# TABLE OF CONTENTS

## PLENARY SESSION

**Overview of the 2009 Wheat Crop Quality with Respect to Vomitoxin Impact**

G.M. Stewart .................................................................................................. Invited Talk .............3

## SESSION 1: FOOD SAFETY, TOXICOLOGY AND UTILIZATION OF MYCOTOXIN-CONTAMINATED GRAIN

**Risk Assessment and Biomarkers for Deoxynivalenol**

Chidozie J. Amuzie and James J. Pestka ........................................................ Invited Talk .............7

**Multi-Year Surveys on Fusarium Head Blight and Mycotoxins in Commercial Wheat Grains from Rio Grande do Sul State, Brazil**


**Comparison of Weight Gain and Plasma Insulin-Like Growth Factor Acid Labile Unit (IGFALS) Suppression for Determining the No-Observed Effect Level (NOAEL) in Mice Fed Deoxynivalenol**

Brenna M. Flannery, Chidozie J. Amuzie and James J. Pestka .......................... Poster #2 .............9

**Fusarium Mycotoxin Concentrations in the Straw, Chaff, and Grain of Soft Red Winter Wheats Expressing a Range of Resistance to Fusarium Head Blight**

G.E. Rottinghaus, B.K. Tacke, T.J. Evans, M.S. Mostrom, L.E. Sweets and A.L. McKendry ................................................................. Poster #3 ...........10

**Formation of the Biomarker Zearalenone-4-O-Glucuronide by Human UDP-Glucuronosyltransferases and Engineered Yeast**

Wolfgang Schweiger, Franz Berthiller, Wolfgang Bicker, Rainer Schuhmacher, Rudolf Krksa, Hannes Mikula, Christian Hametner and Gerhard Adam .......................... Poster #4 ...........11

**A Target for the Fusarium Mycotoxin Zearalenone in Plants: Inhibition of Hsp90 ATPase**

Juan Antonio Torres Acosta, Franz Berthiller, Gerlinde Wiesenberger, Rudolf Mitterbauer, Ulrike Werner, Marie-Theres Hauser, Mehrdad Shams, Rudolf Krksa and Gerhard Adam ................................................................. Poster #5 ...........12

**Assessment of the Accuracy of Single-Kernel Near-Infrared Technology to Sort Winter Wheat Kernels Based on Scab and Deoxynivalenol Levels**

S.N. Wegulo, K.H.S. Peiris, P.S. Baenziger and F.E. Dowell .................................... Poster #6 ...........13
SESSION 2: FHB MANAGEMENT

### Aggressiveness and DON Production of *Fusarium graminearum* 3ADON and 15ADON Populations as affected by Wheat Cultivar Resistance and Fungicide Treatment, Under ND Field Conditions, 2009
S. Ali, M. McMullen, and S. Zhong

### Effects of Within-Field Corn Debris in Microplots on FHB and DON in Ten U.S. Wheat Environments in 2009

### Host Resistance to *Fusarium* Metabolites: Relevance of Masked Mycotoxins for Resistance Breeding and Toxicology

### Populations of *Bacillus* Strains Applied to Wheat Heads for Biological Control of FHB: Results of Brookings, SD 2009 Field Plots
B.H. Bleakley, J. Morgan and J. Vahrenkamp

### Progress on Modeling Deoxynivalenol in Barley

### Using Forecasted Weather Data and Neural Networks for DON Prediction in Barley
K.D. Bondalapati, J.M. Stein, K.M. Baker and D.G. Chen

### Application Timings of Caramba and Prosaro Foliar Fungicides for Management of FHB and DON

### Effect of Pyraclostrobin Applications to Wheat at Different Growth Stages on DON Concentrations in Grain

### Infection Timing and Moisture Effects on DON and FDK in Wheat
C. Cowger and C. Arellano

### Ecology of *Bacillus subtilis* on Wheat Florets in Relation to Biological Control of FHB/DON
J.M. Crane, D.M. Gibson and G.C. Bergstrom

### Evaluating the Use and Potential Impact of Fusarium Head Blight Prediction Models in the U.S., 2009
E. De Wolf, P. Knight, D. Miller, P. Paul and L. Madden

### Characterization of the Surface Properties of Wheat Spikelet Components
Christopher A. Dunlap and David A. Schisler

### Head Blighters and Blasters of Wheat: Are We Ready?
J. Maurício Fernandes, Gisele A.M. Torres, Flávio M. Santana and Márcio Só e Silva
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Mapping Fusarium Head Blight of Wheat in Brazil</td>
<td>J. Maurício Fernandes, Emerson Del Ponte, Willingthon Pavan</td>
<td>46</td>
</tr>
<tr>
<td>Agronomic Factors Affecting Specific Mycotoxin Production in Fusarium</td>
<td>R. Goedecke and A. v. Tiedemann</td>
<td>47</td>
</tr>
<tr>
<td>Head Blight Infected Wheat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deoxynivalenol Gene Expression during Wheat Head Infection by</td>
<td>Heather Hallen-Adams and Frances Trail</td>
<td>48</td>
</tr>
<tr>
<td>Fusarium graminearum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of Biological Alternatives for Single Treatment Fungicide</td>
<td>S. Halley, K. Misek and K. Kinzer</td>
<td>49</td>
</tr>
<tr>
<td>on Hard Red Spring Wheat for Controlling Fusarium Head Blight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery Technique for Improved Efficacy on Barley, Langdon, 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction of Winter Wheat Cultivars to FHB and DON</td>
<td>John Hernandez Nopsa and Stephen N. Wegulo</td>
<td>56</td>
</tr>
<tr>
<td>Relationship Between Fusarium Head Blight Severity and Deoxynivalenol</td>
<td>John Hernandez Nopsa and Stephen N. Wegulo</td>
<td>58</td>
</tr>
<tr>
<td>Concentration in Three Winter Wheat Cultivars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence of Crop Residues and Disease Resistance on FHB in Virginia</td>
<td>M.D. Keller, W.E. Thomason and D.G. Schmale III</td>
<td>59</td>
</tr>
<tr>
<td>Wheat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-state Assessment Using Window Pane Analysis Confirming Weather</td>
<td>A.B. Kriss, L.V. Madden and P.A. Paul</td>
<td>60</td>
</tr>
<tr>
<td>Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effect of Variety, Location, and Environment on Development of</td>
<td>K. Lackermann, J. Gaska, M. Martinka, S. Conley and P. Esker</td>
<td>61</td>
</tr>
<tr>
<td>Fusarium Head Blight in Soft Red Winter Wheat in Wisconsin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effect of Preceding Forage Crops on DON Content in Barley</td>
<td>J. Lajeunesse, D. Pageau, R. Drapeau and M.E. Savard</td>
<td>65</td>
</tr>
<tr>
<td>Integrated Management of Scab in Wheat Using Resistant Varieties and</td>
<td>Shuyu Liu, Wade Thomason, Carl A. Griffey, Marla D. Hall, Patricia</td>
<td>66</td>
</tr>
<tr>
<td>Fungicide</td>
<td>Gundrum, Wynse S. Brooks, Robert Pitman, Mark Vaughn, Ted Lewis</td>
<td></td>
</tr>
<tr>
<td>Development of the ScabSmart Web Site - A Quick Guide to U.S. Scab</td>
<td>and David Dunaway</td>
<td></td>
</tr>
<tr>
<td>Management Information</td>
<td></td>
<td>68</td>
</tr>
<tr>
<td>Uniform Fungicide Trial Results on HRS Wheat and Spring Barley, Fargo</td>
<td>M. McMullen, J. Jordahl and S. Meyer</td>
<td>69</td>
</tr>
<tr>
<td>ND 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deoxynivalenol Accumulation during Maturation of Barley Grain</td>
<td>D. Pageau, J. Lajeunesse and M.E. Savard</td>
<td>70</td>
</tr>
<tr>
<td>Factors Influencing the Adoption FHB Control Practices in ND and MN:</td>
<td>J.K. Ransom and C. Deplazes</td>
<td>73</td>
</tr>
<tr>
<td>Results of a Survey</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Table of Contents

2009 Trial for the Performance of Biological Control Agents for the Suppression of Fusarium Head Blight in South Dakota  
K.R. Ruden, L.E. Osborne and B.H. Bleakley .......................................................... Poster #30 ..........74

Effect of Varying Combine Harvester Configurations on *Fusarium* Damaged Kernels (FDK) and Deoxynivalenol Accumulation in Wheat Grain Harvested from Plots with Different Levels of Fusarium Head Blight  
J.D. Salgado, M. Wallhead, L.V. Madden and P.A. Paul ........................................ Poster #31 ..........75

Colonization of Wheat Heads by Fusarium Head Blight Antagonist *Cryptococcus flavescens* OH 182.9 when Applied Alone or in Combination with Prothioconazole and the Treatment Effect on FHB Disease Development in Field Grown Wheat  
D.A. Schisler, M.J. Boehm, P. Paul and C.A. Dunlap .................................................80

Spatial Patterns and Incidence-Severity Relationships of Fusarium Head Blight Epidemics on Wheat Crops Following Soybean or Maize in Rio Grande do Sul, Brazil  
P. Spolti, L. Simon, J. Santos, N.C. Barros and E.M. Del Ponte .................................Poster #32 ..........85

Integrated Management Strategies for Fusarium Head Blight of Soft Red Winter Wheat in Missouri: Summarization of Trial Data for Three Years  
Laura E. Sweets ............................................................................................................Poster #33 ..........86

Fungicides Control of Fusarium Head Blight Symptoms and Deoxynivalenol (DON) Level caused by 15-ADON and 3-ADON *Fusarium graminearum* Isolates in Wheat in Ontario  
L. Tamburic-Ilincic, A. Muckle and A. Schaaafsma .....................................................Poster #34 ..........89

Evaluation of Integrated FHB Management Methods under Moderate and Severe Epidemics in New York  
K.D. Waxman and G.C. Bergstrom ...............................................................................90

Integrated Management of Fusarium Head Blight and Deoxynivalenol in Winter Wheat  
S.N. Wegulo, W.W. Bockus, J. Hernandez Nopsa, M.V. Zwingman 
and J.C. Millhouse ........................................................................................................Poster #35 ..........93

Integrated Management of FHB and DON in Small Grains: 2009 Coordinated Trials  
K. Willyerd, L. Madden, G. Bergstrom, C. Bradley, A. Grybauskas, D. Hershman, 
M. McMullen, K. Ruden, L. Sweets, S. Wegulo, K. Wise and P. Paul ..........................95

Inhibition of Deoxynivalenol Accumulation by Preinoculation with Nontoxigenic *Fusarium graminearum* - Preliminary Tests of a Novel Strategy  
Gary Y. Yuen, C. Christy Jochum, Liangcheng Du, Isis Arreguin 
and Liane R. Gale ........................................................................................................Poster #36 ..........100

Results of 2009 Uniform Biological Control Trials  
and D.A. Schisler .........................................................................................................Poster #37 ..........101

---

**SESSION 3: VARIETY DEVELOPMENT AND HOST PLANT RESISTANCE**

Mapping QTL for FHB Resistance and DON Accumulation in Barley Population  
COMP351 x M98-102  
K.A. Beaubien, T. Szinyei, K.P. Smith and B.J. Steffenson ........................................Poster #38 ..........109

Association Analysis of FHB Resistance in Soft Winter Wheat  
# Table of Contents

**Development, Mapping and Haplotype Analysis of EST-based SNPs in the Wheat**

*Fhb1 Region*

A.N. Bernardo, D-D. Zhang, H-X. Ma and G-H. Bai .................................................. Poster #39 ........ 111

**Sequence Analysis for Gene Discovery in Barley Chr. 2H Bin 10 Region**

Christine N. Boyd, Richard Horsley and Andris Kleinhofs ........................................ Poster #40 .......... 112

**Scab Resistance QTLs Have an Effect on Agronomic and Quality Traits of Soft Red Winter Wheat**

Lydia Cardwell, Edward Souza and Jose Costa .......................................................... Poster #41 ........ 113

**Exploration, Identification, Transferring and Utilization of New Scab Resistance in Wheat Improvement**

P.D. Chen, W.X. Liu, J.H. Yuan, X.E. Wang, Y.G. Feng, S.L. Wang, B. Zhou,
S.Z. Zhang, L.S. Wang, L. Wang and D.J. Liu .......................................................... Poster #42 ........ 114

**Validation of Fhb1 in Several Soft Red Winter Wheat Breeding Populations**

Anthony Clark, Gina Brown-Guedira and David Van Sanford ..................................... Poster #43 .......... 115

**Evaluation of Hordeum Accessions for Resistance to Fusarium Head Blight**

S.K. Dahl, H.E. Bockelman, O. Kovaleva, I. Loskotov, G. Kleijer, F. Ottosson, J. Valkoun,

**Chromosome Engineering of T7A·7Lr#1S for the Isolation of New Recombinants and Field Evaluation of T7A·7Lr#1S Chromosome Introgression Hard Winter Wheat Lines for Resistance to FHB and DON**

B. Friebe, L.L. Qi, J. Cainong, M.O. Pumphrey, W.W. Bockus and B.S. Gill ......................... Poster #45 ........ 117

**Development and Evaluation of Hard Red Spring Wheat QTL-NILs from Diverse FHB Resistance Sources**

David F. Garvin ........................................................................................................... Invited Talk ........ 118

**Mixed Model Association Analysis for FHB Resistance in Tunisian Durum Wheat Populations**

Farhad Ghavami, Sujan Mamidi, Mehdi Sargolzaei, Elias Elias and Shahryar Kianian .................................................. Poster #46 ........ 119

**An Alternative Path to Fusarium Head Blight (FHB) Resistant Wheat Cultivars: Expression rather than Introgression**

Steve Haber, J. Gilbert, D.L. Seifers and K.G. Standing ............................................... Poster #47 ........ 121

**Level of Fusarium Mycotoxins in Wheat Grain Highly Associated with Percentage of Scabby Kernels**

P. Horevaj and E.A. Milus .......................................................................................... Poster #48 ........ 122

**Mapping QTL for Fusarium Head Blight Resistance in Wheat Chromosome 7A**

D.V. Jayatilake and G-H. Bai ......................................................................................... Poster #49 ........ 123

**Marker Assisted Transferring of Fusarium Head Blight Resistance QTLs into Local Adaptive Soft Red Winter Wheat**

Jerry Johnson, Dan Blend and Zhenbang Chen .................................................................. Poster #50 ........ 127

**Evaluation of Exotic Scab Resistance Quantitative Trait Loci (QTL) Effects on Soft Red Winter Wheat**

Jing Kang, Anthony Clark, David Van Sanford, Carl Griffey, Gina Brown-Guedira, Yanhong Dong and Jose Costa .......................................................... Poster #51 ........ 128

**Evaluation of Host Plant Resistance and Fungicide Treatment for Suppression of Fusarium Head Blight**

N.H. Karplus, E.A. Brucker, C.A. Bradley and F.L. Kolb ............................................... Poster #52 ........ 129
# Table of Contents

Successes in Development of Fusarium Head Blight Resistant Soft Red Winter Wheat Varieties using Phenotypic Evaluation  
F.L. Kolb ........................................................................................................ Invited Talk ......131

Recent Progress in Breeding for FHB Resistance in Canadian Barley  
Bill Legge ....................................................................................................... Invited Talk ......132

Association Analyses of SNP Markers with Scab Resistance in Winter Feed Barley  
Shuyu Liu, Wynse S. Brooks, Shiaoman Chao, Carl A. Griffey, Marla D. Hall, Patricia G. Gundrum, Gregory L. Berger, Piyum A. Khatibi and David G. Schmale .................................................................Poster #53 ......133

Saturation Mapping of Scab Resistance QTL in Ernie and Identification of Diagnostic Markers for Breeding Scab Resistance  
Shuyu Liu, Carl A. Griffey, Anne L. McKendry, Marla D. Hall and Wynse S. Brooks .........................................................................................Poster #54 ......134

Saturation Mapping QTL for Scab Resistance in a Virginia Wheat Cultivar Massey  
Shuyu Liu, Marla D. Hall, Carl A. Griffey, Anne L. McKendry, Jianli Chen, Wynse S. Brooks, Gina Brown-Guedira and David Van Sanford .........................................................Poster #55 ......135

Integration of 3BS ($Fhb1$) FHB QTL using Marker-Assisted Breeding into Hard Red Winter Wheat ($Triticum aestivum$ L.) of Nebraska  
Neway Mengistu, P. Stephen Baenziger, Stephen Wegulo, Janelle Counsell Millhouse and Guihua Bai .................................................................Poster #56 ......136

Evaluation of Different Greenhouse Inoculation Models for Prediction of FHB Infection Rates in Field  
Swasti Mishra, Sue Hammar, Kelsey Schlee, Randy Laurenz, Lee Siler and Janet Lewis ........................................................................................................Poster #57 ......137

The 2008-09 Southern Uniform Winter Wheat Scab Nursery  
J.P. Murphy and R.A. Navarro ......................................................................Poster #58 ......138

Association Mapping QTL for FHB Resistance in Six-row Barley Breeding Lines  
S. Navara and K.P. Smith ................................................................................Poster #59 ......140

Progress on Development and Application of Single Kernel NIR Sorting Technology for Assessment of FHB Resistance in Wheat Germplasm  
K.H.S. Peiris, M.O. Pumphrey, Y. Dong, S. Wegulo, W. Berzonsky, P.S. Baenziger and F.E. Dowell .................................................................Poster #60 ......141

QTL Mapping of FHB Resistance Traits in the Japanese Wheat Landrace, PI 81791  
E.A. Quirin and J.A. Anderson .....................................................................Poster #61 ......143

Mapping and Introgression of FHB Resistant Quantitative Trait Loci from Two Spring Wheat Genotypes using a Family-Based Approach  

Results from the Second Fusarium International Spring Wheat Nursery (FIEPSN)  
Norbert Schlang, Monica Mezzalama, Shiaoman Chao, Susanne Dreisigacker and Etienne Duveiller .................................................................Poster #63 ......145

Screening for New Sources of Fusarium Head Blight Resistance in Chinese Wheats from CIMMYT Germplasm Bank  
Norbert Schlang, Monica Mezzalama, Thomas Payne and Etienne Duveiller .........................................................................................Poster #64 ......146

Family-Based Association Analysis for Plant Populations  
C. Sneller ........................................................................................................ Invited Talk ......147
Table of Contents

Report on the 2008-09 Northern Uniform Winter Wheat Scab Nurseries (NUWWSN and PNUWWSN)
  C. Sneller, P. Paul, M. Guttieri, L. Herald and B. Sugerman .......................................................148

Can Host Plant Resistance Protect the Quality of Wheat from Fusarium Head Blight?
  Edward Souza, Jaclyn Mundell, Daniela Sarti, Ana Balut, Yanhong Dong
  and David Van Sanford ..............................................................................................................Poster #65 ....154

Effect of Tolerant Varieties and Fungicide Treatment on FHB Rating, DON Content
  and Yield under High Infection Pressure
  O. Veskrna, J. Chrpova, K. Rehorova and P. Horcicka .........................................................Poster #66 ....155

Plant Organ Specific Glycosylation of DON in Three Winter Wheat Cultivars after
  Stem Base Infection with Toxigenic Fusarium Species
  M. Winter, B. Koopmann, P. Karlovsky and A. v. Tiedemann ..................................................Poster #67 ....159

Development of Durum Wheat Germplasm with Enhanced Resistance to Fusarium
  Head Blight Derived from Emmer Wheat
  and E.M. Elias .........................................................................................................................Poster #68 ....160

Chromosome Location of Fusarium Head Blight Resistance in ‘Frontana’ Spring Wheat
  Dalitso Yabawalo, Mohamed Mergoum and William Berzonsky ................................................Poster #69 ....161

Comparative Mapping of the Chromosomal Region Harboring the Fusarium Head
  Blight Resistance QTL Qfhs.ndsu-3AS in Durum Wheat
  Xianwen Zhu, Shiaoman Chao, Elias M. Elias, Shahryar F. Kianian
  and Xiwen Cai ..........................................................................................................................Poster #70 ....165

SESSION 4: PATHOGEN BIOLOGY AND GENETICS

B-Trichothecene Genotypes of Fusarium graminearum Strains from across Barley
  Production Regions and Growing Seasons in Southern Brazil
  P. Astolfi, L. Schneider, L. Simon, T. Alves, D.J. Tessmann
  and E.M. Del Ponte ................................................................................................................Poster #72 ....169

Studies on the Fusarium graminearum Complex Affecting Wheat in Southern Brazil
  Suggest a Phylogenetic Species-Specific B-Trichothecene Profile
  P. Astolfi, L. Schneider, L.L. Simon, E.M. Del Ponte, T.C.A. Alves, D.J. Tessmann,
  M.M. Reynoso, M.L. Ramirez, A. Torres, C. Farnochi
  and S.N. Chulze ......................................................................................................................Poster #73 ....170

Within-Field Patterns of B-Trichothecene Genotypes in the Fusarium graminearum
  Complex Affecting Wheat in Southern Brazil
  P. Astolfi, L.L. Simon, L. Schneider, T.C.A. Alves, D.J. Tessmann
  and E.M. Del Ponte ................................................................................................................Poster #74 ....171

Peptide Technologies for Management of Fusarium Head Blight
  James T. English, Francis J. Schmidt, Nathan Gross, John Leslie, Gary Yuen
  and James E. Schoelz ................................................................................................................Invited Talk ....172

Aggressiveness and Mycotoxin Potential of U.S. Fusarium graminearum Populations in
  Field-Grown Wheat and Barley
  Liane R. Gale, Ruth Dill-Macky, James A. Anderson, Kevin P. Smith
  and H. Corby Kistler ................................................................................................................Poster #75 ....173
# Table of Contents

## Inoculation and Recovery of *Fusarium graminearum* Chemotypes from the FHB Nursery at Glenlea, Manitoba in 2008 and 2009
J. Gilbert, R.M Clear, and D. Gaba .................................................................Poster #76 ........174

## A Comparison of the Aggressiveness and Deoxynivalenol Content of Canadian 3-acetyl and 15-acetyldeoxynivalenol Producers of *Fusarium graminearum* in Field-grown Spring Wheat
C. Knopf, V. Gauthier, L. Tamburic-Ilinicic, A. Brule-Babel, W.G.D. Fernando, R. Clear, T. Ward and T. Miedaner .................................................................Poster #77 ........175

## Functional Characterization of Histone Deacetylase Genes in *Fusarium graminearum*
Yiming Li, Chengfang Wang, Wende Liu and Jin-Rong Xu ................................Poster #78 ........176

## Tri3, which Controls Trichothecene C-15 Acetylation, is Functional in 3ADON Chemotype
S.P. McCormick, N.J. Alexander and C. Waalwijk ........................................Poster #79 ........177

## Multiplex Quantitative Analysis for Trichothecene Genes Expression of *Fusarium graminearum* in Different Genotypes of Wheat Spikes
T. Miyazaki and T. Ban ..................................................................................Poster #80 ........179

## The Newly Emerging 3ADON Population of *Fusarium graminearum* is More Aggressive and Produces a Higher Level of DON than the Prevalent 15ADON Population in North Dakota
Krishna D. Puri and Shaobin Zhong ..............................................................Poster #81 ........180

## Linking Field and Atmospheric Populations of Toxigenic Fusaria
David G. Schmale III ..................................................................................Invited Talk ........181

## Aggressiveness of 15-acetyl-deoxynivalenol and Nivalenol *Fusarium graminearum* Trichothecene Genotypes towards Wheat Varieties
P. Spolti, L. Simon, J. Santos and E.M. Del Ponte ........................................Poster #82 ........182

## SESSION: GENE DISCOVERY AND ENGINEERING RESISTANCE

### Quantitative Trait Loci Mapping of Fusarium Head Blight Resistance in Advanced Back Cross Population (BC1F6) Derived from Tun 34 × Lebsock Tetraploid Wheat
Omid Ansari, Farhad Ghavami, Elias Elias and Shahryar Kianian .................Poster #83 ........187

### Testing Transgenic Spring Wheat and Barley Lines for Reaction to Fusarium Head Blight: 2009 Field Nursery Report

### Molecular and Genetic Studies on Fusarium Ear Blight disease of Wheat
Kim Hammond-Kosack, Kostya Kanyuka, Neil Brown, Andrew Beacham, John Antoniw and Martin Urban .................................................................Invited Talk ........190

### Identification of Trichothecene Targets: Novel Genes for Scab Resistance in Barley and Wheat
John McLaughlin, Anwar Bin ‘Umer, Susan McCormick and Nilgun Tumer .................................................................Poster #85 ........192

### Characterization of Fusarium Head Blight-Responsive Genes in Diverse Wild and Cultivated Barley
Benjamin P. Millett, Karen A. Beaubian, Stephanie K. Dahl, Brian J. Steffenson, Kevin P. Smith and Gary J. Muehlbauer ........................................................Poster #86 ........193
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unraveling The Triticeae-<em>Fusarium graminearum</em> Interaction</td>
<td>Gary J. Muehlbauer, Jayanand Boddu, Stephanie Gardiner, Sanghyun Shin,</td>
<td>194</td>
</tr>
<tr>
<td></td>
<td>Haiyan Jia, Seungho Cho, Warren Kruger and Franz Berthiller</td>
<td></td>
</tr>
<tr>
<td>Host Factors Contributing to Resistance/Susceptibility to <em>Fusarium</em></td>
<td>Vamsi Nalam, Ragiba Makandar, Dehlia McAfee, Juliane Essig, Hyeonju Lee,</td>
<td>195</td>
</tr>
<tr>
<td><em>graminearum</em></td>
<td>Harold N. Trick and Jyoti Shah</td>
<td></td>
</tr>
<tr>
<td>Mapping of MRP Gene as a Candidate for QTL ‘Qfhs.kibr-2DS’ to Reduce</td>
<td>S. Niwa, R. Kikuchi, H. Handa and T. Ban</td>
<td>196</td>
</tr>
<tr>
<td>DON Accumulation in Wheat Grains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genetic Manipulation of Susceptibility to Fusarium Head Blight</td>
<td>H. Saidasan, Z. Uzumcu, J. McLaughlin, N. Tumer, E. Lam</td>
<td>197</td>
</tr>
<tr>
<td></td>
<td>and M.A. Lawton</td>
<td></td>
</tr>
<tr>
<td>Identifying and Characterizing Barley Genes that Protect against</td>
<td>S.H. Shin, J. Boddu, A. Cole, W. Schweiger, G. Adam</td>
<td>198</td>
</tr>
<tr>
<td>Trichothecenes</td>
<td>and G.J. Muehlbauer</td>
<td></td>
</tr>
<tr>
<td>Efforts toward Dissecting 2H- FHB QTL with Transposons in Barley</td>
<td>Surinder Singh, Han Qi Tan and Jaswinder Singh</td>
<td>199</td>
</tr>
<tr>
<td>Wheat</td>
<td>and P.S. Baenziger</td>
<td></td>
</tr>
</tbody>
</table>

**OTHER PAPERS**

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Redesigned US Wheat and Barley Scab Initiative Web Site</td>
<td>David Hane, Susan Canty, David Matthews, Gerard Lazo, Olin Anderson</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>and David Van Sanford</td>
<td></td>
</tr>
</tbody>
</table>

**INDEX OF AUTHORS**

................................................................. 207