten-free,’ just to name a few. Key technological benefits focus on taste and texture improvements.
619† Bepex International LLC, 333 NE Taft St., Minneapolis, MN 55413 U.S.A.; Telephone: +1.612.331.4370 or 1.800.372.3739; Web: www.BEPLEX.com; E-mail: info@bepex.com; Twitter: @bepexintl. Bepex International is the global leader in material processing systems. With the broadest range of process equipment in the world, our team of process engineers has helped customers realize their potential through process development for decades. We work to advance the usage of whole grains & pulses through enhanced functionality.

204 ‡ Best Cooking Pulses, Inc., 124 10th St NE, Portage la Prairie, MB R1N 1B5 Canada; Telephone: +1.204.857.4451; Fax: +1.204.239.6885; Web: www.bestcookingpulses.com; E-mail: margaret@bestcookingpulses.com; Facebook: http://www.facebook.com/pages/Best-Cooking-Pulses/165336630182583; Twitter: @bestpulses. Canadian family-owned agri-foods company active in the international pulse trade since 1936. BEST gluten-tested pulse flours (pea chickpea lentil bean), protein combining, pea fiber, whole/split pulses. NA raw materials, strong grower relations, proprietary milling. CGC HACCP, Organic, Kosher, & WBEN certified. Pulse ingredients for healthy diets and a sustainable world.

815 BI Nutraceuticals, 2550 El Presidio Street, Long Beach, CA 90810 U.S.A.; Telephone: +1.310.669.2100; Fax: +1.310.637.3644; Web: www.botanicals.com; E-mail: contact@botanicals.com. BI is the largest supplier of botanical ingredients in the U.S., for the food & beverage, dietary supplements personal care, and pet care industries. We manufacture and supply hundreds of botanical powders, extracts, vitamin mineral blends, and more. We are cGMP compliant and SQF, Organic, Kosher, Halal, and Gluten-Free certified.

305 Blue Diamond Growers, 1802 C Street, Sacramento, CA 95811 U.S.A.; Telephone: 1.916.446.8500; Fax: +1.916.446.8332; Web: www.bdingredients.com; E-mail: ingredientssales@bdgrowers.com. Blue Diamond Growers, established in 1910, is the world’s largest processor and marketer of almonds. The Blue Diamond is known for quality and service in over 90 countries. Our industrial products include inshell, brown and manufactured almonds – in a variety of forms for applications across confectionery, bakery, dairy, and snacking.

500† Brabender® GmbH & Co. KG, Kulturst. 51-55, Duisburg 47055, Germany; Telephone: 49-203-7788-0; Fax: 49-203-7788-101; Web: www.brabender.com; E-mail: food-sales@brabender.com. Brabender® is a forerunner in manufacturing the highest quality instrumentation for testing physical properties and quality of materials utilized by the Milling, Baking, Starch industries & more. For sample preparation, R&D, evaluation, quality control, new product development and production environments, Brabender® GmbH & Co. KG is …where quality is measured.

806† Brolite Products Inc., 1900 S Park Av, Streamwood, IL 60107 U.S.A.; Telephone: +1.630.830.0340; Fax: +1.630.830.0356; Web: www.bakewithbrolite.com; E-mail: k.skrzypiec@broliteproducts.com. Brolite Products is an 85-year-old family-owned business supplying high-quality ingredients to the grain-based industries. Our product groups include grain blends, cultures and sours, egg replacers for bakery items, stabilizers for icings and fillings, dough improvers: clean label, natural and organic. Let us blend a custom product just for you!

511† Brookfield Engineering, 11 Commerce Blvd., Middleboro, MA 02346 U.S.A.; Telephone: +1.508.946.6200 or 1.800.628.8139; Fax: +1.508.946.6252; Web: www.brookfieldengineering.com; E-mail: sales@brookfieldengineering.com. Brookfield Engineering is the world’s leading manufacturer of viscometers and rheometers for laboratory and online process measurement and control. Brookfield also offers solutions for both texture analysis and powder flow applications in the form of our low-cost CT3 Texture Analyzer and PFT Powder Flow Tester.

715 Bruker Optics, 19 Fortune Drive, Billerica, MA 01821 U.S.A.; Telephone: +1.978.439.9899; Web: www.bruker.com; E-mail: info@brukeroptics.com; Facebook: www.facebook.com/bruker.corp; Twitter: www.twitter.com/bruker. Cereals are the cornerstone of daily nutrition for most people around the world. Bruker offers solutions for the analysis of wheat, various flour types and co-products based on FT-NIR Spectroscopy. Ready-to-use calibration NIR packages give you results in seconds and are a highly cost-effective solution compared to conventional testing methods.

706† Budenheim, 2219 Westbrooke Drive, Columbus, OH 43228 U.S.A.; Telephone: +1.614.345.2400; Fax: +1.614.345.2440; Web: www.budenheim.com. The world of food is a finer place with Budenheim. For more than 100 years, we’ve provided the best ingredients and strictest quality control to put great and healthy food on the table every day.

505† Buhler Inc., 13105 12th Avenue N., Plymouth, MN 55441 U.S.A.; Telephone: +1.763.847.9900; Fax: +1.763.847.9911; Web: www.buhlergroup.com. Buhler is your global technology partner for the food industry. We are a market leader in processing equipment for various industries including grain milling and extrusion systems. The new Buhler Food Innovation Center, located in Plymouth, MN is a food-grade facility designed for research, education and consumer ready testing.

See our ad on the back of the Sessions/Posters tab.


401† C.W. Brabender® Instruments, Inc., 50 East Wesley Street, South Hackensack, NJ 07606 U.S.A.; Telephone: +1.201.343.8425; Fax: +1.201.343.0608; Web: www.cwbrabender.com; E-mail: foodsales@cwbrabender.com. C.W. Brabender® is a forerunner in manufacturing the highest quality instrumentation for testing physical properties and quality of materials utilized by the Milling, Baking, Starch industries & more. For sample preparation, R&D,
evaluation, quality control, new product development and production environments, C.W. Brabender* Instruments, Inc. is ...where quality is measured.

See our ad on the inside front cover.

301/400 Cablevey Conveyors, P.O. Box 148, 2397 Hwy 23, Oskaloosa, IA, 52577 U.S.A.; Telephone: +1.641.673.8451; Fax: +1.641.673.7419; Web: www.cablevey.com. Conveying breakfast cereal for top processors in the world requires gentle handling of valuable materials. Cablevey Conveyors specializes in conveying friable materials at various points in your process line. The highly efficient system drags materials within enclosed tubes safely to the next destination. Urethane wiper discs eliminate any residual fines.

See our ad on the front of the Recognition tab.

105† C-Cell by Calibre Control International Ltd., 5-6 Asher Court, Lyncastle Way, Warrington, Cheshire WA4 8ST United Kingdom; Telephone: + 44 1925 860401; Web: www.c-cell.info; E-mail: info@c-cell.info; Twitter: @CalibrePaul. C-Cell is the world’s most advanced system for monitoring Bakery product quality. C-Cell provides data and images of the structure of Bakery products. New developments include Crust Measurements and distribution ‘scoring’ for inclusions such as Fruit, Nuts and ingredients. Visit our stand or Sundays Bread scoring workshop for further info.

410 California Fig Advisory Board, 392 West Fallbrook Avenue, Suite 105, Fresno, CA 93711 U.S.A.; Telephone: +1.559.243.8600 or +1.559.281.0440; Fax: +1.559.243.8605; Web: www.californiafigs.com; E-mail: kstockli@californiafigs.com; Facebook: California figs; Twitter: #CAFigs. The California Fig Advisory Board promotes awareness and the use of California-produced dried fig and fig ingredients domestically and internationally. Ingredients: Whole Figs, Fig Paste, Fig Juice Concentrate, Fig Nuggets, Fig Pieces and Fig Powder. Contact us for your product development needs. When you think Figs, think California!

311† California Natural Products, 1250 East Lathrop Road, Lathrop, CA 95330 U.S.A.; Telephone: +1.209.858.2525; Web: www.cnp.com; E-mail: john.ashby@cnp.com. CNP specializes in conveying friable materials at various points in your process line. The highly efficient system drags materials within enclosed tubes safely to the next destination. Urethane wiper discs eliminate any residual fines.

521 Carl Zeiss Microscopy, LLC, One Zeiss Drive, Thornwood, NY 10594 U.S.A.; Telephone: 1.800.233.2343; Web: www.zeiss.com/microscopy; E-mail: micro@zeiss.com; Facebook: www.facebook.com/zeissmicroscopy; Twitter: www.twitter.com/zeiss_micro. ZEISS provides measuring devices with NIR technology for quality control of grain, barley, corn, wheat, flour and other agricultural and food products. The CORONA Extreme and InProcess Software are ideal for measurement of the ingredient composition and color of bulk materials in pipes, on conveyer lines and for Incoming goods.

402 Carmi Flavor & Fragrance Inc., 6030 Scott Way, Commerce, CA 90040 U.S.A.; Telephone: +1.323.888.9240 or 1.800.421.9647; Fax: +1.323.888.9339; Web: http://www.carmiflavors.com; E-mail: sales@carmiflavors.com; Facebook: http://www.facebook.com/carmiflavors; Twitter: @carmiflavors. Since 1979 Carmi Flavors has been an industry leader in supplying flavors and fragrances to the food industry. We are dedicated to enhancing consumer products through innovative and health-conscious ingredients, finished products and professional grade equipment.

213 CE Elantech Inc., 170 Oberlin Ave. N., Suite 5, Lakewood, NJ 08701 U.S.A.; Telephone: 1.888-CE-CHEM (232-4676) or +1.732.370.5559; Fax: +1.732.370.3888; Web: www.cee-lantech.com; E-mail: sales@ceelantech.com. CE Elantech will feature Thermo Scientific Flash 2000 N/Protein Analyzer. The Flash is ideal for analysis of all organic samples (solid and liquid). CE Elantech also distributes Next Instruments Near-Infrared Analyzers and SeedCount Image Analyzers for rapidly & accurately analyzing a sample of grain to determine its principal characteristics.

814† Cereal Ingredients Inc., 4720 South 13th St., Leavenworth, KS 66048 U.S.A.; Telephone: +1.913.727.3434; Fax: +1.913.727.3681; Web: www.cerealingredients.com. Cereal Ingredients is a centrally located, independently owned business with two manufacturing BRC rated “A” facilities. Products are customized to your requirements, including: Soy, Pea and Wheat crisp to add protein, fiber and/or texture. Our Flav-R-Bites deliver flavor and color excitement to your finished products. See us to discuss your specific needs.

206† CEREX, Moselen Strasse 8, Wiedlisbach, CH-4537 Switzerland; Telephone: +41 31 511 3434; Web: www.cerex.ch. CEREX is the leading producer of puffing-systems. We also constantly increase our market share for cooking lines. CEREX offers you the most efficient industrial rotary cookers. In combination with our flaker and toaster, you are setting new quality standards at competitive prices. CEREX, your partner in processing of breakfast cereals.

603/702† CHOPIN Technologies Inc., 19955 West 162nd Street, Olathe, KS 66062 U.S.A.; Telephone: +1.913.707.5000; Web: www.chopin.fr; E-mail: itrood@chopininc.com. CHOPIN Technologies, a Tripette & Renaud subsidiary, is specialized in methods and equipment for the quality control of cereals, flours, and their by-products. The company offers products and services to cereal industries needing to carry out analyses to satisfy operational requirements and current regulations and to meet customer specifications.

Clasen Quality Coatings, Inc., 5126 West Terrace Drive, Madison, WI 53718 U.S.A.; Telephone: 1.877.459.4500 or +1.608.467.1130; Fax: 608.249.4573; Web: www.clasen.us; E-mail: info@clasen.us; Facebook: https://www.facebook.com/pages/Clasen-Quality-Coatings/142576942476546; Twitter: https://twitter.com/ClasenCoatings. Clasen Quality Coatings (CQC) is a manufacturer of confectionery coatings, chocolate and fillings. Our product lines include varieties of milk, dark, white, yogurt, and peanut butter, colored and flavored formulations. We also offer nutritionally enhanced, all-natural, no sugar added and trans-free coatings.

Corbion, 7905 Quivira Rd., Lenexa, KS, 66221 U.S.A.; Telephone: 1.800.669.4092; Web: www.corbion.com; E-mail: info@caravaningredients.com. Built on the strong foundations of Caravan Ingredients and Purac, Corbion has a wealth of expertise in biobased food ingredients and biochemicals. Corbion is the global market leader in lactic acid and derivatives and lactides, and a leading company in functional blends containing enzymes, emulsifiers, minerals, and vitamins.

CPM Wolverine Proctor, 251 Gibraltar Rd., Horsham, PA, 19044, U.S.A.; Telephone: +1.215.443.5200; Fax: +1.215.443.5206; Web: www.wolverineproctor.com. E-mail: sales@cpmwolverineproctor.com. Offering a complete line of energy-efficient equipment, including the new ultra sanitary design SCF III dryer, dryers, coolers, impingement ovens (jet-tube or parajet nozzle), Jetzone fluid bed dryers/ puffers/toasters, shredding mills, flaking mills, and batch cookers. Our Tech Center offers continuous and batch testing for a wide range of products.

Dakota Specialty Milling, 4014 15th Ave NW, Fargo, ND 58102 U.S.A.; Telephone: 1.800.426.7045 or +1.701.282.9656; Fax: +1.701.282.9743; Web: www.dakotaspecialtymilling.com; E-mail: sales@dakotaspecialtymilling.com. Dakota Specialty Milling is the trusted global supplier of custom milled whole-grain, multigrain and ancient grain blends for bakers and processors of variety breads, hot and RTE cereals, crackers, granolas, nutrition bars, snacks, and donuts. We focus on creating and delivering the highest levels of quality, consistency, performance and value.

David Michael & Co., 10801 Decatur Road, Philadelphia, PA 19154 U.S.A.; Telephone: +1.215.632.3100 or 1-800-DM-FLAVORS; Fax: +1.215.637.3920; Web: www.dmlflavors.com; E-mail: dmlflavor@dmlflavors.com. Innovation Starts Here®, at David Michael & Co. As a leading global manufacturer of flavors, stabilizers and natural colors, we have over 118 years of experience, providing everything from vanilla to savory flavors, and trends research to total product development. Let us put our innovation to work for you!

Domino Specialty Ingredients, One North Clematis Street, Suite 400, West Palm Beach, FL 33401 U.S.A.; Telephone: +1.561.366.5130 or +1.561.248.1852; Web: www.dominospecialtyingredients.com; E-mail: lynda.law@asr-group.com. Domino Specialty Ingredients, producing high quality, functional sweetener solutions: certified organic sugars, both liquid & dry; molasses, honey & malt as well as organic tapioca, agave, rice, rice syrup, rice bran, rice flour, rice syrup solids. We proudly offer Fair Trade Sugars. Visit our booth or website for more information.

See our ad on page 12.

DSM Food Specialties U.S.A., Inc., 3502 North Olive Road, South Bend, IN 46628 U.S.A.; Telephone: +1.800.522.8110; Fax: +1.219.232.2468; Web: www.dsm-foodspecialties.com. DSM offers you a complete portfolio of the best food enzymes, providing maximum flexibility to meet your unique needs. Millions of people consume products with our ingredients every day; our advanced ingredients make an important contribution to the world’s favorite food brands. Please visit www.dsm-foodspecialties.com for more information.

DSM Nutritional Products, 2105 Technology Dr., Schenectady, NY 12308 U.S.A.; Telephone: 518.372.5155; Web: www.dsm.com; E-mail: jaleen.sherrange@dsm.com; Fortitech® Premixes by DSM, is the one-stop source for food, beverage and pharmaceutical manufacturers looking to fortification as a way to differentiate their products from their competition, as well as helping meet the nutritional needs of consumers around the world. Certified FS 22000 globally, more information is available at www.fortitechpremixes.com.

See our ad on page 4.

DuPont Nutrition & Health, 4 New Century Pkwy., New Century, KS, 66031 U.S.A.; Telephone: 1.800.255.6837; +1.913.764.8100; Web: dupont.com. At DuPont, our ingredients provide enhanced bioprotection, improved nutritional profile, and better taste and texture with greater cost efficiency and lower environmental impact, meeting the needs of manufacturers of food and beverages, dietary supplements, and pet food worldwide.

Enzyme Development Corp., 505 8th Ave – Suite 1500, New York, NY 10018-6505 U.S.A.; Telephone: 212.736.1580; Web: www.enzymedevelopment.com; E-mail: info@enzymedevelopment.com. Manufacturer of a wide range of baking enzymes to enhance quality or optimize production. Headquarters in New York City with production & labs in Scranton PA. On-site assistance available. Please contact us.


Firmenich Incorporated, P.O. Box 5880, Princeton, NJ 08540 U.S.A.; Telephone: +1.609.452.1000; Fax: +1.609.452.6077; Web: www.firmenich.com; E-mail: nicole.derrick@firmenich.com. As a leading flavor supplier, Firmenich’s expertise goes beyond taste: it is the sum of our passion, inspiration and knowledge that allows us to create the best flavors and most innovative technologies for the bakery and cereal market.
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