

**REDUCING AFLATOXIN CONTAMINATION IN CORN
COLVARD STUDENT UNION
MISSISSIPPI STATE UNIVERSITY
MISSISSIPPI STATE, MS
OCTOBER 26-28, 2009**

Monday, October 26

4:00 – 7:00 PM **Holiday Inn Express, State Room**

On-site registration

5:30 – 7:00 PM **Holiday Inn Express, State Room**

Social hour

Tuesday, October 27

6:45 - 7:00 AM **Holiday Inn Express**

Shuttle to Colvard Student Union

7:00 – 8:00 AM **Dawg House (1st floor), Colvard Student Union**

Registration and Continental breakfast

Old Main Lounge (2nd floor), Colvard Student Union

Set up posters

8:00 AM **Fowlkes Auditorium (3rd floor), Colvard Student Union
(Presentations can be viewed in the Whittington Room.)**

- **Welcome and Introductions**

Jonathan Pote, Associate Director, Mississippi Agricultural and Forestry Experiment Station

Gregory Bohach, Vice President, Agriculture, Forestry & Veterinary Medicine, Mississippi State University

- **Aflatoxin Contamination of Corn: Problems Confronting Producers**

Moderator: Ed King, Area Director, Mid South Area, USDA-ARS, Stoneville, MS

Producer Representatives and Panel Members

Don Glenn, Alabama Corn Growers/NCGA, Hillsboro, AL
Danny Willingham, Georgia Corn Commission, Ocilla, GA
Rob Coker, Coker Farms, Yazoo, MS
Jerry Slocum, North Mississippi Grain Co., Coldwater, MS
David Gibson, Texas Corn Producers Board, Lubbock, TX

- **Overview of USDA-ARS Research on Aflatoxin Contamination of Corn**

Kay Simmons, Acting Deputy Administrator for Crop Production and Protection, USDA-ARS, Beltsville, MD

9:15 AM

Reducing Losses to Aflatoxin Accumulation in Corn through Genetics and Breeding

Moderator: Marilyn Warburton, Research Geneticist, USDA-ARS Corn Host Plant Resistance Research Unit, Mississippi State University.

- **Understanding Host-Pathogen Interactions**

Aspergillus flavus: How Much Do We Know about the Contaminating Fungus?
Deepak Bhatnagar, Research Leader, USDA-ARS-SRRC, New Orleans, LA

Characterization of Maize Kernel Infection by *Aspergillus flavus* for Phenotyping and Identification of Genetic Markers

Gary Payne, William Neal Reynolds Professor of Plant Pathology, North Carolina State University, Raleigh, NC

9:45 AM

Old Main Lounge (2nd Floor)

- Break

10:00 AM

- **Genetics, Genomics, and Proteomics**

Rebecca Nelson, Associate Professor of Plant Pathology, Cornell University.

Dawn Luthe, Professor of Stress Biology, Penn State University and Adjunct Professor of Biochemistry and Molecular Biology, Mississippi State University.

Marilyn Warburton, USDA-ARS, Mississippi State University

11:00 AM

Moderator: Paul Williams, Research Leader, USDA-ARS Corn Host Plant Resistance Research Unit, Mississippi State University

- **Screening Germplasm and Breeding for Resistance to *Aspergillus flavus* Infection and Aflatoxin Accumulation: Overview of Current Programs and Opportunities for Collaboration**

Seth Murray, Assistant Professor of Quantitative Genetics and Maize Breeding, Texas A&M University, College Station, TX

Wenwei Xu, Corn Breeder, Texas A&M AgriLife Research Center, Lubbock, TX

Robert Brown, Research Plant Pathologist, USDA-ARS, New Orleans, LA

Brian Scully, Supervisory Research Agronomist, USDA-ARS, Tifton, GA

12:00 Noon **Dawg House (1st floor), Colvard Student Union**

- Lunch

1:00 PM **Fowlkes Auditorium**

Matt Krakowsky, Geneticist, USDA-ARS, North Carolina State University, Raleigh, NC

Paul Williams, Research Geneticist, USDA-ARS, Mississippi State University

1:30 PM

- **Moving Resistant Corn Hybrids into Farmers' Fields: What do stakeholders and customers need from state and federal breeding and genetics research programs?**

Moderator: Kay Simmons, Acting Deputy Administrator for Crop Production and Protection, USDA-ARS, Beltsville, MD

Panel Members

Ana Paula da Silva Dias, Northern Corn Pathology, Monsanto Company, Saint Louis, MO

Bill Dolezal, Research Fellow, Pioneer Hi-Bred, International, a DuPont business, Johnston, IA

Phil Michener, Corn Breeder, Terral Seeds, Inc., Greenville, MS

Discussion

2:30 PM **Old Main Lounge (2nd Floor)**

- Break and Poster Viewing

3:00 PM **Fowlkes Auditorium**

Biological Control of Aflatoxins: Using Fungi to Improve Aflatoxin Management

Moderator: Peter Cotty, Research Plant Pathologist, USDA-ARS, University of Arizona

Joe W. Dorner, Research Microbiologist, USDA-ARS, National Peanut Research Laboratory, Dawson, GA. "Effective Biological Controls for Preventing Aflatoxins in Maize."

Peter J. Cotty, Research Plant Pathologist, USDA-ARS, University of Arizona, Tucson, "Potential Paths to Future Generations of Biocontrol."

Kenneth E. Damann, Jr., Professor, Plant Pathology and Crop Physiology, Louisiana State University, Baton Rouge, LA. "Atoxigenic biocontrol in corn: the Louisiana experience."

Hamed K. Abbas, Research Plant Pathologist, USDA-ARS, Crop Genetics and Production, Stoneville, MS – " Non-toxigenic strain K49 a superior biocontrol strain for reducing aflatoxin contamination in Mississippi Delta corn".

Bobby Bassi, Syngenta Crop Protection, Greensboro, NC – Perspectives on Aflatoxin Management.

Scott Averhoff, Texas Corn Producers Board & Farmer, Waxahachie, TX – A Producer's Perspective on Managing Aflatoxin in Maize.

5:00 PM

Adjourn

5:15 – 5:30PM

Colvard Student Union

Shuttle to Holiday Inn Express

5:30 – 7:00PM

Holiday Inn Express, State Room

Social Hour

Wednesday, October 28

6:45 – 7:00 AM

Holiday Inn Express

Shuttle to Colvard Student Union

7:00 – 8:00 AM

Dawg House (1st floor), Colvard Student Union

Continental breakfast

7:30 – 8:45 AM

Old Main Lounge and Whittington Room (2nd Floor)

Poster viewing

8:40 AM

Fowlkes Auditorium (3rd Floor)

- Best Management Practices for Reducing Aflatoxin Contamination
Erick Larson, Extension Agronomist, Mississippi State University

9:00 AM

- Introduction of topics and charge to discussion and breakout groups

Kay Simmons, Acting Deputy Administrator for Crop Production and Protection, USDA-ARS, Beltsville, MD

9:10 AM

Discussion Groups – Session 1

Concurrent Sessions

- Session 1A **Old Main Lounge (2nd Floor)**
Inoculation Techniques for Germplasm Evaluation and Quantification of Aflatoxin and Fungal Biomass
Leader: Gary Windham, USDA-ARS, Mississippi State University
- Session 1B **Room 329 (3rd Floor)**
Genotyping Platforms for Mapping
Leader: Brian Scheffler, USDA-ARS, Stoneville, MS
- Session 1C **Whittington Room (2nd Floor)**
Identifying New Sources of Resistance
Leader: Matt Krakowsky, USDA-ARS, North Carolina State University
- Session 1D **Fowlkes Auditorium (3rd Floor)**
Cultural Control and Crop Management to Reduce Aflatoxin
Leader: Erick Larson, Department of Plant and Soil Sciences, Mississippi State University
- Session 1E **Holmes Cultural Diversity Center Conference Room, Suite 220**
Post Harvest Management to Reduce Aflatoxin Contamination
Leader: Ashli Brown, Department of Biochemistry and Molecular Biology, Mississippi State University
- Session 1F **Dawg House (1st Floor)**
Biocontrol
Leader: Hamed Abbas, USDA-ARS, Stoneville, MS

10:00 AM

Break

10:15 AM

Discussion and Research Planning – Session 2

Setting Goals, Establishing Collaborations, and Coordinating Research

Concurrent Sessions

- Session 2A **Fowlkes Auditorium (3rd Floor)**
Genetics, Genomics, and Breeding
Leader: Brian Scully, USDA-ARS, Tifton, GA
- Session 2B **Whittington Room (2nd Floor)**
Biological Control
Leader: Joe Dorner, USDA-ARS, Dawson, GA

11:15 AM

Fowlkes Auditorium

Report out

Moderator: Kay Simmons, Acting Deputy Administrator for Crop Production and Protection, Beltsville, MD

12:00 Noon

Adjourn

Shuttle to Holiday Inn Express

Tours of the Mississippi State Chemical Laboratory will be available at the conclusion of the workshop for those interested.