

Utilization of Web-Based Conferencing and Microscopy to Deliver a Regional Mycotoxin Workshop for the Great Plains Diagnostic Network

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Introduction:

The ability to identify mycotoxigenic species of fungi enhances the services provided by diagnostic clinics. The MSU Schutter Diagnostic Lab hosted a web-based mycotoxin workshop for the Great Plains Diagnostic Network. Barry Jacobsen, a MSU Extension Plant Pathologist, presented important information on mycotoxigenic fungi and referenced a microscopic slide collection provided to the workshop participants.

Objectives:

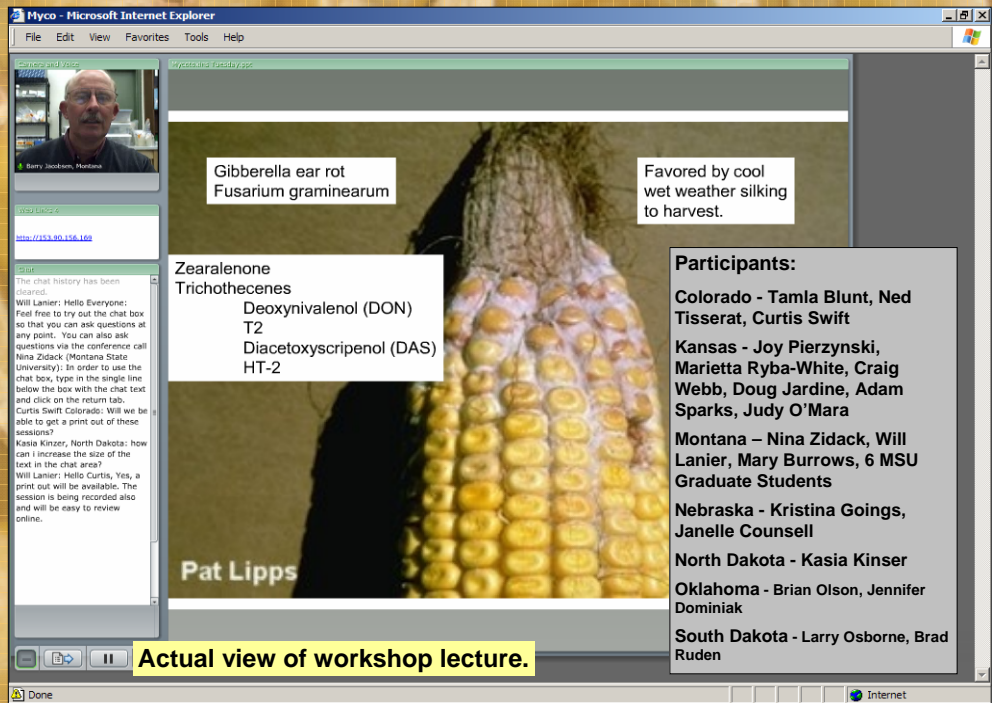
1. Educate participants on important mycotoxic genera and associated mycotoxicosis.
2. Teach students how to identify important mycotoxigenic genera.
3. Provide participants with a reference collection of mycotoxigenic species.
4. Give participants the tools to discern whether a sample may be implicated in mycotoxicosis and provide them with information on reputable labs for mycotoxin testing.
5. Demonstrate the utility of web-based conferencing and microscopy for delivering pertinent diagnostic information.
6. Develop online resource for participants and others to access lecture materials and Jacobson's draft publication on "Mycotoxins and Mycotoxicosis" at the MSU diagnostics web page:

www.diagnostics.montana.edu

Methods - Fungal Slide Collection:

Microscopic slides were prepared from cultures of important toxigenic fungi and mailed to participants.

- Nine species of *Aspergillus*
- Five species of *Fusarium*
- Five species of *Penicillium*
- *Stachybotrys atra*



The screenshot shows a Microsoft Internet Explorer browser window titled "Myco - Microsoft Internet Explorer". The main content area displays a photograph of a corn cob with several white boxes overlaid containing text: "Gibberella ear rot", "Fusarium graminearum", "Favored by cool wet weather silking to harvest.", "Zearalenone", "Trichothecenes", "Deoxynivalenol (DON)", "T2", "Diacetoxyscripenol (DAS)", and "HT-2". The name "Pat Lipps" is visible at the bottom of the slide. On the left side of the browser window, there is a chat window with a video feed of Barry Jacobsen, Montana. Below the chat window, a list of participants is shown, organized by state: Colorado (Tamia Blunt, Ned Tisserat, Curtis Swift), Kansas (Joy Pierzynski, Marietta Ryba-White, Craig Webb, Doug Jardine, Adam Sparks, Judy O'Mara), Montana (Nina Zidack, Will Lanier, Mary Burrows, 6 MSU Graduate Students), Nebraska (Kristina Goings, Janelle Counsell), North Dakota (Kasia Kinser), Oklahoma (Brian Olson, Jennifer Dominiak), and South Dakota (Larry Osborne, Brad Ruden).

Actual view of workshop lecture.

Methods - Information Technology:

1. Web-based conferencing capabilities using MSU Extension's site license for Adobe® Connect™ (Macromedia Breeze).
2. Web-enabled microscopy Nikon DN100.
 - Enter 'Room 1'
 - Set to highest resolution (1280*960)
 - Refresh images manually

Results:

"I thoroughly enjoyed the workshop. The information presented was very useful. I also thought the breeze presentation worked well"

- Ned Tisserat, Colorado

"I feel better equipped to field general questions about mycotoxins. I especially appreciate having the reference slides"

- Kasia Kinser, North Dakota

"Fantastic Workshop"

- Craig Webb, Kansas



Kansas State participants viewing lecture.

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