

## EVENT REPORT

**Second ICC Latin American Cereal Conference: LACC 2011**Concha Collar<sup>1</sup> & Ximena López<sup>2</sup><sup>1</sup> ICC President 2007–2008, ICC National delegate of Spain, IATA-CSIC, Spain<sup>2</sup> ICC National Delegate of Chile, ICC Region Representative for Latin America, Granotec Chile S. A., Chile

COLLAR C & LÓPEZ X (2011). Second ICC Latin American Cereal Conference: LACC 2011. *Quality Assurance and Safety of Crops & Foods*, 3, 168–171

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The International Association for Cereal Science and Technology (ICC) and the Granotec Group co-organized the Second ICC Latin American Cereal Conference 'Keys for Cereal Chain Innovation' – LACC 2011 – in Santiago de Chile, Chile, from 10 to 13 April 2011 with the support of Gobierno de Chile, Fundación para la Innovación Agraria (FIA). The Conference (<http://www.lacerealconference.com>) was held in the W Santiago Hotel, and was co-chaired by Concha Collar, ICC President 2007–2008 (Spain), Ximena López, ICC National Delegate (Chile), and Eugenia Muchnik, Executive Director FIA (Chile). The International Organizing Committee was chaired by Miguel Ángel González (Granotec Group, Chile) and vice-chaired by Martha Cuniberti (INTA, Argentina), and the International Scientific Committee was chaired by Marina Carcea (ICC President, Italy) and vice-chaired by Stanley Cauvain (ICC President 2005–2006, United Kingdom).

ICC is a key player in the dynamics and progress-taking place in the field of cereal science and technology worldwide. Over the last past years, ICC has been very active and very much engaged in new activities and is experiencing a renaissance and now actively promoting its work around the world. The leadership and participation of ICC in international projects and networks of excellence, establishment, and publishing of new standard methods for food quality and safety, foundation of the ICC Academy and awards, setting up of analytical services, task forces and summits on prioritized matters have helped the Association to consolidate a growing international network and to position ICC as the repository of expertise in the science and technology of cereal grains, our major food and feed staple.

ICC organizes and endorses international events to act as to foster and grow multi-disciplinary and multi-stakeholder cooperative initiatives with other international organizations and national and local bodies, so as to attain identified cereal quality and food security goals worldwide.

As an expression of this international cooperation, ICC has strengthened the links already established with Latin

America and has hosted for the second time a Cereal Conference in a Latin American country. Four years after the very successful first Cereal Conference held in Rosario in Argentina, Granotec – a leading Chilean group in Nutrition and Biotechnology took up the responsibility as local organizer in order to provide a neutral international open forum on the latest key topics in cereal science and technology in Chile and Latin America. In a full 3 days meeting, LACC 2011 was aimed at featuring the latest advances in cereal science and technologies worldwide and at providing opportunities for researchers from universities, institutes, government, and industry, and all professionals involved in the cereal field to take an active part in this Event in order to acquire and exchange knowledge, to network and socialize. The Conference provided an international scenario to discuss future opportunities and needs that stimulates the approach between research and industry, manufacturers and traders, producers and users from countries all over the world. In this open forum, the scientific and technological disciplines of the cereal sectors can benefit and advance through technological exchange, improved communication, and strategic collaborations.

LACC 2011 comprised invited lectures given by highly reputed scientists, oral presentations, posters, and an exhibition of process and laboratory equipment, cereal industry products and publications. The programme also included a Symposium and Exhibition on Bioingredients from Latin America SEBLA, ICC Committee Meetings and the ICC General Assembly as pre-Conference events. The Conference topics covered the major aspects of the cereal production chain, from raw materials to end products, with special attention paid to Nutrition and Health, Biotechnology, Genetics and Cereal Chemistry, Technological processes, Equipment and Methods for Quality Assessment and Safety and Regulations, as topics to debate in the framework of the Conference. Additionally, the various technical and poster sessions provided excellent opportunities for collaboration between countries, especially as there was simultaneous translation Spanish–English, English–Spanish. Six

associated sponsors (FAO, Chilean Ministry of Agriculture, Sna, Sofofa, Chilealimentos, and Fundación Imagen de Chile), and 17 exhibitors supported LACC 2011.

The Conference attracted some 500 participants from 30 countries from across the continents, and thus provided a transnational global approach to current hot topics in cereal science and technology from both traditional and innovative perspectives. There were a total of 132 presentations, comprising 53 oral presentations and 79 posters from authors around the globe. This guaranteed a most enriching international programme, which was compiled in the book of abstracts. The participating countries with the largest number of oral and poster presentations were Argentina (29), Chile (18), United States (11), and México (10).

### Welcome address and official opening ceremony

The Opening Ceremony started with words of welcome to the delegates from the following dignitaries: Miguel González (President of Granotec Group, Chile), Marina Carcea (ICC President, Italy), Alejandro Daly (ALIM Secretary General), José Antonio Galilea (Minister of Agriculture, Government of Chile), Jorge Diaz (Subsecretary of Public Health, Government of Chile), and Pauline Kantor (General Coordinator of 'Elige Vivir Sano' Program, Government of Chile). The second part of the opening ceremony comprised awards by the ICC Academy under the umbrella structure of the ICC. The ICC Academy awarded Fellow Membership certificates to Ravi Chibbar (Canada), Concha Collar (Spain), Meinolf Lindhauer (Germany), and Julie Miller Jones (USA). The last part of the opening ceremony included three plenary lectures delivered by highly reputed international speakers. Lu Ann Williams from Innova Market Insights (the Netherlands) gave a talk titled 'Global functional cereal-based products, 2011 and beyond', Ricardo Uauy from INTA (Chile) presented a speech on 'Cereals in human nutrition in the 21st century', and Peter Jones from the Richardson Centre for Functional Food and Nutraceutical (Canada) delivered a presentation titled 'Innovations in the production of cereal-based foods'.

### Track 1: nutrition and health

Nutrition and health comprised the major topic of the Conference (18 oral presentations and 20 posters), in two sessions. The sessions discussed the roles of cereal grains in maintenance and improvement of health and disease prevention as whole grain products, functional and nutraceutical cereal-based foods, and identified new trends in cereal-based foods and the

market evolution to meet consumers' requirements. Session 1 was chaired by Concha Collar (Spain) who delivered a keynote lecture on 'Revisiting minor cereals and pseudocereals as reinvented healthy and convenient value added goods'. Three invited speakers illustrated international initiatives related with challenges in nutrition and health: Meinolf G. Lindhauer (Germany) talked on 'The EU Integrated Project HEALTHGRAIN: Intention, Structure and Major Results', Denise Hauge (USA) presented 'Changing the Nutrition Landscape: Programs and Activities of the Grains for Health Foundation', and Maureen Olewnik (USA) spoke on 'Sorghum: A Nutritious Gluten-Free Grain', on behalf of Michael Tilley (USDA). Marcela Alviña (Chile) as co-chair of the session introduced two other speakers who talked on a Nutrition Intervention Strategy in Progress in Cuba and the Preparation of Fresh Pasta with High Content of Resistant Starch and Low Glycemic Index. Ximena López (Chile) summarized the session and drew the conclusions. Session 2 was conducted by Okky Chung (USA) who delivered a presentation titled 'Cereal Grains: Nutrient Sources for Human Wellness and Disease Prevention'. David R. Lineback (USA) presented 'Implementation Issues of the Codex Fiber Definition: Towards Resolution'. Health Benefits and Innovative Production of Resistant Starch was emphasized by Perry Ng (USA), while Marcela Alviña (Chile) stressed the 'Physiological Effects of Crackers Containing Resistant Starch and Probiotics'. 'The Role of the Food Technologist in Nutrient Intervention Studies' was covered by Vicky Solah (Australia), and Elizabeth A. Arndt (USA) revised 'The Nutritional and Functional Attributes of Whole Grains for Product Development'. Gary Fulcher (Canada) summed up the conclusions derived from the presentations. The last part of the session included a keynote lecture on 'New ideas to launch successful cereal-based foods', given by Javier Morán (Spain), and five other presentations, which summed up by Alicia de Francisco (Brazil). 'The Development of New Healthy Products to Meet Consumer Needs' was presented by Juan Álava (Spain). Mary Ellen Camire (USA) talked on 'Grain-Based Foods to Combat Childhood Obesity'. 'Heat Damage of Bakery Products from Different Wheat Species' was covered by Alyssa Hidalgo (Italy), Monica Russo (Uruguay) assesses the 'Nutritional Composition of Wheat Products in Uruguay', and Manuel Olivares (Chile) gave an overview on 'Micro-Nutrients in the Flours and Fortification Programs'.

### Track 2: biotechnology, genetics, and cereal chemistry

Recent advances in genomics technologies and functional studies have unraveled the genetic factors underlying several

major and minor grain components. This session co-chaired by Ravi Chibbar (Canada), Roberto J. Peña (México), Martha Cuniberti (Argentina), and Iván Matus (Chile) focussed on the grain constituents, processing technologies, molecular biological strategies, and biotechnological approaches that can be used to improve grain constituents associated with human nutrition, improved human health and industrial applications. The session consisted of two keynote lectures, seven selected oral presentations, and 28 posters in which the diversification of the use of cereal grains and subsequent contribution towards a healthier society through biotechnological improvements were shown. The keynote lecturers Gary Fulcher and Ravi Chibbar, both from Canada, delivered respective papers on 'Opportunities, issues, and new directions for cereal processors – the interface between health and processing' and 'Genomics strategies for cereal grain quality Improvement to diversify cereal crop utilization'. Specific topics tackled during the session included Current Developments and Future Perspectives in Grain Quality of Latin American Wheat Cultivars, Quality Crop Report 2010–2011, bread quality predictors and Wheat Quality Improvement, Folate Content in pseudocereals versus Cereals and Changes during Processing, the Polyphenolic Composition of Colored Maize Grains, and Gliadins and Glutenins of commercial and varietal Wheat flours. Roberto J. Peña (México) conducted the panel discussion and wrapped up the session.

### **Track 3: technological processes, equipment, and methods for quality control**

This session co-chaired by Stanley Cauvain (UK), Arnaud Dubat (France), Mark Bason (Australia), Marina Carcea (Italy), and Abel Guarda (Chile) examined how new technologies are exploiting the diverse nature of grains for the production of fuel and food. Key to that exploitation is being able to measure the properties of grains, dough and flours in a manner, which allows practical prediction of their functionality in a range of end-product uses. Relevant applications of the latest measuring technologies were discussed in three keynotes, seven oral presentations, and 28 posters. Marina Carcea gave a keynote titled 'Quality creation and evaluation in the cereals productive chain'. Arnaud Dubat talked on 'Innovative tools to improve communication between Bakers and Millers', and Mark Bason delivered a lecture titled 'New rheological methods for assessing flour quality'. Subtopics deserving special note focused on methods for pH determination of rice grains, grain grading

methods using hyperspectral imaging, phospholipid extraction from oat flakes using supercritical fluid extraction, and new methods to control grain fractionation by tissue-specific markers. The effect of bran addition on rheological properties of wheat dough and bread quality properties, the impact of defatting oat on  $\beta$ -glucan functionality, the study of the influence of the milling process on the distribution of deoxynivalenol content in pasta and the automation of laboratory analysis with enhanced options. A panel discussion took place after the presentations, and the main conclusions were summarized by Stanley Cauvain.

### **Track 4: safety and regulations**

Food safety, which is of critical concern globally, cannot be achieved without appropriate risk-based regulatory policies being implemented and enforced. Preventive approaches and good agricultural/manufacturing and hygienic practices are key elements to ensure food safety along the food chain. Sensitive analytical methodologies are important to detect and monitor contaminants, whether chemical or microbiological. In this session aspects of food safety were discussed, from concept through regulations to implementation, with an emphasis on cereals and cereal foods. The session that was introduced, conducted, and wrapped up by David Lineback (USA). It included two keynotes, six oral presentations, and three posters. Keynotes were delivered by David Lineback (USA) and Maya Piñero (Chile) who talked, respectively, on 'Food Safety and Regulations: From Concept to Realization' and 'Codex Alimentarius and International Food Safety Regulations for Cereals'. The following six presentations made up the session: 'US Food Safety Regulations', by Maureen Olewnik (USA), 'Food Safety – ConAgra Mills' by Robert (Skip) Seward II (USA), 'Health Claim Regulations of Bioactive Ingredients Used in the Formulation of Functional Foods' by Lutz and Henríquez (Chile), 'USA Mycotoxin Regulations – Prevention and Control' by Gonzalo Ibañez (Chile), 'Prevention, Control and Regulations of Mycotoxins in Argentina' by Sofia Chulze (Argentina), 'Study of Mycotoxin in Stored Corn Grains' by Ricca and colleagues (Argentina).

### **Congress Gala Dinner**

The Conference Cocktail and Gala Dinner were held at the Club de Golf Sport Francés located in Vitacura, Santiago de Chile. Delicious Chilean foods and wines were served, and ethnic dances and songs provided the entertainment to the formal dinner. Participants enjoyed remarkable foods, entertainment, and socializing. The local organizers thanked

the co-chair of the Conference, the vice-president of the International Organizing committee and the chairs of the sessions for their considerable organizational and scientific inputs to the success of the Conference.

### **Closing ceremony**

The closing ceremony was conducted by Ximena López (Granotec, Chile), ICC National Delegate of Chile, who briefly summarized main achievements, drew conclusions, and thanked all the participants and supporters of the

Conference. She also made an open call for organizing the third ICC Latin American Cereal Conference. An expression of interest by Brazil was noted.

### **Acknowledgements**

The authors wish to thank all those involved for their contribution to the organizational and scientific success of LACC 2011.