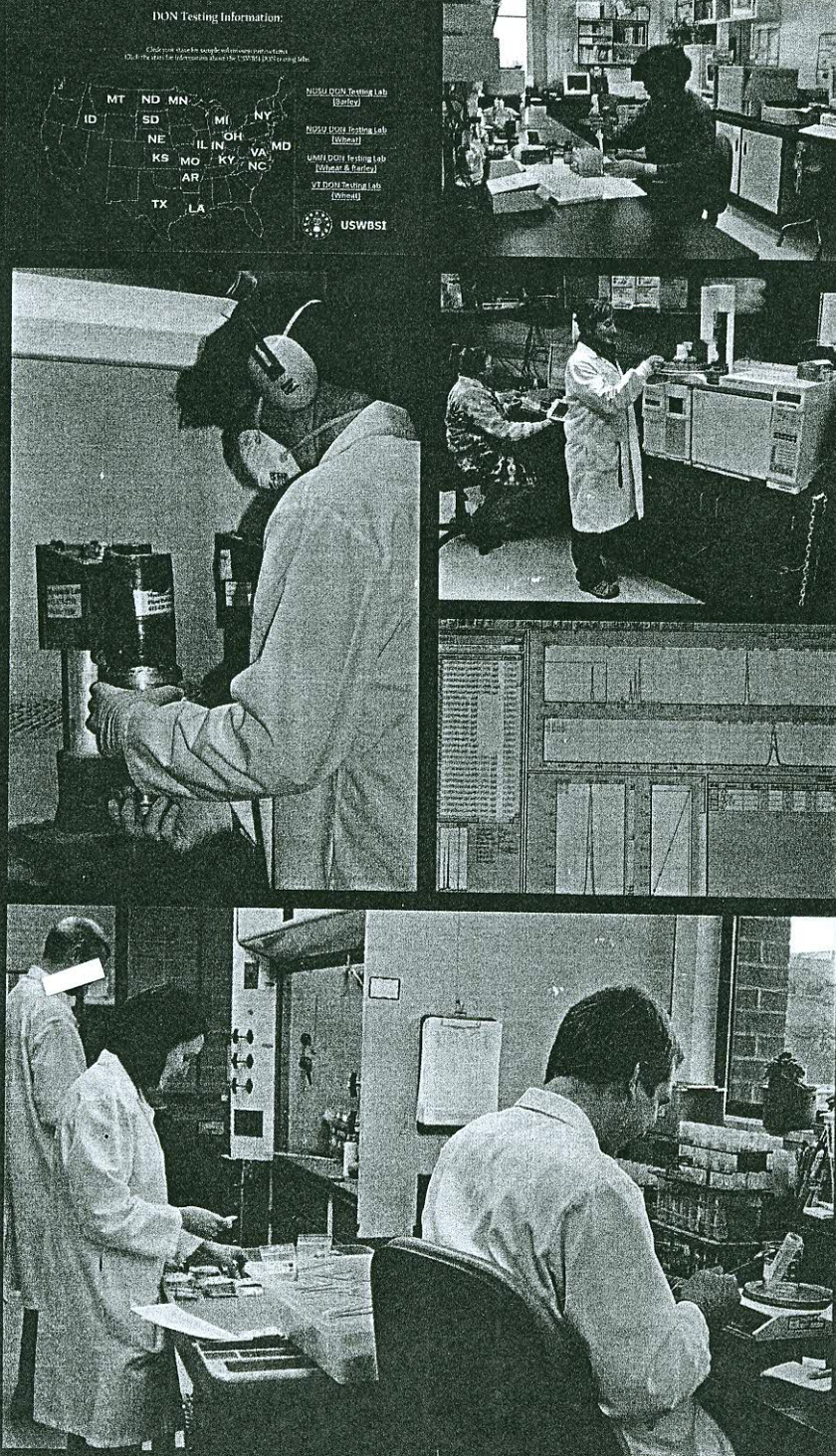


# Proceedings of the 2009 National Fusarium Head Blight Forum



Wyndham Orlando Resort • Orlando, Florida USA  
7-9 December, 2009

# **Proceedings of the 2009 National Fusarium Head Blight Forum**



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Proceedings compiled and edited by: S. Canty, A. Clark, J. Mundell, E. Walton,  
D. Ellis and D. Van Sanford

Cover designed by: Kris Versdahl of Kris Versdahl & Associates  
Red Lake Falls, MN

Photos on the cover starting at the top left and moving clockwise:

- Screen capture of home page of UWWBSI's Website for the Don Testing Labs - [http://www.uky.edu/Ag/Wheat/wheat\\_breeding/USWBSI/DON\\_submission.html](http://www.uky.edu/Ag/Wheat/wheat_breeding/USWBSI/DON_submission.html)
- Jun Yingyang, Lab Assistant in NDSU's DON Testing Lab - Barley, preparing samples for derivatization; photo submitted by Paul Schwarz, North Dakota State University (NDSU)
- Diane Reaver (left) and Patty Gundrum (right), VA Tech DON Testing Lab, analyzing DON samples using a GC/MS; photo submitted by David Schmale, Virginia Polytechnic Institute and State University (VA Tech)
- University of Minnesota DON Testing Lab computer showing DON quantification using GCMS solution software (version 2.5 Su1); photo submitted by Yanhong Don, University of Minnesota
- Photo demonstrating initial grain sample processing and weighing: Center - Kelly Benson, Chemist in NDSU-Veterinary Diagnostic Lab (VDL), sorting through samples coming into the lab; Right - Todd Singer, NDSU-VDL technician, weighing out samples; and Left - Quincey Faul, NDSU-VDL work study student, placing analyzed samples into a hazardous waste container in the chemical fume hood. Photo submitted by Michelle Mostrom, NDSU-Veterinary Diagnostic Laboratory.
- Tyler Potts, Student Lab Technician in University of Minnesota's DON Testing lab, grinding grain samples using a Stein Mills (mode M-2) grinder under an exhaust hood; photo submitted by Yang-hong Dong, DON Testing Laboratory, University of Minnesota

University of Kentucky

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Last Name and Initial(s) of Author, [followed by last names and initials of other authors, if any]. Year of Publication. Title of paper. In: Description of proceedings and Title of Conference; Year Month and Days of Conference; Location of Conference. Place of Publication: Publisher. Page Numbers.

*Sample Reference:*

Dalitso Yabawalo, Mohamed Mergoum and William Berzonsky. 2009. "Chromosome Location of Fusarium Head Blight Resistance in 'Frontana' Spring Wheat." In: S. Canty, A. Clark, J. Mundell, E. Walton, D. Ellis and D. Van Sanford (Eds.), Proceedings of the National Fusarium Head Blight Forum; 2009 Dec 7-9; Orlando, FL. Lexington, KY: University of Kentucky. pp. 161-164.

## RISK MAPPING FUSARIUM HEAD BLIGHT OF WHEAT IN BRAZIL

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### ABSTRACT

Available epidemiological knowledge was previously used for developing a simulation model to predict Fusarium head blight infection risk in southern Brazilian conditions. The model has been successfully validated and incorporated into a web-based system to warn of FHB risk within-season using both site-specific observed and 5-day forecast weather. We have further used the model to assess disease risk under the influence of climate variability, especially under the effect of El Niño southern oscillation, and management practices (sowing dates) by using historical (50-year) records of weather data for a single location. We are now working on the development of tools to map disease risks over a broader geographic region. FHB risk maps are computer-generated images depicting the risk using special interpolation techniques within points indicated by the geographical location of automated weather stations. The final risk maps are made by color transparency layers which overlays a geographic map. Besides extending risk information for a large geographical region the use of intuitive images representing epidemic risks may facilitate dissemination and understanding of risks to guide decision-making on FHB management. In addition, maps may be useful for the fine tuning of wheat zoning and for the identification of post-harvest areas with lower probability risk of mycotoxin contamination.