

2023
**NATIONAL
FHB FORUM**



PROGRAM BOOK

**CINCINNATI, OHIO
DECEMBER 3-5, 2023**

Welcome to the 2023 National FHB Forum

The USWBSI is pleased to offer this annual event for the FHB community to come together to gain the latest insights from scientific presentations and poster sessions on Fusarium head blight (scab) and deoxynivalenol (DON) impacts on wheat and barley.

Special Thanks to the USWBSI 2023 Forum Organizing Committee (FOC)

Co-Chairs

Alyssa Collins, The Pennsylvania State University and Esten Mason, Colorado State University

Members

FHB Management

Alyssa Koehler, University of Delaware and Kelsey Andersen Onofre, Kansas State University

Food Safety & Toxicology

Jiajia Rao, North Dakota State University and Dave Kendra, Cibus

Gene Discovery and Engineering Resistance

Nidhi Rawat, University of Maryland and Matt Helm, USDA-ARS

Pathogen Biology and Genetics

Imane Laraba, Agriculture and Agri-Food Canada and Hye-Seon Kim, USDA-ARS

Variety Development and Host Resistance

Shengming Yang, USDA-ARS and Jason Fiedler, USDA-ARS

Quick Tips

- Your **name badge** serves as your ticket for all food functions, make sure to wear it at all times.
Included in your registration: Sunday reception/dinner, Monday breakfast, lunch and reception and Tuesday breakfast as well as all breaks.
- A small meeting room is open for use during the Forum, check in at registration for availability.
- The USWBSI is dedicated to providing a harassment-free meeting experience, all attendees are expected to comply with the [USWBSI Code of Conduct](#) (Policies & Procedures, pg. 17).
- Photos will be taken during the Forum, by registering you agree to allow USWBSI to use your photo in various publications.
- A **virtual poster room** is available in addition to the onsite poster sessions, scabusa.org/scripts/VPosters
- **Abstracts** for all presentations and posters are available for online viewing scabusa.org/scripts/forum/abstracts.php?fy=2023
- Follow [@USWBSI](#) on X or [LinkedIn](#); for posts about the NFHB Forum, use the hashtag **#nfhbforum23** for your posts.
- In case of emergency, please notify USWBSI's Director of Operations Michelle Bjerkness (612.990.5032).
- The 2023 National FHB Forum is being held at the [Hilton Cincinnati Netherland Plaza](#), 35 W 5th St, Cincinnati, OH 45202.

Research Area Acronyms

The following are used throughout the program to reference areas of focus for presentations and posters.

FST - Food Safety & Toxicology

GDER - Gene Discovery and Engineering Resistance

MGMT - FHB Management

PBG - Pathogen Biology and Genetics

VDHR - Variety Development and Host Resistance

Quick Mobile Access QR Codes

USWBSI Code of Conduct, pg. 17



Virtual Poster Room



Online Abstract Viewer



Special Thanks to All the 2023 NFHB Forum Sponsors!

The NFHB Forum is made possible through funding and generous contributions from:

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U. S. Wheat & Barley Scab Initiative (USWBSI)

Networking & Facilitation Office (NFO) | nfo@scabusa.org

495 Borlaug Hall | 1991 Upper Buford Circle | St. Paul, MN 55108 | scabusa.org | 517.290.5023

The USWBSI is a national multi-disciplinary and multi-institutional research consortium whose goal is to develop effective control measures that minimize the threat of Fusarium head blight (scab), including the production of mycotoxins, for producers, processors and consumers of wheat and barley. The USWBSI's more than \$8.6 million annual budget comes from Federal funds appropriated through the USDA-ARS and is distributed to research projects in 30 states.

2023 National FHB Forum Schedule at a Glance

	Sunday December 3, 2023	Monday December 4, 2023	Tuesday December 5, 2023
7:00AM		Breakfast Hall of Mirrors	Breakfast Hall of Mirrors
8:30AM			
9:00AM	Registration Opens Registration Office (4 th Floor Foyer)	Breakout Meetings (See details on pg 7)	General Session 5 Pavillion Ballroom
10:00AM	Poster Author Set-up Rookwood	Break	Break
		Breakout Meetings (See details on pg 7)	General Session 6 Pavillion Ballroom
		Attendee Lunch (Hall of Mirrors)	Closing Session NFHB Forum Adjourns @ Noon
1:00PM		Breakout Meetings (See details on pg 8)	USWBSI Steering Committee Meeting Continental Ballroom (Mezzanine Level)
1:45PM	Opening Session Pavillion Ballroom	Break	
	General Session 1 Pavillion Ballroom	General Session 3 Pavillion Ballroom	
	Break	Flash & Dash	
3:40PM	General Session 2 Pavillion Ballroom	Break	
	Flash & Dash	General Session 4 Pavillion Ballroom	
5:30PM	Poster Session/Reception <i>Even # Poster Authors Present</i> Rookwood	Poster Session/Reception <i>Odd # Poster Authors Present and Poster Competition Awardees</i> Rookwood	National Wheat Improvement Committee Meeting Rosewood (3-5:30PM, continues Wed)
6:30PM	Dinner Hall of Mirrors	Early Career Game Night Hospitality Parlor #640 (on 6 th Floor)	
8:15PM	Stem Rust Workshop Rosewood		
9:15 PM			

Forum Floorplan Hilton Cincinnati Netherland Plaza



2023 NFHB Forum Program

Sunday, December 3

9:00AM-5:30PM

Registration Open

Registration Office (4th Floor Foyer)

10:00AM-12:30PM

Poster Author Set-up

Rookwood

1:00PM

Opening Session

Pavillion Ballroom

1:00PM

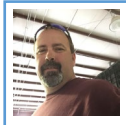


Welcome & NFHB Forum Overview

Ruth Dill-Macky, University of Minnesota

USWBSI Co-Chair

1:05PM

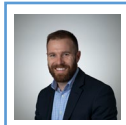


Keynote Presentation

Dan Anderson, Anderson Wheat Farms, Colorado

Thoughts from a *Fusarium* Rookie

1:40PM



Industry Perspective

Dalton Henry, U.S. Wheat Associates

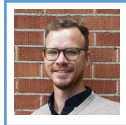
Impact of *Fusarium* and DON on the Global Import/Export of Wheat

2:00PM

General Session 1

Pavillion Ballroom | Moderators: Alyssa Collins & Esten Mason, FOC Co-Chairs

2:05PM



Transformational Science

Barney Geddes, North Dakota State University

The Impact of Environment, Host Genotype and *Fusarium* Head Blight on Microbiome Assembly in a Barley Breeding Population

2:20PM

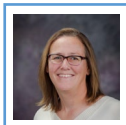


Transformational Science

Cory Hirsch, University of Minnesota

Rover Based Field Detection and Quantification of FHB

2:35PM



Transformational Science

Katherine Jordan, USDA-ARS

Haplotype-Informed Associations of FHB Resistance in U.S. Wheat Breeding

Abstract Viewing

Abstracts for all of the presentations and posters are available on the NFHB Forum Abstract Viewing page at scabusa.org/scripts/forum/abstracts.php?fy=2023



For quick mobile access to all the abstracts try this Online Abstract QR code

Sunday, December 3 (continued)

2:50PM



Transformational Science
Wanlong Li, South Dakota State University
Marker-Free Transfer of *Fhb7* to Barley

3:05PM



Transformational Science
Mohsen Mohammadi, Purdue University
Graphene Quantum Dots (GQDs) Mediated dsRNA Delivery for the Control of Fusarium Head Blight in Wheat

3:20PM

Networking Break

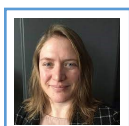
Pavillion Foyer

3:40PM

General Session 2

Pavillion Ballroom | Moderators: Nidhi Rawat and Matt Helm, FOC GDER Representatives

3:45PM



GDER
Elizabeth Brauer, Agriculture and Agri-Food Canada
Genetic Determinants of Lipopeptide Sensing Promote Plant Susceptibility to *Fusarium graminearum*

4:20PM



MGMT
Laurence Madden, The Ohio State University
A Network Meta-Analysis of Results from Over a Quarter-Century of Uniform Fungicide Trials in the U.S.

4:40PM

Flash & Dash Session – Graduate Student Poster Competition Finalists

Pavillion Ballroom | Moderators: Nidhi Rawat and Matt Helm, FOC GDER Representatives
Graduate Student Poster Competition finalists present for final judging round.

5:15PM

Poster Session & Reception

Rookwood

5:30-6:15PM

Even Numbered Posters

Authors Present to Answer Questions

Special Thanks to our Sponsors for the Reception Beer Donations



6:30-8:00PM

National FHB Forum Dinner

Hall of Mirrors

Special Thanks to our Dinner Sponsor



8:15-9:15PM

Stem Rust Workshop

Rosewood | Moderator: Mary Guttieri, USDA-ARS

Join this session to hear updates on stem rust breeding in wheat and barley.

Monday, December 4

7:00-9:00AM

Breakfast

Hall of Mirrors

8:00AM-5:30PM

Registration Open

Registration Office (4th Floor Foyer)

8:00AM-5:00PM

Poster Room Open for Viewing

Rookwood

8:00AM-5:30PM

Open Meeting Room for Onsite Meetings

Sign-up for Times at Registration Desk

8:30AM-1:30PM

USWBSI Breakout Sessions

All attendees are welcome to attend.

Research Area Acronyms

FST - Food Safety & Toxicology
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 MGMT - FHB Management
 PBG - Pathogen Biology and Genetics
 VDHR - Variety Development and Host Resistance

MONDAY	Caprice	Rosewood	Salon HI	Salon M	Salons BC	Salon DE	Salon FG
8:30AM		8:30-10:00AM FHB MGMT Breakout Chair: Alyssa Koehler	8:30-10:00AM GDER Breakout Chair: Jyoti Shah	8:30-10:00AM FST Breakout Vice Chair: Mark Busman	8:30-10:00AM PBG Breakout Chair: Lisa Vaillancourt	8:30-10:00AM DUR-CP Breakout Chair: Andrew Friskop	
9:00AM	9:00-10:00AM USWBSI T3 Breeders DB Workshop Facilitator: David Waring						
10:00AM	Break Service Location: Pavillion Foyer						
10:15AM		10:15-11:45AM BAR-CP Breakout Chair: Tom Baldwin	10:15-11:45AM IM-CP Breakout Chair: Erick DeWolf	10:15-11:45AM VDHR-SPR CP Breakout Chair: Andrew Green	10:15-11:45AM HWW-CP Breakout Chair: Jessica Rupp	10:15-11:45AM VDHR-SWW CP Breakout Chair: Rick Boyles	10:15-11:45AM VDHR-NWW CP Breakout Chair: Clay Sneller

MONDAY	Caprice	Rosewood	Salon HI	Salon M	Salons BC	Salon DE	Salon FG
11:45AM	Buffet Lunch for All Attendees Service Location: Hall of Mirrors						
12:30PM	12:30-1:30PM Nuts & Bolts Session Facilitator: Beheshteh Zargaran <i>This breakout is targeted for Graduate Students, Post Docs and Technicians, but anyone interested is welcome to attend.</i>	12:30-1:00PM VDHR-MGMT Joint Session Chairs: Alyssa Koehler & Rick Boyles	12:30-1:00PM GDER & PBG Joint Session Chairs: Jyoti Shah & Lisa Vaillancourt				
				1:00-1:30PM Genotyping Lab Breakout USDA Western-Pullman Chair: Deven See	1:00-1:30PM Genotyping Lab Breakout USDA North Central Small Grains Chair: Jason Fiedler	1:00-1:30PM Genotyping Lab Breakout USDA Eastern Regional Small Grains Chair: G. Brown-Guedira	
1:30PM	Return to General Session, starts at 1:45PM						

1:45PM

General Session 3

Pavillion Ballroom | Moderators: Shengming Yang and Jason Fiedler, FOC VDHR Representatives

1:50PM



VDHR
Santosh Kumar, Agriculture and Agri-Food Canada
 FHB Resistance in Canadian Hard Red Spring Wheat

2:10PM



PBG
Robert Proctor, USDA-ARS
 Trichothecene Structural Diversity, Detoxification Enzymes, and Management of Fusarium Head Blight

2:30PM



GDER
Namrat Jaiswal, USDA-ARS
 Identification and Functional Characterization of a Candidate Effector Protease from *Fusarium Graminearum*

Monday, December 4 (continued)

2:50PM

Flash & Dash Session – Post-Doc Poster Competition Finalists

Pavillion Ballroom | Moderators: Shengming Yang and Jason Fiedler, FOC VDHR Representatives
Post-Doc Poster Competition finalists present for final judging round (awardees announced at 5:10PM).

3:20PM

Networking Break

Pavillion Foyer

3:40PM

General Session 4

Pavillion Ballroom | Moderator: Alyssa Koehler, FOC MGMT Representative

3:45PM



MGMT

Briana Whitaker, USDA-ARS

Survey of *Fusarium* and Mycotoxin Diversity in Illinois Winter Wheat

4:20PM



VDHR

Kevin Smith, University of Minnesota

Breeding for Lower Deoxynivalenol in Barley

4:40PM

Flash & Dash Session

Pavillion Ballroom | Moderator: Alyssa Koehler, FOC MGMT Representative
Brief poster presentation highlights by selection of Graduate Students and Post-Docs.

5:10PM

Announcement of the Poster Competition Awardees

Pavillion Ballroom | Moderators: Richard Magnusson
The 2023 NFHB Forum Poster Competition Graduate Student and Post-Doc Awards will be presented.

5:15PM

Poster Session & Reception

Rookwood

Special Thanks to our Sponsors for the Reception Beer Donations

5:30-6:15PM

Odd Numbered Posters & Poster Competition Awardees

Authors Present to Answer Questions



6:15-6:45PM

Reception continues

7:00-9:00PM

Early Career Game Night (Scabnet)

Hospitality Parlor #640 (on 6th Floor) | Moderators: Peter Oppenheimer, Abbeah Navasca, and Bhavit Chhabra
ScabNet invites all post-docs and graduate students to attend a night of board games to get to know your fellow peers. Play games, socialize, and enjoy snacks and sodas while networking.

7:00-9:00AM

Breakfast

Hall of Mirrors

8:00AM-12:00PM

Registration Open

Registration Office (4th Floor Foyer)

8:00AM-10:00AM

Poster Room Open for Viewing

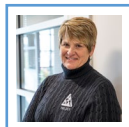
Rookwood

9:00AM

General Session 5

Pavillion Ballroom | Moderators: Jiajia Rao and Mark Busman, FOC FST Representatives

9:05AM



FST

Carrie Maune, Trilogy Analytical Laboratory

Move Over DON – Multitoxin Testing Is Here

9:40AM

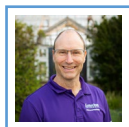


GDER

Mitch Elmore, USDA-ARS

Molecular Investigations into Fusarium Head Blight of Barley and Wheat

10:00AM



MGMT

Erick DeWolf, Kansas State University

Update on National Efforts to Improve FHB Forecasting with Model Ensembles and Machine Learning Techniques

10:20AM

Networking Break / Poster Authors Remove Posters

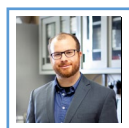
Pavillion Foyer / Rookwood

10:45AM

General Session 6

Pavillion Ballroom | Hye-Seon Kim, FOC PBG Representative

10:45AM

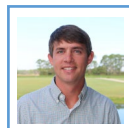


PBG

Sean Walkowiak, Canadian Grain Commission

Fusarium Incidence, Severity, and Diversity in Canada

11:10AM



VDHR

Rick Boyles, Clemson University

Fusarium Head Blight Resistance in Southern Soft Red Winter Wheat: Reflection on Past Progress to Guide Future Improvement

Tuesday, December 5 (continued)

11:45AM

Closing Session

Pavillion Ballroom

11:45AM



USWBSI Closing Remarks

Richard Magnusson, Magnusson Farms

USWBSI Co-Chair

12:00PM

Meeting Adjourns

12:15-4:30PM

USWBSI Steering Committee Luncheon & Meeting (invitation only)

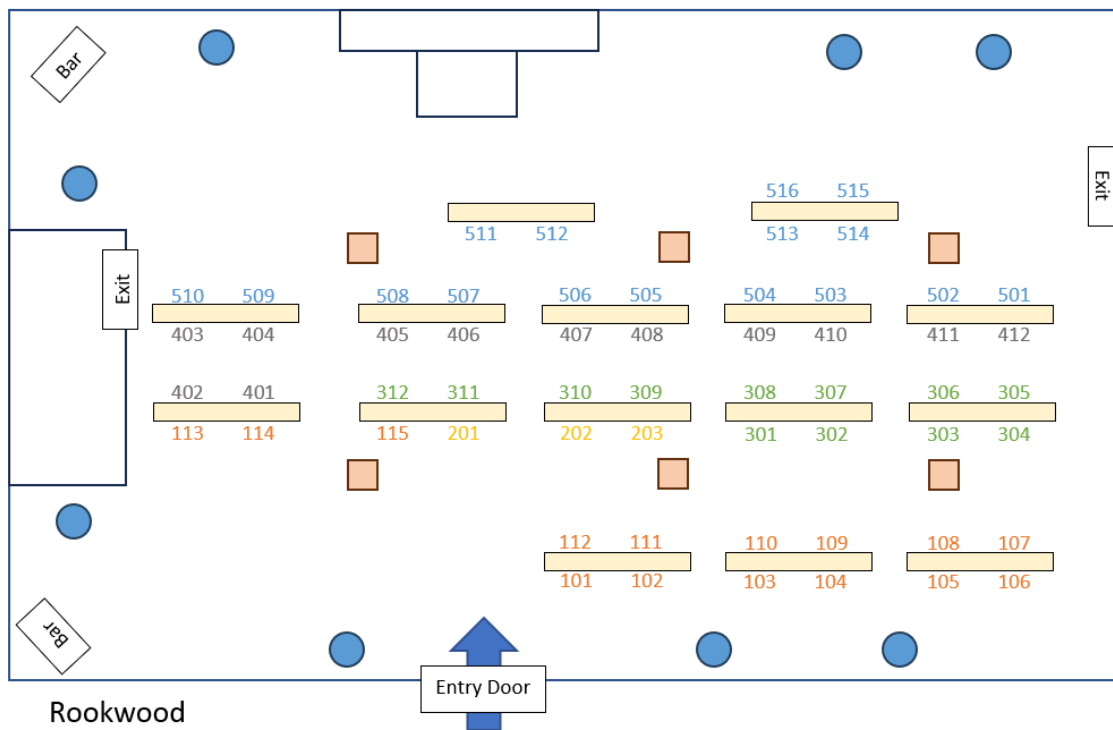
Continental Ballroom (on Mezzanine Level)

3:00-5:30PM (continues on Wednesday, December 7, 8:30AM-2:00PM)

National Wheat Improvement Committee (NWIC) Meeting

Rosewood

Poster Sessions – Sunday and Monday



Onsite Viewing
The Poster Room is open Sun-Mon during the Forum.

Virtual Viewing
The Virtual Poster Room is available in tandem with the live Poster Sessions.
scabusa.org/scripts/VPosters

Poster Authors Present to Answer Questions

Sunday, December 3 Poster Session

5:30-6:15PM | Even Numbered Posters

Monday, December 4 Poster Session

5:30-6:15PM | Odd Numbered Posters & Poster Competition Awardees

Special Thanks to the 2023 Poster Competition Sponsor:



Poster Presenters by Poster Number

Poster #	Category	Presenter Name	Institution	Title
101	FHB Management (MGMT)	Fathima, Tasneem	South Dakota State University	Screening for FHB-Resistance in Barley Lines Adaptable for South Dakota
102		Hansen, Bryan	North Dakota State University	2022 and 2023 Hard Red Spring Wheat Uniform Fungicide Trials (UFT) in North Dakota
103		Hay, William	USDA-ARS	Elevated CO ₂ Can Worsen Fusarium Head Blight Disease Severity in Wheat but the <i>Fhb1</i> QTL Provides Reliable Disease Resistance
104		Keene, Clair	North Dakota State University	Evaluation of Durum Wheat for FHB Susceptibility Under High and Low-Disease Pressure Environments in North Dakota
105		Kikway, Isaack	The Ohio State University	Fusarium Head Blight Management Coordinated Project: Integrated Management Trials 2023
106		Kikway, Isaack	The Ohio State University	Fusarium Head Blight Management Coordinated Project: Uniform Fungicide Trials 2023
107		Krishnakumar, Akshay	Purdue University	Noninvasive Assessment of Microbial Activity by Real-time Monitoring Degradation of Cellulose Acetate via Electrochemical Impedance Measurement
108		Marzano, Shin-Yi	USDA-ARS	Fusarium Graminearum Virus-1 Strain FgV1-SD4 Infection Eliminates Mycotoxin Deoxynivalenol Synthesis by <i>Fusarium graminearum</i> in FHB
109		Nafchi, Ali M	South Dakota State University	Optimum Closeup in Wheat FHB Detection with 360-Degree Deep Scanning Method and Using an Efficient Transformer Model
110		Ncube, Edson	North Dakota State University	Evaluation of Fungicide Efficacy, Timing and Cultivar Resistance for Management of Fusarium Head Blight of Durum in North Dakota
111		Oppenheimer, Peter	North Carolina State University	Introducing Synthetic Spike-In Metabarcoding: a Novel, Sensitive, and Quantitative Method for Identifying <i>Fusarium</i> Species
112		Rana, Muhammad Masud	Purdue University	Robust Low-cost Lego-like Electrochemical Sensor Array for Water Quality Monitoring in Agricultural Fields
113		Shires, Madalyn	South Dakota State University	Fungicide Application Regimen for Reducing Fusarium Head Blight and Deoxynivalenol Accumulation in Wheat Under High Disease Pressure
114		Shittu, Olanrewaju	Penn State University	Validation of the Fusarium Head blight Risk tool in Pennsylvania
115		Srinivasan, Praveen	Purdue University	A Biodegradable Chipless Sensor for Wireless Subsoil Health Monitoring
201	Food Safety & Toxicology (FST)	Kunapareddy, Anil	North Dakota State University	Photosensitization Effect of Curcumin for Controlling <i>Fusarium graminearum</i> Growth and Deoxynivalenol Production
202		McMullan, Lola	Virginia Tech	Arabidopsis Callus Culture as a Conduit for Quantification of Trichothecene Mycotoxins from <i>Fusarium graminearum</i>
203		Moon, Yejune	North Dakota State University	Matrix Effect in Quantitative Analysis of DON and DON-3-glucoside in Wheat, Barley, and Malt Using Liquid Chromatography-Mass Spectrometry

Poster #	Category	Presenter Name	Institution	Title
301	Gene Discovery & Engineering Resistance (GDER)	Bai, Guihua	USDA-ARS	Quantitative Trait Loci Mapping for Fusarium Head Blight Resistance in a Wheat Ems Mutant From Jagger
302		Dineen, Alison	Rutgers, The State University of New Jersey	Barley Genetic Engineering Facility for FHB Research Community
303		Hao, Guixia	USDA-ARS	Reduction of Fusarium Head Blight and Trichothecene in Transgenic Wheat Expressing <i>Fusarium graminearum</i> Trichothecene 3-O-acetyltransferase
304		Islam, Md Ashraful	University of North Texas	Mutations in <i>WhNPR3</i> and <i>WhNPR4</i> Increase Resistance Against <i>Fusarium graminearum</i> in Arabidopsis and Wheat
305		McLaughlin, John	Rutgers University	Apoplast and Exosome Content Changes in Barley Leaves in Response to <i>Fusarium graminearum</i> Infection
306		Mittal, Isha	University of North Texas	Dual RNA-Sequencing Analysis of <i>Lpx3</i> Conferred Resistance in Wheat During <i>Fusarium graminearum</i> Infection
307		Naumann, Todd	USDA-ARS	Fg-DUMP Cleaves Wheat TaCRR1 and Induces Plant Defenses
308		O'Mara, Sean	University of Minnesota	Unraveling the Biochemical and Molecular Role of the UDP-Glucosyltransferase UGT13248 During Fusarium Head Blight
309		Ritzinger, Mitchell	USDA-ARS	Application of Wheat Resistance Genes for FHB Control in Barley
310		Safar, Shahed	North Dakota State University	Molecular Mapping of Fusarium Head Blight (FHB) Resistance in a Spring Wheat Mapping Population
311		Xiang, Youhuang	Indiana University	A <i>Fusarium graminearum</i> Effector FgTPP1 Targets Chloroplasts and Suppresses Plant Immunity
312		Zhao, Lanfei	Kansas State University	Effects of a Glutathione S-transferase Gene (<i>Fhb7</i>) on FHB Resistance in Wheat
401	Pathogen Biology & Genetics (PBG)	Acaso, Joan	North Dakota State University	Experimentally Tractable Systems for Investigating Fusarium Head Blight-Microbiome Interactions on Barley: A Pilot Study
402		Benz, Brooke	North Dakota State University	Host Genotype and Fusarium Head Blight Status Impact Microbiome Assembly of a Barley Breeding Population Across Four Locations
403		Dhakal, Upasana	Kansas State University	Genetic Basis of Variation in Ascospore and Mycotoxin Production in U.S. <i>Fusarium graminearum</i> Isolates
404		Fathima, Tasneem	South Dakota State University	Integrative Genome Analysis of <i>Fusarium graminearum</i> Isolated from Diverse Small Grain Hosts
405		Goyal, Simran	University of Kentucky	Role of Chemotype in Aggressiveness and Toxigenicity of <i>Fusarium graminearum</i> on Wheat
406		Kim, Hye-Seon	USDA-ARS	Variation in Genome Sequence, Mycotoxin Production and Aggressiveness of <i>Fusarium</i> Isolates Used in Barley Screening Nurseries in Six States
407		Rhoades, Nicholas	USDA-ARS	Investigating the Mechanism of Trichothecene Suppression by a Fungal Endophyte
408		Riasat, Amna	North Dakota State University	Development of a CRISPR/Cas9-mediated Genome Editing Protocol for Gene Knockout in <i>Fusarium graminearum</i>

Poster #	Category	Presenter Name	Institution	Title
409	PBG (continued)	Singh, Lovepreet	University of Minnesota	High Resolution Melting (HRM) Assay for Rapid Identification and Differentiation of the <i>Fusarium graminearum</i> NX-2 Chemotype
410		Trail, Frances	Michigan State University	Comparative Transcriptomics Provides Insights into Fungal-Plant Interactions of a Pathogen and an Endophyte with Barley
411		Tyler, Nathan	USDA-ARS	Barley Microbiome Communities Contain Possible <i>Fusarium</i> Biocontrol Endophytes
412		Vaughan, Martha	USDA-ARS	Wheat and Barley Variety and <i>Fusarium graminearum</i> Population Affect Trichothecene Mycotoxin Accumulation
501	Variety Development and Host Resistance (VDHR)	Abdullah, Sidrat	University of Idaho	Comparative Evaluation of <i>Fusarium</i> Head Blight Inoculation Methods in Barley Under Controlled Conditions: A Comprehensive Analysis
502		Brault, Charlotte	University of Minnesota	Genomic Prediction for <i>Fusarium</i> Head Blight Resistance in the Hard Red Spring Wheat Uniform Regional Scab Nursery
503		Charif, Ahmed	University of Nebraska	Molecular Mapping and Epistatic Analysis of Hexaploid-Derived <i>Fusarium</i> Head Blight Resistance Genes in Tetraploid Wheat
504		Concepcion, Jonathan	Michigan State University	Infrared Thermal Imaging-Based Selection and Genome Wide Association for <i>Fusarium</i> Head Blight Resistance in Soft Winter Wheat
505		Cooper, Julian	University of Minnesota	An RGB Based Deep Neural Network Approach for Field-Based High Throughput Phenotyping of <i>Fusarium</i> Head Blight in Wheat
506		Dahn, Madison	The Ohio State University	DON in an Ohio Winter Malting Barley Panel
507		Dangi, Bhanu	North Dakota State University	Use of Modified Backcrosses for the Incorporation of <i>Fhb7</i> in Winter Wheat Germplasm
508		Ige, Adenike	University of Minnesota	Investigating the Potential of Weighted Genomic Relationship Matrix in Optimizing Prediction Accuracy of Deoxynivalenol Accumulation in Barley
509		Li, Xuehui	North Dakota State University	Recurrent Selection to Improve <i>Fusarium</i> Head Blight Resistance in Durum Wheat
510		Liu, Shuyu	Texas A&M AgriLife Research	Pyramiding FHB Resistance Genes/QTL Using Marker-assisted Selection and Doubled Haploid in Hard Red Winter Wheat
511		Navasca, Abbeah Mae	North Dakota State University	High-Throughput Quantification of <i>Fusarium graminearum</i> Biomass in Barley Spikes and Grains Using Taq-Man Multiplex Real-Time PCR
512		Neupane, Bipin	Washington State University	A Diallel Study to Detect Genetic Background Variation for FHB Resistance in Winter Wheat
513		Poursafar, Alireza	North Dakota State University	Identification and Mapping of QTL for Resistance to <i>Fusarium</i> Head Blight in a Durum Wheat Mapping Population
514		Sathish Raj, Rajendran	Kansas State University	HSD2-32 a Novel Source of Type-II Resistance to FHB in Wheat
515		Tidakbi, Lawrence	Kansas State University	Identification of <i>Fusarium</i> Head Blight Resistance (FHB) in USA Wheat Breeding Programs
516		Wang, Fang	University of Nebraska-Lincoln	Marker-Assisted Introgression of the FHB Resistance Gene <i>Fhb7</i> ^{The2} into Hard Red Spring Wheat

