

Grain Quality Newsletter

News and Highlights from NC-213: Management of Grain Quality and Security in World Markets.

Volume 24:3

Visit the NC-213 web site at: <http://www.oardc.ohio-state.edu/nc213>



Calendar items of interest ...

Upcoming events and issues:

- This year, submissions for the Annual Report of Progress are due December 20, 2004. For assistance in formatting your Report, please visit the NC-213 web site.
- The NC-213 Annual Meeting/Winter Technical Session will be held on February 23-24, 2005, in Kansas City, Missouri. For the complete program agenda, see the article in this issue.
- Andersons Research Grant Program: Team Competition: The RFP will soon be released. Please visit the NC-213 web site for more details.

The Grain Quality Newsletter is published and distributed at no charge to NC-213 (formerly NC-151) participants and supporters of research on "Management of Grain Quality and Security in World Markets."

Send your contributions, comments, suggestions, and subscription requests to:



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Announcing: NC-213 Annual Meeting Is Coming in February 2005

The NC-213 Annual Meeting/Technical Session is approaching. The Annual Meeting is scheduled for February 23-24, 2005, in Kansas City, Missouri, in conjunction with the Wheat Quality Council's Annual Meeting (held February 22-24, 2005). NC-213's Executive Committee is excited to offer a program that will include a scheduled panel discussion titled "Identifying Areas of Need Where Teaching and/or Outreach Programs Could Be Developed to Reach a Wider NC-213 audience." The banquet will be jointly held with Wheat Quality Council. Please visit the NC-213 web site for complete details, including the opportunity to register on-line.

NC-213 Annual Meeting/Technical Session Program Embassy Suites Hotel, Kansas City International Airport 7640 N.W. Tiffany Springs Parkway Kansas City, Missouri (816) 891-7788 February 23 – 24, 2005

Wednesday, February 23, 2005

- 11:00 am Faucets Room - NC-213 Executive committee meeting
- 12:00 Lunch (Please reserve your lunch in advance.)
- 1:00 Salon FG - Reports on Objective B - Develop basic knowledge, science-based standards, and technologies that promote crop quality, food security and food safety in grain markets. Moderators: Tim Herrman and Charlene Wolf-Hall
 - "Climatic humidity effects on controlled summer aeration in the hard red winter wheat belt." Mark Casada, USDA/ARS GMPCRC Manhattan KS
 - "Equilibrium moisture prediction for wheat varieties: Comparison of a generalized model with variety specific models." MD Sharif Uddin, Kansas State University
 - "Use of near infrared spectroscopy as a tool for optimizing high speed sorting of mycotoxin contaminated corn." Tom Pearson, USDA/ARS GMPCRC Manhattan KS and Don Wicklow, USDA/ARS Peoria IL.
 - "Use of FT-NIR for measuring fatty acids in soybeans." Marvin Paulsen, University of Illinois
 - "Factors Governing the Suitability of Sorghum and Maize for Wet Milling, Dry Milling, and Alkaline Processing." Andersons' Team project report. Scott Bean, USDA/ARS, Manhattan KS, Tim Herrman, Kansas State University and David Jackson, University of Nebraska-Lincoln
- Break (20 min)
 - Storability testing of shelled corn - Richard Strohshine and Dale Moog-Purdue University.
 - "Development and optimization of a high-capacity continuous-flow dryeration process." Anderson's project report Dirk Maier, Purdue University
 - Reports on Objective C - Create and disseminate scientific knowledge that will enhance public confidence in market-driven quality management systems for grain. Moderators: Dirk Maier and Mike Montross
 - "Proof-of-concept research on developing a global grain tracing system." Tim Herrman, Kansas State University
- 3:50 pm Panel Discussion – Identifying areas of need where teaching and/or outreach programs could be developed to reach a wider NC-213 audience. (Moderators – Charlene Wolf-Hall, Dirk Maier and other panelists to be determined.)
 - "Proposed multi-institutional academic graduate certificate program." Charlene Wolf-Hall, North Dakota State University
 - "The International Quality Grains Conference, GEAPS-Purdue Grain Operations Distance Learning Program, and other Knowledge Dissemination Efforts." Dirk Maier, Purdue University

- Manager's Reception – Hosted by Embassy Suites in the Atrium
- 7:00 pm Banquet
 - Presentation of the 2005 Andersons Research Award Banquet speaker – arranged by the Wheat Quality Council

Thursday, February 24, 2005

- 8:00 am Salon FG Reports on Objective A - Develop practices and technologies to support quality management systems for production, distribution, processing, utilization of quality grains and oilseeds. Moderator: Florence Dunkel
 - "Effect of preharvest environment on durum wheat quality." Frank Manthey, North Dakota State University
 - "Survey of the microbiological quality of the wheat crop from the northern Plains and evaluation of ozone for reducing microbial loads and mycotoxin content in wheat." Andersons' project report Charlene Wolf-Hall, North Dakota State University
 - "Recent advances in applying ozonation to the preservation of grain quality." Dirk Maier, Purdue University.
 - "Biological evaluation of reduction of Fumonisin B1 Toxicity in corn grits by extrusion processing." Andersons' project report Lloyd B. Bullerman, University of Nebraska-Lincoln
 - "Development and implementation of a thermal death kinetic model for management of Indianmeal moth and red flour beetle in food processing environments." Andersons' project report Bhadriraju Subramanyam, Kansas State University
- Break (20 min)
 - "The influence of fungal diet on the development of hairy fungus beetle *Typhea stercorea* (Linn) (Col: Mycetophagidae)." Linda Mason, Purdue University
- Flex time:
 - Options:
 - One or two more presentations.
 - Continued Panel Discussion on Identifying areas of need where teaching and/or outreach programs could be developed to reach a wider NC-213 audience from the previous day.
 - Start discussion of areas where significant multidisciplinary interaction occurs and where it could be enhanced.
- 12:00 noon Salon G - Business Meeting and discussion of areas where significant multidisciplinary interaction occurs and where it could be enhanced. (Please reserve your lunch in advance.)
- 1:30 pm Adjourn



New Frontiers in Grain Quality Technology and Informatics A National Roundtable

April 13-15, 2005
Hyatt Regency
New Orleans

Sponsored by:
University of Illinois at Urbana-Champaign
Illinois Soybean Checkoff Board
National Soybean Research Lab

Problem

Grain quality measurement and management have rapidly advanced. End-users have needs, suppliers have capabilities, and opportunities loom large. To date though, creating and capturing greater value from quality-related information remains elusive.

Purpose

To bring together leading industry and academic thinkers interested in creating and capturing greater value from grain-quality attributes.

Objectives

1. To learn about frontier technologies, applications, business models, handling and monitoring systems, and end-user needs.
2. To interact and hear from a broad spectrum of industry players.
3. To contribute to a white paper that outlines directions for research, development, and policy supporting the proliferation of quality-based business models.

In recent years tremendous advances have been made in grain quality testing and management. From the detection of genetically modified organisms to rapid assessment of starches and amino acids, the ability to test is more available than ever. Information abounds. The ability to manage attribute-

related information, grain quality informatics, is also improving rapidly. New systems have emerged that allow the combination of greater service and value creation for end-users by the grain supply system. Quality testing equipment can now be integrated into a variety of types of production, harvesting, storing, and grain-handling equipment. Sellers of grain from seed to processing can now know what they are selling.

New Opportunities

High starch for ethanol production, protein quality and quantity for soy-based isolates, genetically modified-free ingredients, nutritionally dense feeds, zero trans fatty acid foods, and pharmaceutical applications are some of the examples of the new and dynamic arena of grain and oilseed procurement. Suppliers from around the world now operate in a hyper-competitive environment to access these new demand opportunities.

Delivering feed and food stuffs within safe and secure supply chains now is part of the bundle buyers are demanding from their suppliers. Being able to traceback, participate in fast and efficient recalls, and provide surety to buyers are key for competitive advantage.

A final element is cost. Grains, such as corn and soybeans, are produced in large quantities around the globe and have numerous industrial as well as

organic substitutes. Many of the next stage uses of corn and soybeans are low-valued bulk products, such as corn syrup, ethanol, and soybean meal. As a result, premiums for quality are small and tend to decay rapidly. Commodities still offer buyers superior features of procurement flexibility, low transaction costs, and opportunities for risk management. In the end there are few opportunities for end-users to pay significantly more for a quality-based offer vs. a commodity offer. Therefore, cost discipline will be critical for quality-based grain models to be successful.

Roundtable Objectives

Numerous models, concepts, and new businesses are exploring the frontier of grain quality informatics. As with all formative stages of changed environments, many will fail and some will succeed. Who knows where these bold entrepreneurs and innovators will take us.

With this in mind the University of Illinois and the National Soybean Research Laboratory, in collaboration with the Illinois Soybean Checkoff Board, are facilitating a three-day roundtable. The goal of the roundtable is to serve as an industry catalyst bringing together leading industry and academic thinkers to explore the frontiers of grain-quality informatics and new business models.



Herrman Named to Top Texas Chemist Position

Writer: Blair Fannin, 979-845-2259, b-fannin@tamu.edu

Dr. Tim Herrman of Kansas has been named state chemist and director of the Office of the Texas State Chemist at Texas A&M University.

Herrman succeeds Dr. George W. Latimer, who retired Aug. 31 after 18 years of service to the Texas Agricultural Experiment Station. Herrman will start his new position Dec. 20, pending completion/transfer of duties at Kansas State University, where he serves as professor and Extension state leader in the department of grain science and industry.

Herrman received his bachelor's degree in agronomy at Washington State University. He received a master's degree in plant pathology and a doctorate in plant science at the University of Idaho.

He worked as an Extension agricultural agent in Idaho and as coordinator of field operations for Anheuser Busch Companies, Inc., in the western region prior to accepting the position at Kansas State.

Herrman has worked closely with the feed industry in developing and implementing voluntary hazard analysis critical control point plans. He also coordinated Kansas State's Feed Mill Profitability Workshop series.

"We are looking forward to Dr. Herrman's arrival and the leadership he will be providing to the office," said Dr. Mark Hussey, Experiment Station associate director and department head for soil and crop sciences at Texas A&M.

The mandate of the state chemist is to ensure that feed and fertilizer products comply with the Texas Commercial Feed Control Act and the Texas Commercial Fertilizer Control Act. The laboratory at Texas A&M analyzes hundreds of feed samples each year as part of its Agricultural Analytical Services division.

"It's exciting to step into leading a regulatory unit," Herrman said. "I believe the Office of the State Chemist will be able to contribute to the dialogue of what research needs there are as it pertains to protecting our food supply. I'm really honored to have the opportunity to work at Texas A&M and the group with the Office of the State Chemist, who are well recognized nationally."

Summary of an Andersons' Research Grant Program

Florence Dunkel, Montana State University and lead P.I. for an awarded grant proposal in the 2001-2003 Andersons Research Grant Program titled "Using Varietal Differences in Post Harvest Insect

Resistance of Northern Great Plains Hard Spring and Winter Wheat Varieties to Increase Profit Potential" shares the review of research with a poster that is on the NC-213 web site <http://www.oardc.ohio-state.edu/nc213>. Florence's team will file a final report with the upcoming NC-213 Annual Reports of Progress.