

## Notes from Australia

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During the first week of August the Australian grains industry had a full plate of offerings as Melbourne was host to both the 57th Australian Cereal Chemistry Conference ([www.raci.org.au/division/cereal/accc-57/Cereal\\_Program\\_2007.pdf](http://www.raci.org.au/division/cereal/accc-57/Cereal_Program_2007.pdf)) and the Agriculture Australia Conference (Ag Australia; [www.agricultureaustralia.com.au/presentations/agriculture\\_australia\\_2007](http://www.agricultureaustralia.com.au/presentations/agriculture_australia_2007)). The program at Ag Australia

started with a discussion on the mega trends shaping consumer behavior. Other topics covered were the key areas of climate change, biotechnology, changes for the wheat exporting structure, and, as you might expect at any conference this year, a discussion on biofuels and the competition between fuel, feed, and food. In short, the conference covered a full circuit of the hot issues facing grain handlers and ingredient suppliers in the cereal food supply chain.

These discussions were held against the background of changes in Australian wheat marketing arrangements and reviews of state moratoriums on planting genetically modified (GM) canola. Until recently Australian wheat marketing was handled by a single desk managed by AWBI. Currently the Commonwealth Minister for Agriculture holds veto power over shipments of bulk wheat with the expectation that a new entity (or a demerged AWBI) will be formed to manage a single desk before March 2008. Other recently announced changes involve the deregulation of bag and container exports, the benefits of which have been shown to include the option to manage identity preservation (e.g., grade), improved inventory management and cash flow, varietal and functional segregation, and significant freight advantages for Australia (compared to the United States) when shipping to Asia. And while global wheat prices are increasing, the long drought may make this a limited advantage for the grains industry in Australia.

The rollout of food biotechnology crops in Australia has been restrained by state imposed moratoriums. Most states have reviews underway to consider lifting the moratoriums. This would have the effect of allowing planting of GM canola (GM cotton is very successful but designated as a fiber crop) in the not too distant future.

It was no surprise that at the Australian Cereal Chemistry Conference similar topics were also featured on the program. In the area of biotechnology, the focus was on the tools and capabilities of understanding the grain genomes and the emerging

technologies of genomics in evaluating quality characteristics in cereals. Research using functional genomics to evaluate grain quality attributes was reported by several research groups ([www.scu.edu.au/research/cpcg/sxn3/staff.php?id=1](http://www.scu.edu.au/research/cpcg/sxn3/staff.php?id=1) and [www.acpfg.com.au/nutriomics/30\\_group/fincher\\_geoff.htm](http://www.acpfg.com.au/nutriomics/30_group/fincher_geoff.htm)). Analysis of the DNA of the major cereals is increasing the understanding of the basis of grain quality at the gene level. Differences in the level of expression of the gene may be used to explain differences in processing and other end use characteristics. Particular interest is focused on developing and germinating grains with the expectation that these stages will be most relevant to grain quality. Studies in rice have shown that quality traits such as fragrance and gelatinization temperature can be explained by DNA sequence differences. For example, all genes for rice fragrance have a similar base pair sequence deletion, suggesting a common parent in history. Similar types of information are anticipated to come from work that is ongoing for wheat and barley.

Concerns about obesity and type II diabetes were covered in a session on health and nutrition. Similar to the North American experience, Australian consumers are driven by convenience. Studies of dietary preferences have shown comparable results to other global studies, such as the fact that consumers are often confused about healthy eating messages. Messages relating to carbohydrates and glycemic index are most often misunderstood. The challenges associated with low carbohydrate diets that have occurred in North America are not as much of a problem in Australia, but there is still much confusion about what carbohydrates really are. The research study report showed that



*Newport Scientific booth, Bronwyn Elliot and Rodney Booth.*



*AACC International booth, Robert Cracknell, and two unknown customers.*

some people don't associate sweets (candy) and soft drinks (sodas) with carbohydrates, and yet some think that eggs and milk are carbohydrates. There are renewed efforts underway to change consumer attitudes in relation to the consumption of grain-based foods.

Australian wheat has been very successful in a variety of domestic and export markets. However, the market for sponge and dough breads has proved elusive to Australian wheat exporters. A popular session on baking research started with an update on Canadian (Nancy Edwards, Canadian Grain Commission) and U.S. (Craig Morris, USDA/ARS Western Wheat Quality Laboratory) activities. Standard "graph" methods have been used to describe the wheat varieties, and while in the USA the instrument of choice is the mixograph, the Australian labs report studies using the Farinograph, the Extensograph, and the DoughLAB. Other studies reported comparative studies between a micro doughLAB (4 g flour) and the regular doughLAB (300 g) bowl. The smaller size is expected to appeal to breeders with limited supplies available for testing.



*Left to right, Nancy Edwards (Canadian Grain Commission), Bronwyn Elliot (hidden), Tony Blakeney (Down Under Section chair), and Helen Allen (AACC International member and NSW Department of Primary Industries).*

A full program including the outstanding contributions presented in posters is available on the website and proceedings will also be available ([http://www.raci.org.au/division/cereal/accc-57/Cereal\\_Program\\_2007.pdf](http://www.raci.org.au/division/cereal/accc-57/Cereal_Program_2007.pdf)).

Out on the exhibit floor, AACC International was pleased to find *The RVA Handbook* (<http://interactive.aaccnet.org/source/orders/index.cfm?SKU=27540>) featured at the Newport Scientific booth. Other interest in the RVA world was the announcement that Pertin Instruments would be taking over the reins at Newport Scientific, although we should expect to see Rodney Booth and the other familiar Newport faces continuing to provide ongoing service and advice.



*Left to right, Graeme Crosbie (Dept. Agriculture and Food WA and editor of AACC International's RVA Handbook) and Robert Henry (AACC International Biotechnology Division and Down Under Section member).*

As AACC International heads to Hawaii for the annual meeting next year, readers might want to consider a longer (Grand?) Cereal Pacific Tour by attending the 58th Australian Cereal Chemistry Conference ([www.cerealchem08.eventplanners.com.au/](http://www.cerealchem08.eventplanners.com.au/)), to be held on the Gold Coast, August 31–September 4, 2008, and then following on to Hawaii.

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**Anne Bridges** received her academic training in Australia and Canada. She is chair of the AACC International technical committee for biotechnology methods. She has participated in many international conferences and discussions regarding the importance of validated testing of agricultural biotechnology traits. Some of her recent activities include participation in ISO discussions on standards elaborated by CEN; in the Working Group on Biotechnology and the CCMAS discussions at Codex; and in ILSI training programs and symposia in Brazil, Argentina, Columbia, Singapore, India, and China. She has worked in health care and consumer food products for a number of companies including 3M and General Mills Inc. She is based in Australia and shares her time between consulting for biotechnology issues and humanitarian relief work. Anne can be reached at [annebridges001@earthlink.net](mailto:annebridges001@earthlink.net).