NC-213 Annual Meeting—Mark Your Calendar Now! Reserve Your Presentation Slot Now!

The NC-213 Executive Committee, led by Klein Ileleji, Purdue University, is excited to announce that the 2014 NC-213 Annual Meeting will be held February 25–26, 2014, at the Hilton Omaha, in conjunction with GEAPS Exchange 2014. Here is a “snapshot” of the meeting’s program:

**Tuesday, February 25**

7:00 a.m. Registration opens for GEAPS Exchange 2014

8:00 a.m. Registration opens for NC-213 Annual Meeting/Technical Sessions 2014

3:00 p.m. Noon

5:00 p.m. NC-213 Technical Sessions open

6:00 p.m. GEAPS Exchange pre-dinner reception (cash/ticket bar)

**Wednesday, February 26**

7:30 a.m. Educational Sessions open for GEAPS Exchange 2014

8:00 a.m. NC-213 Technical Sessions open/NC-213 Business Meeting/NC-213 Annual Meeting adjourns

5:00 p.m. NC-213 Technical Sessions end

6:00 p.m. GEAPS Exchange pre-dinner reception (cash/ticket bar)

6:30 p.m. President’s Banquet

8:30 p.m. Club GEAPS

*Please note: The NC-213 Executive Committee will be holding their annual executive meeting prior to this annual meeting. Special note: If you would like to present, please reserve your slot now! We don’t need a title or presenter name. There are still slots available for presentations. Please contact Bill Koshar at koshar.3@ksu.edu to reserve your slot.*

The Andersons Research Grant Program: Regular Competition Is Announced

Since the beginning of the NC-151 Committee in 1978, The Andersons’ Agricultural Research Fund has provided about $50,000 per year, which has enabled up to at least five projects to be funded for two-year periods. A large measure of the success of the NC-151/NC-213 Research Fund over its 25-year existence is due to the research funds made available on a recurring basis through The Andersons Agricultural Research Fund. While this year the competition is open to one institution, a team can still be formed that can foster collaboration between researchers, institutions, and industry. The goal of the Andersons Research Grant Program is to develop new approaches and technologies to maintain or improve the quality of cereals and oilseeds from harvest to delivery, while preserving the environment and maintaining consumer safety. These approaches and technologies must be developed and implemented if the United States is to remain at the forefront of the world’s major producers.

Kansai State University Is Offering Combustible Dust Workshops

Last month’s issue of *Grain Industry Safety Under Media Attack*, May 2013, highlighted the pressure our industry is under to reduce dust explosions and grain entrainment. The article is saying that efforts are being made to educate and train personnel about the dangers and preventive measures for grain explosions.

Annual training for all employees at any grain handling facility is highly recommended, especially for new employees and managers in charge of the grain explosion mitigation efforts. Kansas State University is offering Combustible Dust Workshops this summer. Register now for one of the following workshops. If you cannot attend, forward this article to your co-workers who are also interested. For additional information, please contact Dr. Kingby Ambrose (kingby@ksu.edu) or Heather Cook (bjcook@ksu.edu). To register go to: www.grains.ksu.edu/igp

- July 23, in Mesquite, Texas, at the Texas A&M Extension Service Auditorium. The course will be offered from 8 a.m. to noon and from 2 to 5 p.m.
- July 30, in Omaha, Nebraska, at the Omaha Hilton from 1 to 5 p.m.
- August 13, in Garden City, Kansas, at the Southwest Research Extension Office in conjunction with Kansas Grain and Feed Association. The course in English will be offered from 8 a.m. to noon and the Spanish course will be offered from 1 to 5 p.m.
- August 14, in Colby, Kansas, at the Colby Convention Center from 8 a.m. to noon.
- August 16, in Wichita, Kansas, at the Sedgwick County Extension Service Auditorium. The course in English will be offered from 8 a.m. to noon and from 2 to 5 p.m.
- August 19, in Salina, Kansas, at the Salina County Marress from 1 to 5 p.m.
- August 20, in Seneca, Kansas, at the Nemaha Community Building from 1 to 5 p.m.
- September 6, in St. Cloud, Minnesota, at the Kelly Inn Best Western from 8 a.m. to noon, in conjunction with the Minnesota Grain and Feed Association.

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NDSU Researchers Utilize Q-TOF Technology to Study Mycotoxins in Wheat and Barley

NC-213 scientist Dr. Senay Simsek, assistant professor in the Plant Sciences Department at NDSU, has obtained ultra-high performance liquid chromatography quadrupole time of flight mass spectrometry (UHPLC-Q-TOF MS) system to investigate occurrence of mycotoxins in grain samples with the collaboration of Dr. Paul Schwarz, professor in the Plant Sciences Department at NDSU. The ND Wheat Commission and USDA-AFRI have provided major funding for the instrumentation purchase and on-going research. Additional support was from the NDSU Agricultural Experiment Station, the Department of Plant Sciences, and the ND Barley Council.

 Fusarium Head Blight (FHB), also known as scab, is an important fungal disease affecting small grains in many of the world’s grain producing regions. It has resulted in billions of dollars in quality and yield losses to U.S. wheat and barley producers since the 1990s. FHB infected wheat kernels are referred to as scabby, blighted, or tombstone, based upon visual symptoms. These scabby kernels are often contaminated with mycotoxins, although contamination sometimes occurs in the absence of visual symptoms.

Deoxynivalenol (DON), also known as vomitoxin, is the most common mycotoxin associated with FHB infection of wheat and barley, although nivalenol (NIV) and zearalenone (ZEA) also occur. These compounds show a range of toxicity to humans as well as animals, and as such present food and feed safety concerns. Legislation in the European Union has set the maximum DON limits of 1250 ppm for cereals, 750 ppm for flours, and 500 ppm for bread in order to control dietary intake. The FDA has established advisory limits of 1 and 5 ppm in processed wheat products for human consumption and animal feed products, respectively. However, in recent years, researchers have discovered that several structurally related mycotoxin derivatives can be generated by plant metabolism or by food processing. These mycotoxin derivatives are sometimes referred to as “masked” mycotoxins, as they are often not detected in routine tests for DON. This is significant because these masked mycotoxins may still exhibit toxicity, or can be broken down to more toxic forms during food processing or in digestion. As such it is possible that total daily intake of mycotoxins, and associated risk are being underestimated.

The new equipment at NDSU will allow the simultaneous determination of deoxynivalenol, zearalenone, and their major masked metabolites in grain and cereal-based foods. Acquisition of UHPLC-Q-TOF MS has improved NDSU researchers’ ability to conduct original research on the analysis of mycotoxins from various grain sources, and therefore has improved their capacity to compete for federal funding opportunities. The instrumentation has generated also being incorporated into the education and training of students and visiting scientists at NDSU.

Methodology for Determining Susceptibility of Rough Rice to Rhizopyhera dominica (L) and Sitotroga cerealella Olivier

Authors: F.H. Arthur, L. Starkus, C.M. Smith, T.W. Phillips

Submitted to: Journal of Pest Science


There are few recent tests that evaluate susceptibility of stored rice to stored-product insects. We evaluated different long grain rice varieties for susceptibility to two major insect pests, the lesser grain borer and the Angoumois grain moth, using different methods. Adult lesser grain borers were first exposed on the rice varieties, then removed. Adult feeding caused the varieties to become more susceptible to larval feeding, which in turn increased progeny production. Some varieties were more susceptible than others to the lesser grain borer. Since adult Angoumois grain moths do not feed, we exposed mating pairs of adults to produce larvae that would infest the rice. All varieties were susceptible to damage caused by larval Angoumois grain moth, including those that did not support lesser grain borer growth and development. Results show that varietal susceptibility to stored-product insects may differ with insect species.

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Economic Feasibility of Methoprene Applied as a Surface Treatment and as an Aerosol Alone and in Combination with Two Other Insecticides

Authors: E.A. Fontenot, F.H. Arthur, J.K. Nichols, M.R. Langemeier

Submitted to: Journal of Economic Entomology. 106: 1503–1510

Insect growth regulators (IGRs) in a alone or combined with other insecticides are being evaluated for control of the Indianmeal moth, a common stored product pest, but there is little research regarding economic feasibility of treatments. We used mortality data from laboratory and field studies to conduct an economic risk analysis of different treatments. The optimal insecticide was a combination of methoprene combined with the pyrethroid esfenvalerate, but more frequent treatment is needed to reduce risk when Indianmeal moth developed on an optimal diet compared to a sub-optimal diet. Results show how risk assessments can be developed to help minimize damage caused by the Indianmeal moth.

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