

June 2017 Canadian Barley Symposium/NABRW Winnipeg

Conference Presentations

Session 1: Barley Agronomy /Abiotic Stresses

John O'Donovan, Agriculture & Agri-Food Canada, Lacombe, AB.

"Optimizing agronomic practices to improve yield and quality of malting barley".

Blakely Paynter, Department of Agriculture and Food, Western Australia.

"Changing the perceptions of Western Australian barley growers to sowing their barley at more than 100 plants/m²".

Breanne Tidemann, Agriculture & Agri-Food Canada, Lacombe, AB.

"Response of malting barley cultivars to increasing nitrogen rates in western Canada".

Ludovic J.A. Capo-chichi, InnoTech Alberta Inc., Vegreville, AB.

"Abiotic stress resistance in spring barley: Cases of drought and cold tolerance"

Session 2: Breeding

Alek Choo, Eastern Cereal and Oilseed Research Centre, Ottawa, ON.

"Barley breeding and research in Eastern Canada".

Ana Badea, Brandon Research and Development Centre, AAFC, Brandon, MB.

"The art of breeding Canadian barley: past, present and future".

Crispin Howitt, CSIRO Agriculture and Food, Canberra, Australia.

"KebariTM, gluten-free barley: lab to supermarket".

Sarah de Vos, New Heritage Barley Centrum, John Innes Centre, Department of Crop Genetics, Norwich, UK.

“Looking to our past heritage for tomorrow’s new barley varieties”.

Duane Falk, Department of Plant Agriculture, University of Guelph, Guelph, ON.

“Re-domesticating of wild barley as new sources of novel genetic diversity”.

Jerome D. Franckowiak, University of Minnesota, Twin Cities, MN, USA.

“Midwestern two-rowed spring barley: past and future”.

Session 3: Malting, Brewing and Distilling in 21st Century

Xiang S Yin, Rahr Corporation, Shakopee, MN, USA.

“A look at opposing forces for malt quality demands and challenges”.

Panel Discussion:

Mary Jane Maurice, Malteurop North America, Milwaukee, WI, USA

Chris Swersey, Brewers Association, Salmon, ID, USA

Session 4: Posters

P2. Variation in host resistance and fungicide sensitivity for Canadian prairie populations of the causal agents of net and spot form of net blotch of barley

Akhavan¹, T.K. Turkington², H. Askarian¹, S.V. Kher¹, A. Tekauz³, K. Xi⁴, J.R. Tucker⁵, W.G. Legge⁵, H. Randy Kutcher⁶, and S.E. Strelkov¹.

¹Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada; ²Agriculture and Agri-Food Canada, Lacombe Research and Development Centre, Lacombe, AB, Canada; ³Agriculture and Agri-Food Canada, Cereal Research Centre, Winnipeg, MB, Canada; ⁴Alberta Agriculture and Forestry, Field Crop Development Centre, Lacombe, AB, Canada; ⁵Agriculture and Agri-Food Canada, Brandon Research and Development Centre, Brandon, MB, Canada, and ⁶Crop Development Centre, University of Saskatchewan, Saskatoon, SK, Canada

P3. Evaluation of yield components under waterlogging conditions in two-row barley (*Hordeum vulgare* L.)

Borrego-Benjumea¹, W.G. Legge¹, M. Zhu², M. Zhou³, J. Tucker¹, A. Carter¹, J. Sangha¹ and A. Badea¹

1Agriculture and Agri-Food Canada, Brandon Research and Development Centre, Brandon, MB, Canada; 2Yangzhou University, Yangzhou, Jiangsu, China; 3Tasmanian Institute of Agriculture and School of Land and Food, University of Tasmania, Prospect, TAS, Australia.

P6. Towards durable leaf scald resistant Western Canadian barley cultivars

P.E. Eckstein¹, L.J. Griffith¹, X. Zhang¹, T.K. Turkington², N. Rauhala², M. Colin¹, D. Voth¹, B.G. Rossnagel¹, A.D. Beattie¹

1 Department of Plant Sciences/Crop Development Centre, Saskatoon, SK, Canada

2 Lacombe Research and Development Centre, Lacombe, AB, Canada

P11. Brewers' spent grains as a substrate in the production of koji for use in a miso-style condiment

Joel Lamoureux Red River College Culinary Research & Innovation; Mavis McRae, Red River College Culinary Research & Innovation and Lee Anne Murphy, Manitoba Agri-Health Research Network Inc

P13. Quality of malting barley grown in New York

Aaron Macleod¹ and Gary Bergstrom²

1Hartwick College Center for Craft Food and Beverage, Oneonta, NY, USA

2School of Integrative Plant Science, Cornell University, Ithaca, NY, USA

P14. Comparison of commercial immunoassay kits for determination of deoxynivalenol in barley and malt

Aaron MacLeod, and Colin Wasacz

Hartwick College Center for Craft Food & Beverage, Oneonta, NY, USA

P26. Effect of Plant Growth Regulator Application on Yield and Quality of Malting Barley

B.D. Tidemann¹, J.T. O'Donovan¹, M. Izydorczyk², T.K. Turkington¹, L. Oatway³, B. Beres⁴, R. Mohr⁵, W. May⁶, K. Neil Harker¹, E.N. Johnson⁷, H. de Gooijer⁸

1Agriculture & Agri-Food Canada (AAFC), Lacombe, AB, Canada, 2Canadian Grain Commission, Winnipeg, MB, Canada, 3Alberta Agriculture & Forestry, Lacombe, AB, Canada, 4AAFC, Lethbridge, AB, Canada, 5AAFC, Brandon, MB, Canada, 6AAFC, Indian Head, SK, Canada, 7Formerly AAFC, Scott, SK, Canada, 8AAFC, Coordinating biologist at Scott, SK, Canada.

P28. An overview of scald and net blotch resistance screening at Lacombe and Edmonton, Alberta, Canada

T.K. Turkington¹, K. Xi², F. Capettini², P. Juskiw², W.G. Legge³, J. Nyachiro², A. Badea³, and A.D. Beattie⁴

¹Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, Lacombe, AB; ²Field Crop Development Centre, Alberta Agriculture and Forestry (AAF), Lacombe, AB; ³Brandon Research and Development Centre, Agriculture and Agri-Food Canada, Brandon, MB; ⁴Crop Development Centre, University of Saskatchewan, Saskatoon, SK.

P31. Fine mapping of known QTL for Pre-harvest sprouting in barley

D.J. Heuschele, J. Schumacher, K. Smith

Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN USA.

Session 5: Barley for Animal Nutrition

Ruurd T. Zijlstra, Department of Agricultural, Food and Nutritional Sciences, University of Alberta, Edmonton, AB.

“The role of barley to support growth and intestinal health in pigs”.

Tim McAllister, Agriculture & Agri-Food Canada, Lethbridge, AB.

“New insights into the complexity of the microbiome involved in the ruminal digestion of barley grain”.

Rex Newkirk, University of Saskatchewan, Saskatoon, SK.

“What is the future of barley in feed?”

Session 6: Barley Genomics/ New Tools and Technologies for Quality Assessment

Kevin Smith, Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN USA.

“Using genome-wide markers to inform barley breeding”

Robert Brueggeman, Department of Plant Pathology, North Dakota State University, Fargo, North Dakota, USA.

“Using mutagenesis with exome capture to identify barley leaf disease resistance signalling pathways”.

Wen Zang, Department of Plant Sciences, University of Saskatchewan, Saskatoon, SK.

“On the road to understanding Un8-mediated barley loose smut resistance”.

Rong-Cai Yang, Field Crop Development Centre & Department of Agricultural Food and Nutritional Sciences, University of Alberta, AB.

“Development of barley breeding platform (BBP) for genomics-enabled breeding”.

Session 7: Food Barley

Kevin Swallow, Food Processing Development Centre, Leduc, AB.

“Barley in various food applications”

Lingyun Chen, Department of Agricultural, Food and Nutritional Science, University of Alberta Edmonton, AB.

“Barley protein value-added processing and applications”.

Heather Blewett, AAFC/CCARHM/University of Manitoba, Winnipeg, MB.

“Potential new health claims for barley – Reduction in Post-Prandial Glycaemic Response”

Marvin Nakonechny, Progressive Foods, AB

Session 8: Pathology

Tom Graefenhan, Grain Research Laboratory, Canadian Grain Commission, Winnipeg, MB.

“The microcosm of barley: Taking a closer look at the microbial community associated with grain and its effect on malt quality”.

James R. Tucker, Agriculture and Agri-Food Canada, Brandon Research Centre and University of Manitoba, Winnipeg, MB.

“Analysis of conjugated DON (Deoxynivalenol-3-Glucoside) accumulation in Western Canadian barley cultivars and sources of resistance”.

Kelly Turkington, Agriculture & Agri-Food Canada, Lacombe, AB .

“Research to improve the management of barley leaf diseases”.

Julliet Marshall, Cereals Pathology and Agronomy, Idaho Falls R&E Center, Idaho Falls, ID, USA.

“Emerging diseases in the irrigated intermountain West – Managing an old disease in new environments – It’s new to me!”

Alireza Akhavan, University of Alberta, Edmonton, AB.

“Analysis of net blotch pathogen (*Pyrenophora teres*) populations from the Canadian prairies”.

Session 9: Enhancing the Malting Barley Supply Chain

Tetiana Zmazhenko, Department of Agricultural and Resource Economics, University of Saskatchewan, Saskatoon, SK.

“Comparing malting barley supply chains: lessons learned from the EU”.

Panel Discussion:

Lorelle Selinger, Prairie Malt Limited, Biggar, SK