

2024 BARLEY SYMPOSIUM FROM THE GROUND UP PROGRAM

Sunday, February 25

TIME	TOPIC	DETAILS
6 - 9 p.m.	Evening social /gathering space for early arrivals	Terrace Lounge

Monday, February 26

TIME	TOPIC	DETAILS
8 - 11 a.m.	Registration	Battleford Room
9 - 11 a.m.	Canadian Light Source — Synchrotron <i>(optional tour, limited to 30 participants)</i>	Meet in the lobby
11:30 a.m. - 12:15 p.m.	LUNCH and WELCOME REMARKS	
12:15 - 1:15 p.m.	Keynote <i>Canada and Innovation Competitiveness: How are we doing?</i> Stuart Smyth, University of Saskatchewan	
1:15 - 1:55 p.m.	Session 1: Emerging Biotic Threats <i>Diseases, insects and vertebrates, and weed pressure is always changing.</i>	
	Barley and wheat's impact on fungal pathogen populations — Reem Aboukhaddour, AAFC, Lethbridge Fusarium species and mycotoxin diversity in barley from Manitoba: Implications for Fusarium head blight management — Xiben Wang, AAFC- Morden	
1:55 - 3:15 p.m.	Session 2: Advances in established biotic threat management <i>Continual pressure from established diseases, insects and weeds add to the pressure facing barley farmers.</i>	
	A locus providing race-specific scald resistance in barley is highly variable for R-gene content — Samuel Holden, University of British Columbia Evaluation of heritage barley varieties as sources of resistance to fusarium head blight and deoxynivalenol accumulation — James Tucker, AAFC- Brandon The effectiveness of sources of scald resistance in barley differentials and Canadian barley varieties — Kelly Turkington, AAFC- Lacombe Detection and quantification of the mycotoxins DON, NIV, 15ADON, 3ADON, and the masked mycotoxin D3G in barley with liquid chromatography-tandem mass spectrometry — M.A. Oviedo-Ludena, University of Saskatchewan	
3:15 - 3:45 p.m.	BREAK	

All meals and presentations for the symposium will be held in the Battleford Room unless otherwise noted.

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Monday, February 26 (cont.)

	Session 3: Advances in established biotic threat management <i>Continual pressure from established diseases, insects and weeds add to the pressure facing barley farmers.</i>	
3:45 - 4:25 p.m.	Reference-level genome assemblies and comparative analysis of five representative Canadian barley cultivars — Ana Badea, AAFC- Brandon An evaluation of genomic and phenotypic prediction in barley preliminary yield trials — Raja Khanal, AAFC-Ottawa	
4:25 - 4:40 p.m.	Grad student poster 3-min presentations	
4:40 - 5:35 p.m.	Poster Session and social	Odd numbered posters "present"
5:35 - 6:30 p.m.	Poster Session and social	Even numbered posters "present"
6:30 - 7:30 p.m.	NETWORKING AND SOCIAL	

Tuesday, February 27

TIME	TOPIC	DETAILS
7 - 8 a.m.	BREAKFAST	
	Session 3 continued: New technology to advance variety development and agronomy <i>Investigating new technology that can be adapted to traditional farm management and breeding activities can save time and resources.</i>	
8 - 9:20 a.m.	Accelerated plant breeding — Hakimeh Emamgholi Begli, Global Institute for Food Security Evaluation of barley (<i>Hordeum vulgare</i> L.) stem and root traits that influence lodging — Michael W. Taylor, University of Saskatchewan Induction of HVPGB1 as a potential tool to enhance resilience to excess moisture in barley — Ana Badea, AAFC- Brandon A Swiss Army knife for barley: Optimized genotyping tools for genetics and breeding in barley — Antoine Gagnon, Université Laval	
9:20 - 10:10 a.m.	Producer panel "Connecting the research community with the farm" Moderator: Kevin Hursh Panel: Gordon Moellenbeck (<i>SaskBarley</i>), Sheila Elder (MCA), David Bishop (<i>Alberta Grains</i>)	
10:10 - 10:40 a.m.	BREAK	

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Tuesday, February 27 (cont.)

10:40 a.m. – 12 p.m.	<p>Session 4: Progress in variety development and agronomy <i>The traditional approach includes boots on the ground and hands in the pan.</i></p>
	<p>Unlocking the genetic potential of feed barley for the Prairies — <i>Yadeta Kabeta, Field Crop Development Centre</i></p> <p>Genome-wide-association and targeted transcriptomic analyses reveal loci and candidate genes regulating preharvest sprouting in barley — <i>Gurkmal Kaur, University of Manitoba</i></p> <p>Analyzing performance trials to identify genetic and environmental contributors to Ontario barley improvement — <i>Lewis Lukens, University of Guelph</i></p> <p>GROW Barley — <i>Canadian Barley Research Coalition</i></p>
12 – 1:10 p.m.	<p>LUNCH ANNOUNCEMENTS: • <i>International Barley Genetics Symposium</i> • <i>Student poster awards</i></p>
1:10 – 1:30 p.m.	<p>Session 5: Ag sustainability in Western Canada <i>Sustainable production in Canada and beyond.</i></p>
	<p>Carbon footprint analysis of Saskatchewan and Canadian field crops and comparison to international competitors — <i>Nancy Tout, Global Institute for Food Security</i></p>
1:30 - 2:30 p.m.	<p>Session 6: Barley fit for purpose — quality, feed, food, malt and other end uses <i>Barley beyond production. Barley for the consumer.</i></p>
	<p>Impact of Adding Water to a Barley-Based Finishing Feedlot Diets on Cattle Feeding Behaviour and Ruminal Fermentation — <i>Catherine Seidle, University of Saskatchewan</i></p>
	<p>Arabinoxylans in Canadian malting barley varieties: their quantification and structural changes during malting and brewing — <i>Marta Izydorczyk, Canadian Grain Commission</i></p> <p>Interplay of starch debranching enzyme and its inhibitor is mediated by redox-activated SPL transcription factor — <i>Jaswinder Singh, McGill University</i></p>
2:30 – 3 p.m.	<p>BREAK</p>
3 – 3:40 p.m.	<p>Session 6 (continued): Barley fit for purpose – quality, feed, food, malt and other end uses <i>Barley beyond production. Barley for the consumer.</i></p>
	<p>The microscopic morphology of barley grain — <i>Matthew Bakker, University of Manitoba</i></p> <p>Functional characterization of a barley thaumatin-like protein using CRISPR-Cas9 — <i>Cali Kaye, McGill University</i></p>
3:40 – 3:50 p.m.	<p>CLOSING REMARKS — Planning Committee</p>

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FROM THE GROUND UP

POSTERS

Posters have been randomly assigned numbers. Poster presenters with odd numbers are asked to be at their posters from 16:40 to 17:35 and presenters with even numbers are asked to be at their posters from 17:35 to 18:30. Student posters are tagged with an asterisk (*) beside the number.

1	Raja Khanal, AAFC- Ottawa	Pathogenicity of <i>Fusarium graminearum</i> and <i>F. poae</i> causing Fusarium head blight in barley under controlled conditions
2	Beverly Lynch, University of Saskatchewan	Evaluating reconstituted high moisture barley with variable kernel size and different rolling severity on ensiling characteristics and in-vitro ruminal fermentation
3	Thomas Kelly Turkington, AAFC- Lacombe	The impact of water volume, seeding rate, and fungicide timing on leaf disease severity, fusarium head blight, and productivity of malting barley
4*	Rui Wang, University of Manitoba	Genome-wide association study of preharvest sprouting associated alpha-amylase activity in barley
5*	Vinuri Weerasinghe, University of Manitoba	Understanding the bacterial endophytic microbiome in barley grains to manage fusarium head blight disease
6*	Molla Hailu, University of Alberta	Cover crop establishment with grain crops in the Canadian prairies
7	Tricia McMillan, Canadian Grain Commission	Effects of recent weather conditions on the Canadian prairies on the malting quality of barley
8*	Amanjeet Singh, University of Manitoba	Extrusion Texturization of Air-Classified Barley Protein: A Sustainable Plant-Based Meat Alternative
9	Matthew Bakker, University of Manitoba	Impacts of <i>Fusarium graminearum</i> on malt quality
10	Hiroshi Kabota, AAFC-Lacombe	Opportunities to use remote sensing to predict the risk of lodging in barley
11	Arzoo Sharma, Canadian Grain Commission	Exploring the role of recent drought conditions on the Canadian prairies on starch content and starch-related physical characteristics of malting barley
12	Kui Liu, AAFC- Swift Current	Responses of genetically diversified barley varieties to nitrogen fertilization on the Canadian Prairies
13	Yueshu Li, Canadian Malting Barley Technical Centre	Effects of <i>Fusarium</i> Growth on Malt Quality and Deoxynivalenol (DON) Formation during the Malting Process
14	Uzzal Liton, AAFC- Brandon	Diagnostic molecular markers for waterlogging tolerance in barley

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FROM THE GROUND UP POSTERS

15	Ishita Patel, <i>Northeast Agriculture Research Foundation</i>	Getting the most out of malt barley
16	Ruijiao Kang, <i>University of Saskatchewan</i>	Synchrotron-based X-ray imaging to identify Fusarium-damaged kernels in Barley
17	Ana Badea, AAFC- Brandon	Towards development of a phenomics pipeline for barley at AAFC-BRDC
18	Jennifer Zantinge, Field Crop Development Centre	Development and genetic characterization of nested association mapping (NAM) populations representing western Canadian and global elite varieties.
19	Gursahib Singh, <i>Irrigation Crop Diversification Centre</i>	Can winter barley be grown in central Saskatchewan?
20*	Vipin Tomar, <i>Université Laval</i>	Additive Main Effect and Multiplicative Interaction Analysis (AMMI) for Yield in Eastern Canada Malting Barley Breeding Program
21	Ana Badea, AAFC- Brandon	Phytochemical characterization of several Canadian barley cultivars and elite germplasm
22	Ana Badea, AAFC- Brandon	Recent breeding successes at Agriculture and Agri-Food Canada's Brandon Research and Development Centre
23	Luis Ponce- Molina, University of Saskatchewan	Evaluation of FHB in barley and wheat under speed breeding conditions
24	Lipu Wang, <i>University of Saskatchewan</i>	Detection and differentiation of <i>Xanthomonas translucens</i> pv. <i>translucens</i> and pv. <i>undulosa</i> from wheat and barley by duplex quantitative PCR
25*	Jujhar Singh Gill, <i>University of British Columbia</i>	Understanding the stochastic impacts of Fusarium head blight (FHB) in barley



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