



United States
Department of
Agriculture

Grain Inspection,
Packers and Stockyards
Administration

Meeting Minutes

Grain Inspection Advisory Committee

June 21-22, 2011
Kansas City, Missouri

**GRAIN INSPECTION, PACKERS AND STOCKYARDS ADMINISTRATION
GRAIN INSPECTION ADVISORY COMMITTEE MEETING MINUTES**

**National Grain Center
June 21-22, 2011**

WELCOME

Jerry Cope, Chairperson, Grain Inspection Advisory Committee (Advisory Committee) opened the meeting with a welcome and introductions.

ACCEPTANCE OF NOVEMBER 17-18, 2010, MEETING MINUTES

The Advisory Committee approved the minutes of the November 17-18, 2010, meeting as presented.

REVIEW AND ACCEPTANCE OF JUNE 21-22, 2011, AGENDA

The Advisory Committee approved the agenda of the June 21-22, 2011, meeting as presented.

MEETING ATTENDEES

Committee Members

Tammy Basel, Vice-President, Women Involved in Farm Economics
David Cantu, Owner/Manager, A. Cantu Farms
Theresa Cogswell, Consultant/President, BakerCogs, Inc.
Jerry Cope, Commodity Manager, South Dakota Wheat Growers
Tom Dahl, Vice-President, Sioux City Inspection and Weighing Service Company
Rennie Davis, President/CEO, Davis Seed Farms, Inc.
Rigoberto Delgado, Senior Partner, Delgado Farms Lcc.
Warren Duffy, Vice-President/Export Operations, ADM Grain
Edgar Hicks, Director, Nebraska State Grange
Mark Hodges, Executive Director, Oklahoma Wheat Commission
Jayce W. Hoyt, Managing Partner, Go Grain LLC
Paul Lautenschlager, Manager, Beach Coop Grain Co
Todd Russom, Manager, Quality-Raw Materials, Anheuser-Busch InBev
Sarah Ann Sexton-Bowser, Director of Membership Services, Kansas Grain and Feed Association
James M. Stewart, Manager Drying and Storage, Lundberg Family Farms

Alternate Members

Patricia Dumoulin, Producer, Farmer/Owner, Dumoulin Farms
Jerald S. Kemmerer, CEO-GM, Dodge City Cooperative Exchange
Chris Breedlove, Manager/CEO, Willacy Coop

GIPSA

Rob Dorman, Grain Marketing Specialist, Policies, Procedures, and Market Analysis Branch (PPMAB), Field Management Division (FMD), Federal Grain Inspection Service (FGIS), Grain Inspection, Packers and Stockyards Administration (GIPSA)

Dave Funk, Acting Director, Technology and Science Division (TSD), FGIS, GIPSA

Ruth Goff, Grain Marketing Specialist, TSD, FGIS, GIPSA

Karen Guagliardo, Assistant Director, FMD, FGIS, GIPSA

Terri Henry, Management Analyst, Management and Budget Services, GIPSA

Eric Jabs, Ag Marketing Specialist, PPMAB, FMD, FGIS, GIPSA

Randall Jones, Deputy Administrator, FGIS, GIPSA

Bob Lijewski, Director, FMD, FGIS, GIPSA

David Lowe, Chief, Board of Appeals and Review, TSD, FGIS, GIPSA

Pat McCluskey, Chief, PPMAB, FMD, FGIS, GIPSA

Tim Norden, Chief, Analytical Chemistry Branch, TSD, FGIS, GIPSA

Tom O'Connor, Director, Quality Assurance and Compliance Division (QACD), FGIS, GIPSA

Byron Reilly, Grain Marketing Specialist, Departmental Initiatives and International Affairs, FGIS, GIPSA

Mark Wooden, Compliance Officer, Quality Assurance and Designation Branch, QACD, FGIS, GIPSA

Other Attendees

Cassie Eigenmann, Dickey-john

Nick Friant, Cargill

Abigail Hiles, AAGIWA

Ben Lackey, Riceland

Jess McCluer, National Grain and Feed Association

David Steffen, Dickey-john

Melvin E. Thompson, Office of Senator Pat Roberts

NOVEMBER 2010 RESOLUTIONS RECAP

Randall Jones, Deputy Administrator, FGIS, GIPSA, provided an update on the status of the resolutions from the November 2010 meeting held in New Orleans.

1. The Advisory Committee recommends that GIPSA continue the current sorghum odor project with Dr. Chambers and KSU through September 2011. It is also recommended that GIPSA work with Dr. Chambers to identify potential companies that could have an interest in biosensor development for identifying chemical compounds that are believed to produce odors in sorghum or other grains.

The goal is to determine if chemical biosensor technology has advanced far enough to provide any assistance to odor inspection capabilities.

Moving forward, it is recommended that GIPSA determine if sorghum industry partners want to continue the sorghum odor project.

Dr. Chambers has identified a research instrument that would enable more rapid and precise identification of odor-causing chemicals in grain samples. GIPSA is working closely with the Sorghum Odor Taskforce in obtaining their input and recommendations.

GIPSA will provide a briefing in the Sorghum “Storage Musty” Odor presentation.

2. The Advisory Committee recommends the continuation/completion of the evaluation of rice shellers, in conjunction with the industry stakeholders.

GIPSA has agreed to requests by the California Warehouse Association and the California Rice Commission to use the Yamamoto Sheller as the official method for shelling California-production Medium Grain and Short Grain rice for the 2011 crop year.

GIPSA will provide a briefing in the Yamamoto Sheller Study presentation.

3. The Advisory Committee requests that when reviewing and selecting new moisture testing technology that GIPSA include in its analysis parameters for “Green” rough rice during the harvest season, Aug-Sept.

GIPSA has conducted an experiment to assess the effects of “green rice” and “green soybeans” on difference technologies that might be chosen for official moisture measurement.

GIPSA will provide a briefing in the New Moisture Measurement Technology and Research presentation.

4. The Advisory Committee recommends that the Advisory Committee agenda (books) be transmitted electronically to members before the Advisory Committee in lieu of mailing unless otherwise notified that a hard copy is needed. Each Advisory Committee member would be responsible for printing and bringing the material to the meeting. This would cut down on the cost of shipping.

The Advisory Committee books were transmitted electronically to all members one week before the meeting which provided them the opportunity to print and review the material before the meeting.

5. The Advisory Committee proposes that GIPSA review its allocation of Export oversight fees. GIPSA currently is assigning revenue derived from supervision of export loadings by Delegated States and Designated Agencies to the Domestic Service Official Agency account #530. The Advisory Committee resolves that oversight fees charged for export supervision be applied to the export Inspection and Weighing account #520.

GIPSA proposes to modify the national administrative tonnage fee to ensure fair application for all export inspections.

GIPSA will provide a briefing in the Review of Export Tonnage Fee presentation.

6. The Advisory Committee requests that the GIPSA staff do a formal review of the current GIPSA headquarters tonnage assessment. This review would establish an equitable headquarters tonnage oversight fee for all Export tonnage loaded utilizing the official system.

GIPSA proposes to levy the national administrative tonnage fee on all export inspections by designated agencies and delegated states. The new levy ensures an equitable allocation of national costs to all entities performing export inspections.

GIPSA will provide a briefing in the Review of Export Tonnage Fee presentation.

For additional details, please see the attached presentation, *November 2010 Resolutions*.

FGIS 2011 PROGRAMS

Randall Jones, Deputy Administrator, FGIS, GIPSA, gave a general overview of FGIS operations.

Flood Impact: Recent floods slowed down operations in our New Orleans Field Office. Barges were not able to get to the lower Mississippi fleets as scheduled. The high water levels also contributed to slower barge unloading times because the barges were riding so high in the water they would not fit under the barge unloading legs. The high water level in the river came at a time when some elevators had scheduled maintenance “down time” which lessened the impact of the high water. The opening of the two spillways north of New Orleans and Baton Rouge kept the river at a level where actual impact from the flooding was greatly reduced as it relates to exporting grain.

In southeast Missouri, repairs began on the Birds Point – New Madrid Floodway frontline levee. All three crevasse sites and areas impacted by overtopping will be repaired. Farmers in the floodway say the repairs will give them a chance to get a crop in this season. Crop damages from that area alone will cost more than \$42 million according to the authors of a recent study by the Food and Agriculture Policy Research Institute at the University of Missouri.

Market Overview: Well into the 2010/11 crop year export inspections remain strong. Total grain inspections are running 10 percent ahead of last year, and 15 percent ahead of the five year average. China has been the main destination so far, accounting for 38 percent of total inspection volume. Nearly 66 percent of this has been soybeans.

In 2011, FGIS-Only export inspections have increased 13 percent from 2010. For the same period, total State and Agency export inspections are running 5 percent (1.6 mmt) ahead of last year. Wheat is the leading force up 59 percent (3.36 mmt). When looking at all export inspections (FGIS, State, and Other) over the past years, FY 2011 projections for the remaining of the year are above last year’s volume but slightly below FY 2008’s record year.

Export inspections for soybeans, corn, and wheat are as follows:

- Soybean inspections are 1.6 percent ahead of last year's pace (representing an additional .6 million metric tons). Soybean inspections for FGIS are 9 percent above last year at this time (2.1 million metric tons).
- Total export inspections of corn are down 1.8 percent (0.7 mmt). FGIS corn export inspections have decreased 1.5 percent (0.4 mmt).
- Total inspections of wheat are up 55 percent (8.9 mmt).

State and Agency domestic grain inspections are up 5 percent (3.4 mmt) compared to this time in 2010.

Based on the USDA reports rice inspections are expected to continue to decline into FY 2012 due to an estimated 22 percent decrease in planted acreage. As of March, Processed Commodity Inspections were at 4.1 mmt for FY 2011, nearly 50 percent of these inspections were distillers grain products. Containerized grain inspections are currently up 5 percent (.1 mmt) compared to a year ago.

For additional details, please see the attached presentation, *FGIS 2011 Programs*.

INTERNATIONAL PROGRAMS

Byron Reilly, Grain Marketing Specialist, Departmental Initiatives and International Affairs, FGIS, GIPSA, provided an update on several international trade and outreach efforts.

Egypt-Corn: Last fall, a FGIS representative traveled to Egypt with a U.S. Grains Council consultant and spent nearly a month in Egypt working closely with Egyptian officials to successfully gain entrance for most of the four U.S. corn shipments that were detained because Egypt claimed they exceeded Egypt's limit of 7.0 percent damage.

Korea Corn Monitoring Project: Prior to the 2009 corn crop Korea importers benefited from two good crop years, and it appears they came to expect U.S. No. 2 quality when they contracted for U.S. No. 3 corn. Then, in 2009 when they contracted for No. 3 corn, they received No. 3 corn. Korean importers claimed they received inferior quality. North American Export Grain Association (NAEGA) and FGIS developed a study to monitor three corn shipments to four different ports in Korea using different sampling methods at loading and discharge. The broken corn and foreign material (BCFM) was higher at destination using the Korean sampling method as compared to the FGIS diverter-type (D/T) sampling method used at loading.

China-Soybeans: Since February 2007, the Administration for Quality Supervision, Inspection and Quarantine alleged finding treated soybeans in 15 shipments. As an outgrowth of the treated soybean allegations, in 2009, a Memorandum of Understanding (MOU) between the Foreign Agricultural Service, the Animal and Plant Health Inspection Service, the Food and Drug Administration, and FGIS was drafted that addressed quality, phytosanitary, and food safety concerns relating to U.S. soybean shipments.

The new MOU with China on soybeans was signed in December 2010. On June 20, 2011, a FGIS representative and representatives of the U.S. soybean stakeholders, including the seed industry, soybean farmers, and the grain handling/export industry traveled to Beijing, China, and met with Chinese officials and discussed the next steps for the implementation of the MOU.

Asia Collateral Duty Officer Program: In 2002, FGIS placed a representative in Asia on a long-term (3.5-month) temporary duty assignment to work with overseas customers and their governments in Southeast Asia. Following the successful completion of this initial assignment, FGIS have continued to annually place representatives in Asia under this program. The FGIS representative travels throughout the region to meet with importers and governments officials.

The FGIS presence in the region continues to draw praise from buyers, millers, processors, USDA Cooperators and Foreign Agricultural Service representatives in the area. Later this summer FGIS plans to send a representative to Asia for 3-5 week assignment

International Complaints: This year, FGIS has received more than normal number of complaints from importers of U.S. grain. Approximately 1.0 percent of all grain exported was involved in grain quality discrepancies as compared to 0.5 percent last year. The increase is due to China alleging treated seeds in six soybean shipments, accounting for 43 percent of the complaints and Egypt reporting complaints on five corn shipments, accounting for 30 percent of the complaints by weight.

For additional details, please see the attached presentations, *International Programs*.

QUALITY ASSURANCE AND COMPLIANCE DIVISION

Tom O'Connor, Director, Quality Assurance and Compliance Division, FGIS, GIPSA, provided an overview of the roles, staffing, and responsibilities of the Quality Assurance and Compliance Division, including the status of the integration of the Quality Assurance and Quality Control Staff into the renamed Quality Assurance and Designation Branch.

Mr. O'Connor also reported on progress implementing the Agency's Quality Management Program, discussing its major features, history and benefits, as well as findings from recent reviews.

In addition, Mr. O'Connor summarized the findings for the Agency's so-called Contract Review Program in which GIPSA sampled vessel, rail, and container export shipments for conformance with the U.S. Grain Standards Act and associated regulations, directives, and policies. The review program found very high compliance with export vessels and rail with a lower compliance rate for export container shipments. Based upon these results, Mr. O'Connor stated that the Agency plans to continue the program for the foreseeable future but will limit the review to one quarter per year, with emphasis on container shipments because of that mode's lower compliance rate.

Mr. O'Connor concluded with remarks on GIPSA's Exception Program. He explained the history of the program and the three exceptions that allow an agency to provide service in an area

assigned to another official agency. He reviewed the provisions of GIPSA's exceptions program directive, including who may request an exception, reporting requirements, and cancellation of inactive exceptions after 18 months. He also provided statistics on use of the exception program by mode of transportation and the status of exceptions that remain active in the official system.

For additional details, please see the attached presentation, *Quality Assurance and Compliance Division.*

DIVERTER-TYPE SAMPLER UPDATE

Bob Lijewski, Director, Field Management Division (FMD), FGIS, GIPSA, provided a historical overview on how mechanical samplers, in particular, the Diverter-Type (D/T) sampler came to existence.

Currently, D/T samplers are check-tested for approval whenever they are newly installed or modified. This approval is based on a comparison of the D/T sampler vs. the standard reference method (pelican sampler or Ellis cup). However, issues such as safety and the speed of grain flow have caused GIPSA to evaluate other methods of approval. GIPSA proposes to review engineering drawings and require either a GIPSA, or third party engineering review of the D/T installations as part of the approval process. Additionally, GIPSA proposes to use "Drop Test" procedures comparable to those currently utilized by the Canadian Grain Commission (CGC) to check the D/T sampler and sample delivery system for grain breakage. In this test, samples of known quality grain are introduced close to the primary sampler, recovered, and then reanalyzed for quality. Factor results must meet those of the original result (+/- 10%). GIPSA will work with the official inspection agencies and industry to align the check-testing of sampling systems within GIPSA requirements.

For additional details, please see the attached presentation, *Diverter-Type Sampler Update.*

FGIS RESEARCH UPDATE

Dave Funk, Acting Director, Technology and Science Division (TSD), FGIS, GIPSA, provided the Advisory Committee updates on several research efforts.

New Moisture Measurement Technology and Research: An overview of GIPSA's moisture research was presented. The Advisory Committee was provided with bound copies of five conference papers GIPSA personnel prepared for the 9th International Conference on Electromagnetic Wave Interaction with Water and Moist Substances. Paper topics included (1) National Type Evaluation Program success, (2) secondary density correction for corn, (3) effects of test cell loading procedures, (4) feasibility of measuring oil or protein with dielectric moisture meters, and (5) effects of drying (rebound) and mixtures on dielectric and near-infrared (NIR) moisture measurements.

Mr. Funk reported on the preliminary testing to assess the effects of "green" soybeans and rice on moisture measurement with dielectric (149 MHz) and NIR methods. Sample moisture variations were simulated by mixing wet and dry sample portions and by drying (rebound)

sample portions. The effects are complex and varied with type of grain, measurement method or dielectric frequency, and extent of drying or mixing of extreme moisture levels. Additional tests at harvest time are needed to examine larger moisture ranges and provide more definitive results.

Mr. Funk presented crucial criteria for consideration in pursuing new moisture measurement technology for the Official Inspection System. It was proposed that acceptance of these criteria suggests only one suitable technology option – instruments compatible with use of the FGIS 149 MHz Unified Grain Moisture Algorithm. It was recommended that GIPSA implement this method as the new official moisture technology.

Yamamoto Sheller Study: Mr. Funk reported that the California rice industry requested that the Yamamoto FC2K rice sheller be used for 2011-crop short- and medium-grain rice. GIPSA has agreed and is working on an implementation plan to get the new technology in place by September 1, 2011. GIPSA will continue to use the Grainman sheller for long-grain rice, southern production short- and medium-grain rice, and all 2010-crop rice.

Rapid Test Evaluation Program: Mr. Funk provided the Advisory Committee with an update on FGIS' implementation of the revised Rapid Test Evaluation Program. Since the program was restarted in October 2010, FGIS has purchased reference materials, updated aflatoxin and DON reference methods, certified aflatoxin and DON reference materials, hired a program manager, moved into new laboratory space, and completed the evaluation of twelve rapid test kits. The backlog of test kits currently in the queue is expected to be cleared by October 2011.

FGIS Wheat Functionality Research: Mr. Funk provided the Advisory Committee with an overview of wheat functionality research initiatives including, Farinograph standardization, varietal identification for classification assistance, and gluten quality assessment. Progress on the Farinograph standardization project included an initial ring study that helped identify specific opportunities for improvement. These improvements were communicated to the manufacturer and a new, improved version of the Farinograph has been developed. GIPSA will continue to work with the manufacturer on this new model to help standardize Farinograph testing.

The varietal ID method involves high-performance liquid chromatographic (HPLC) analysis of wheat samples to produce a chromatogram or fingerprint of the soluble proteins. A mathematical program has been developed that enables matching of an unknown wheat sample to a library of wheat varieties. Accomplishments included creating a fingerprint library of most U.S. wheat varieties, developing a mathematical method for automated matching of chromatograms, verifying high matches for cultivars in different growing regions, successful transfer of the method to a different HPLC, and routine use of the method to assist the Board of Appeals and Review in classifying difficult wheat samples.

The background and fundamentals of a new test for wheat protein quality were described. GIPSA worked with Cornell University to develop a rapid rheological test to measure the visco-elastic properties of wheat gluten. Cornell University collaborated with Perten Instruments, who built a prototype instrument. Mr. Funk also shared data on the correlation of test results from eighteen wheat cultivars on the prototype gluten tester with results from the Mixolab, the Extensograph, and the Farinograph. The results look encouraging, but additional work is needed

to refine the commercial prototype, test the performance of the new prototype, and continue to assess the relationship of this test to current functional tests for wheat. GIPSA also plans to use the test to attempt to develop an NIR calibration to predict gluten strength.

For additional details, please see the attached presentation, *FGIS Research Update*.

SORGHUM ODOR STUDY UPDATE

David Lowe, Chairman, Board of Appeals and Review, TSD, FGIS, GIPSA, provided an update to the Advisory Committee on the Sorghum Odor Study.

Dr. Edgar Chambers has created a chemical cocktail that mimics “storage musty” odor in grain sorghum. A chemical concentration of Geosmine and 1, 2, 4-Trimethoxybenzene has been tentatively identified to represent the odor line for “storage musty” sorghum. In continuing this effort, GIPSA will reach out for industry and end-user feedback to attain their input on the importance of odor in sorghum for their prospective end use. GIPSA will also obtain a cross-section of industry representatives by sorghum usage to assist GIPSA in the assessment of the sorghum odor line.

For additional details, please see the attached presentation, *Sorghum Odor*.

CENTRALIZED QUALITY ASSURANCE ACTIVITIES

Tom O’Connor, Director, Quality Assurance and Compliance Division, FGIS, GIPSA, briefed the Advisory Committee on the objectives and essential elements of the Agency’s quality control program, providing a review of the roles and responsibilities of Quality Assurance and Compliance, Field Management, and the Technology and Science Divisions within the quality program.

GIPSA is in the process of conducting a complete review of its quality control program, including resources, staffing, organization, training and other issues with the goal of further enhancing and strengthening quality within the official system and will provide a status update at the fall 2011 meeting.

For additional details, please see the attached presentation, *Centralized Quality Assurance Activities*.

REVIEW OF EXPORT TONNAGE FEE

Eric Jabs, Ag Marketing Specialist, Policies, Procedures, and Market Analysis Branch, FMD, FGIS, GIPSA, briefed the Advisory Committee on export tonnage and grain inspection and weighing program (520) fees and proposed the following changes beginning in 2013:

- Reduce the national administrative tonnage fee based on a reallocation of workers compensation from the national to the local field office level.

- Modify local administrative tonnage fees based on updated field office costs, tonnages, and a reallocation of workers compensation from the national to the local field office level.
- Levy designated agencies and delegated states the national administrative tonnage fee in lieu of the current \$0.011/metric ton fee on all export inspections

GIPSA intends to publish a proposed rule in the near future and implement the changes October 1, 2012.

For additional details, please see the attached presentation, *Review of Export Tonnage Fee*.

ELECTION OF VICE-CHAIRPERSON

Paul Lautenschlager was elected as vice chair and will become the Chairperson at the spring 2012 meeting.

NEXT MEETING

The Advisory Committee recommends the next meeting be held the first week of November or the first week of December 2011 in Portland, OR, Sacramento, CA, or Olympia, WA.

RESOLUTIONS

The following resolutions were introduced and passed by the Advisory Committee:

1. The Advisory Committee recommends that GIPSA moves forward on implementing new Diverter-Type (D/T) check testing procedures at both the export and domestic markets. The Advisory Committee charges GIPSA to replace the current procedures with procedures that focus on safety and reliability such as drop, visual, and installation certification.
2. The Advisory Committee is concerned that the newly formed Domestic Inspection Operations Office (DIOO) is currently understaffed to properly perform their required duties (equipment, federal appeals, testing, SIMS samples, AMA) and supervise approximately thirty (30) agencies in the domestic market. The Advisory Committee recommends that GIPSA evaluate the number of personnel under the DIOO banner, including what steps will be taken to ensure that GIPSA will be able to facilitate the marketing of grain in the domestic market under the increased workload of DIOO.
3. The Advisory Committee recommends that GIPSA continues to support marketing to Asian markets through the Collateral Duty Officer (CDO) program and explore ways to expand the program. The Advisory Committee suggests that the Agency work with industry, if possible and appropriate, to look at ways this may be accomplished.
4. The Advisory Committee recommends that GIPSA continue to identify new and improve current rapid technology in the area of protein quality (visco-elastic test) and ensure that the results correlate with end users.

5. The Advisory Committee recommends that GIPSA continue working on sorghum odor. In continuing this effort, reach out for industry and end-user feedback to set a storage musty sorghum odor reference that refers to end uses.
6. The Advisory Committee strongly recommends that export user-fees collected and maintained as retained earnings be solely used to support services that facilitate the export of grain and grain related products and not be subject to use for any other purpose.
7. The Advisory Committee recommends that FGIS/GIPSA continue to go forward with the evaluation and adoption of the 149 MHZ technology as the new official standard for grain moisture measurement.
8. The Advisory Committee recommends that GIPSA expedite the scheduled review of the barley standards considering the needs of all stakeholders.

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NOVEMBER 2011 RESOLUTIONS

Randall D. Jones

Grain Inspection Advisory Committee Meeting

Deputy Administrator

June 2011



**United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service**

Resolution #1

- That GIPSA continue the current sorghum odor project with Dr. Chambers and KSU through September 2011. It is also recommended that GIPSA work with Dr. Chambers to identify potential companies that could have an interest in biosensor development for identifying chemical compounds that are believed to produce odors in sorghum or other grains.
- The goal is to determine if chemical biosensor technology has advanced far enough to provide any assistance to odor inspection capabilities.
- Moving forward, it is recommended that GIPSA determine if sorghum industry partners want to continue the sorghum odor project.



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Federal Grain Inspection Service

Resolution #1 (cont'd)

➤ Action Taken:

- Edgar Chambers has identified a research instrument that would enable more rapid and precise identification of odor-causing chemicals in grain samples.
- Current biosensor technology offers little hope to replace human inspectors for odor assessment.
- Working closely with the Sorghum Odor Taskforce in obtaining their input and recommendations .
- Dave Lowe will discuss during his presentation.



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
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Resolution #2

➤ The continuation/completion of the evaluation of rice shellers, in conjunction with the industry stakeholders.

➤ **Action Taken:**

FGIS has agreed to requests by the California Warehouse Association and the California Rice Commission to use the Yamamoto sheller as the official method for shelling California-production Medium Grain and Short Grain rice for the 2011 crop year. Dave Funk will discuss during his presentations.



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Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service



Resolution #3

- That when reviewing and selecting new moisture testing technology that GIPSA include in its analysis parameters for “Green” rough rice during the harvest season, Aug-Sept.
- **Action Taken:**

FGIS has conducted an experiment to assess the effects of “green rice” and “green soybeans” on different technologies that might be chosen for official moisture measurement. Dave Funk will discuss during his presentations.



Resolution #4

- That the Advisory Committee agenda (books) be transmitted electronically to members before the Advisory Committee in lieu of mailing unless otherwise notified that a hard copy is needed. Each Advisory Committee member would be responsible for printing and bringing the material to the meeting. This would cut down on the cost of shipping.
- **Action Taken:**
Books were transmitted electronically.



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service



Resolution #5

- That GIPSA review its allocation of Export oversight fees. GIPSA currently is assigning revenue derived from supervision of export loadings by Delegated States and Designated Agencies to the Domestic Service Official Agency account #530. The AC resolves that oversight fees charged for export supervision be applied to the export Inspection and Weighing account #520.
- **Action Taken:**
 - GIPSA proposes to modify the national administrative tonnage fee to ensure fair application for on all export inspections.
 - Eric Jobs will discuss during his presentation.



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Federal Grain Inspection Service

Resolution #6

- That the GIPSA staff do a formal review of the current GIPSA headquarters tonnage assessment. This review would establish an equitable headquarters tonnage oversight fee for all Export tonnage loaded utilizing the official system.
- **Action Taken:**

GIPSA proposes to levy the national administrative tonnage fee on all export inspections by designated agencies and delegated states. The new levy ensures an equitable allocation of national costs to all entities performing export inspections. Eric Jobs will discuss during his presentation.



FGIS 2011 Programs

Grain Inspection Advisory Committee Meeting

Randall Jones

Deputy Administrator

June 2011



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

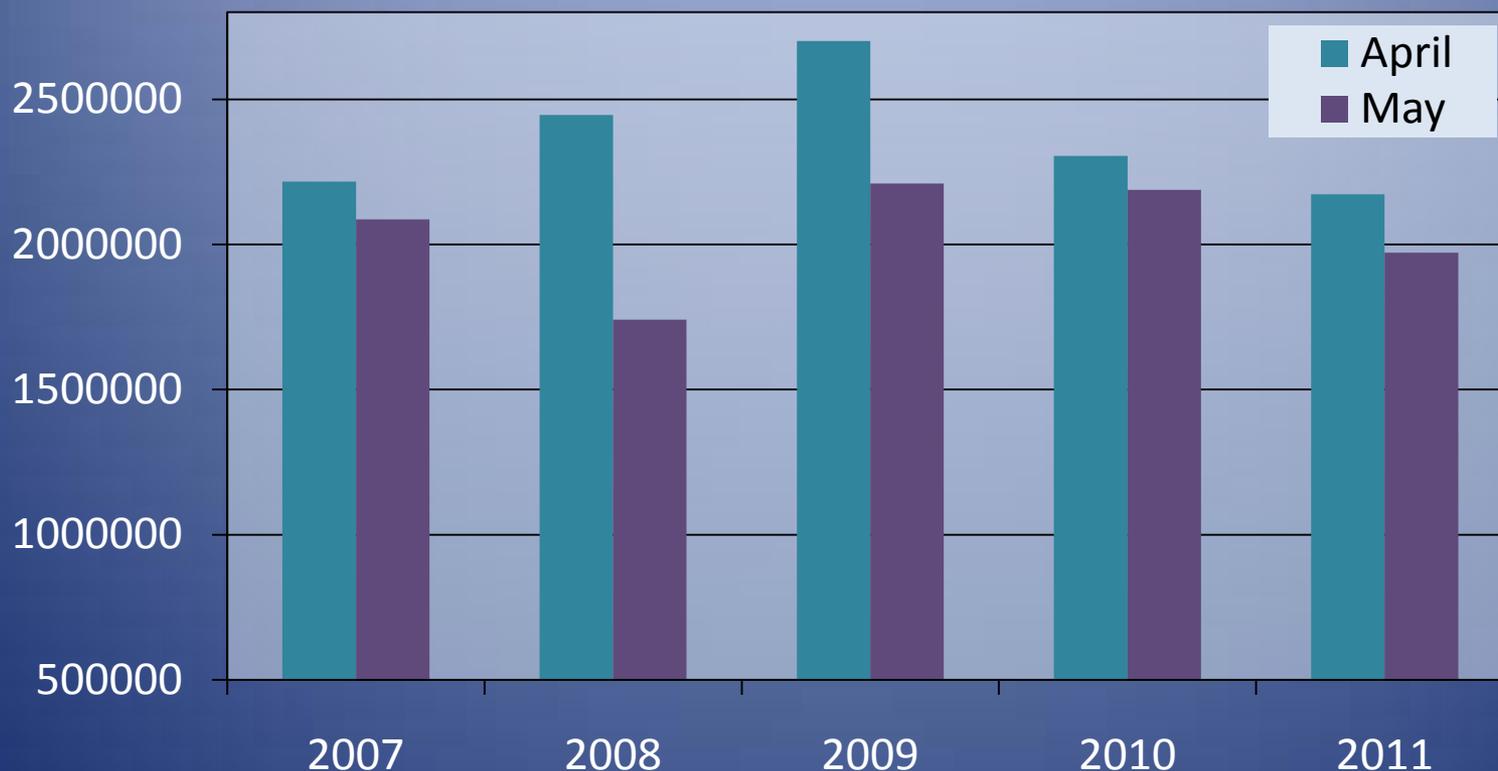
Overview

- Flood Impact
- Market Overview
- Canada
- Corn and Wheat Soy Blend
- Agenda



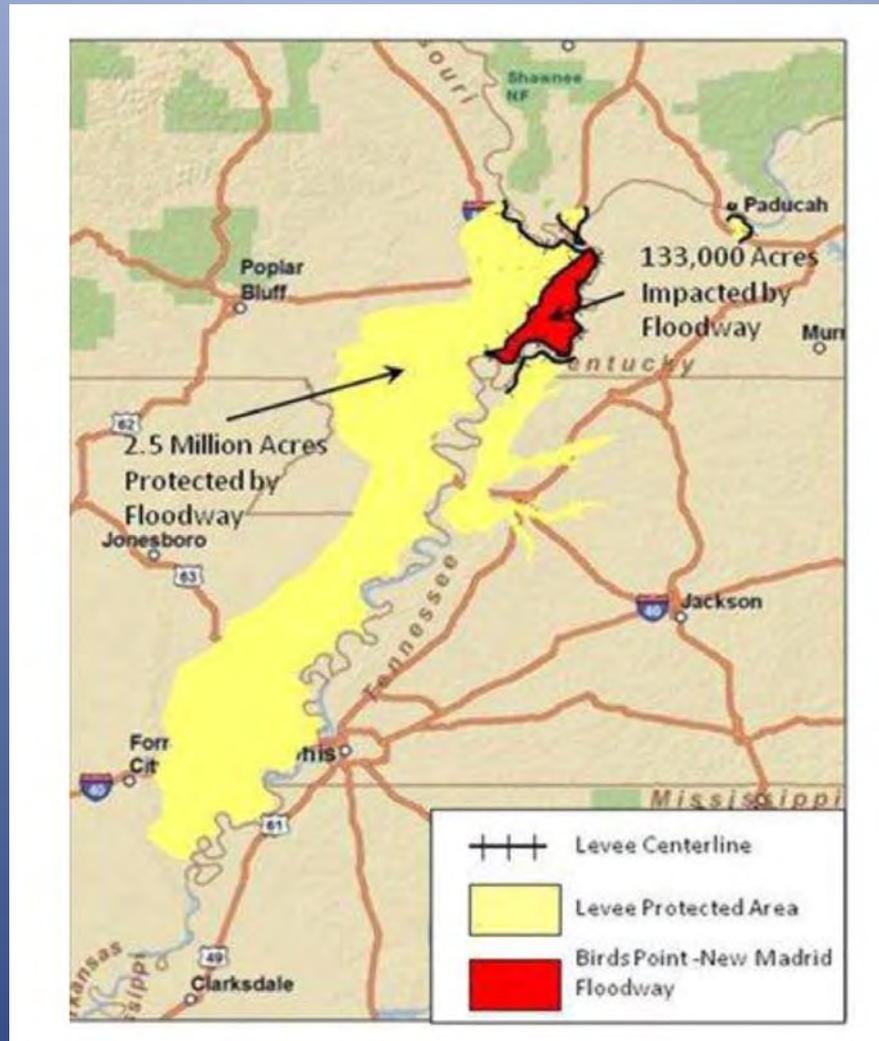
Flood Impact

New Orleans Historical April and May Inspections



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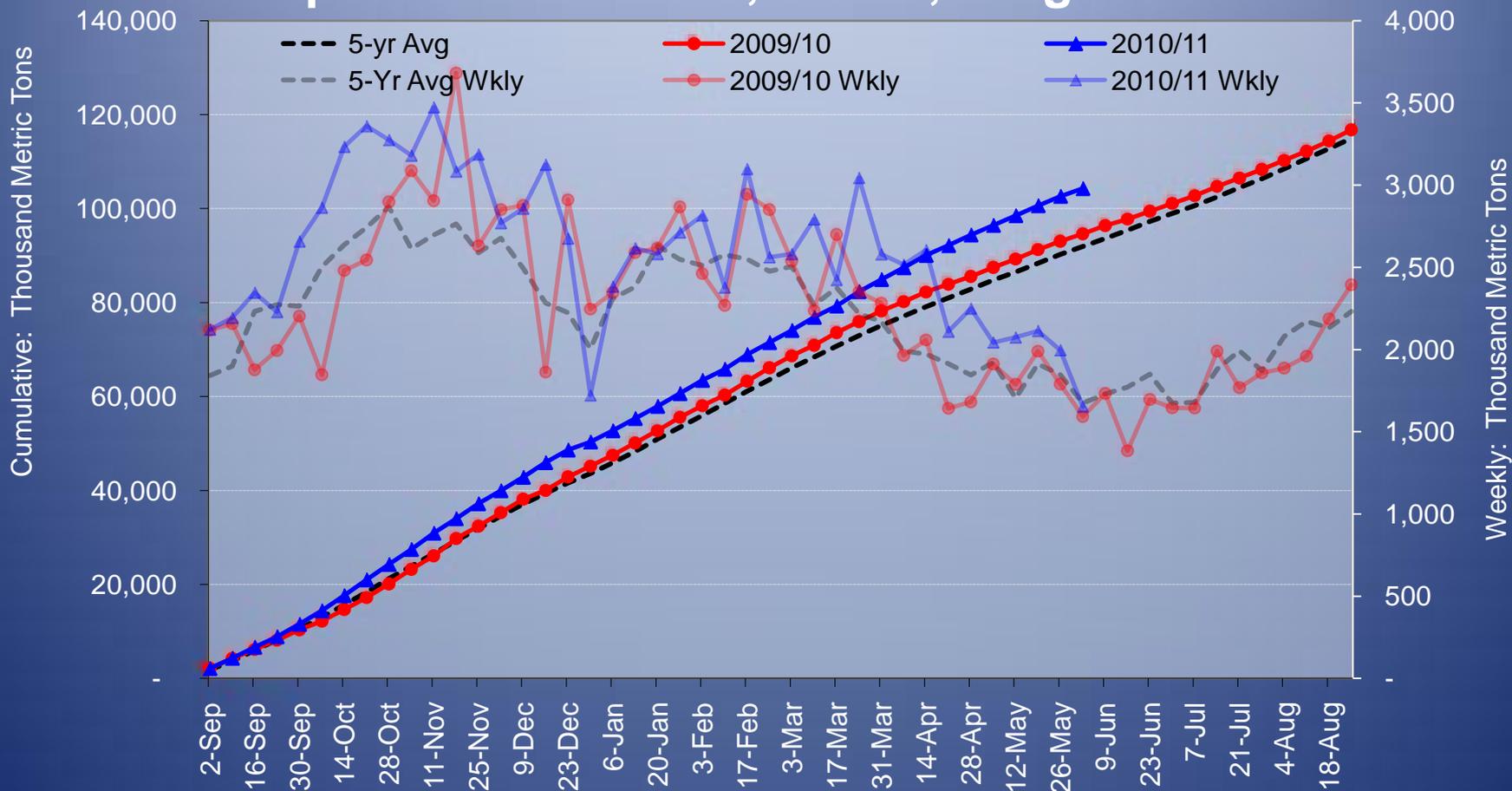
Flood Impact



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Market Overview

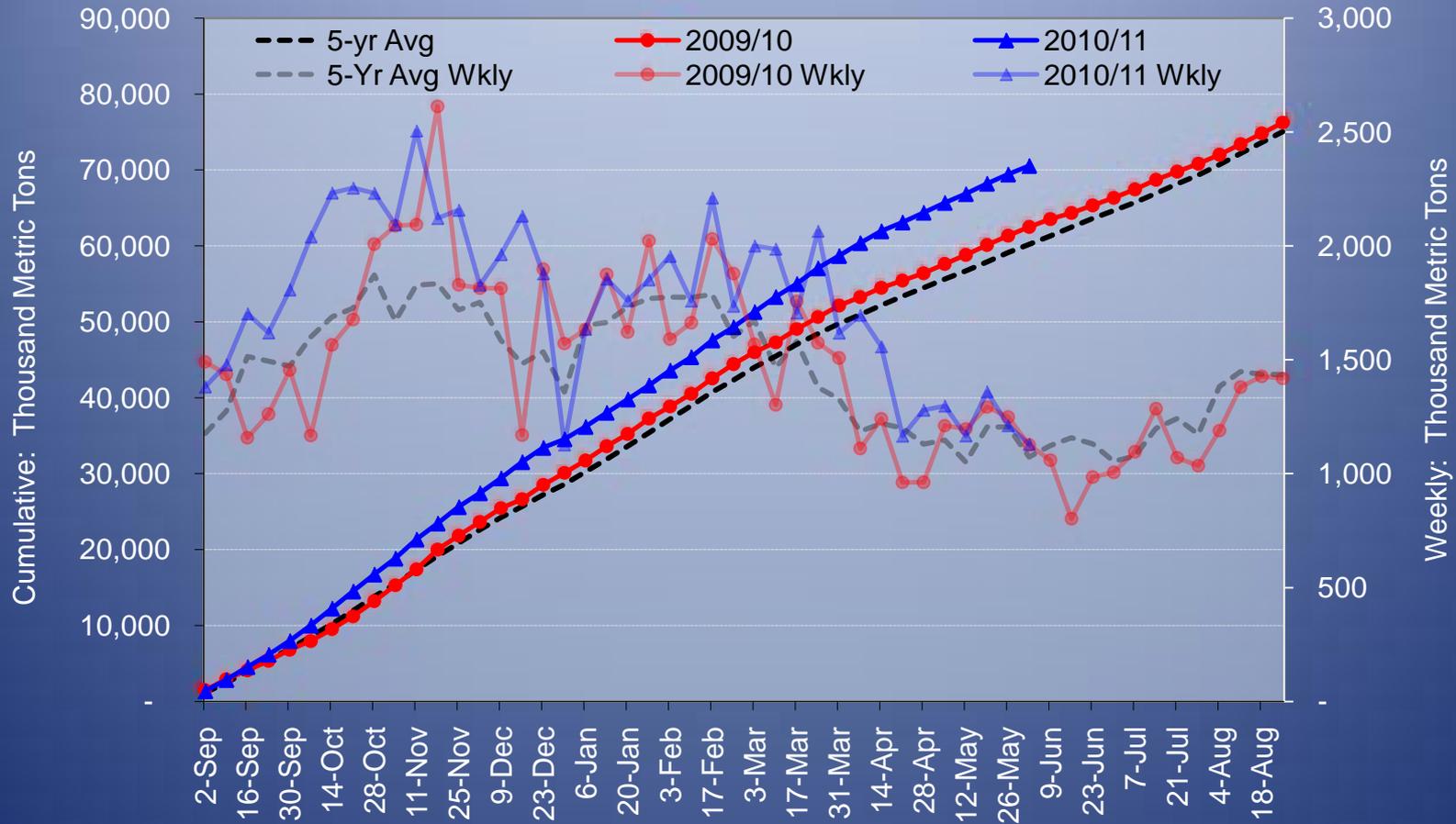
Export Grains - FGIS, States, & Agencies



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview (cont'd)

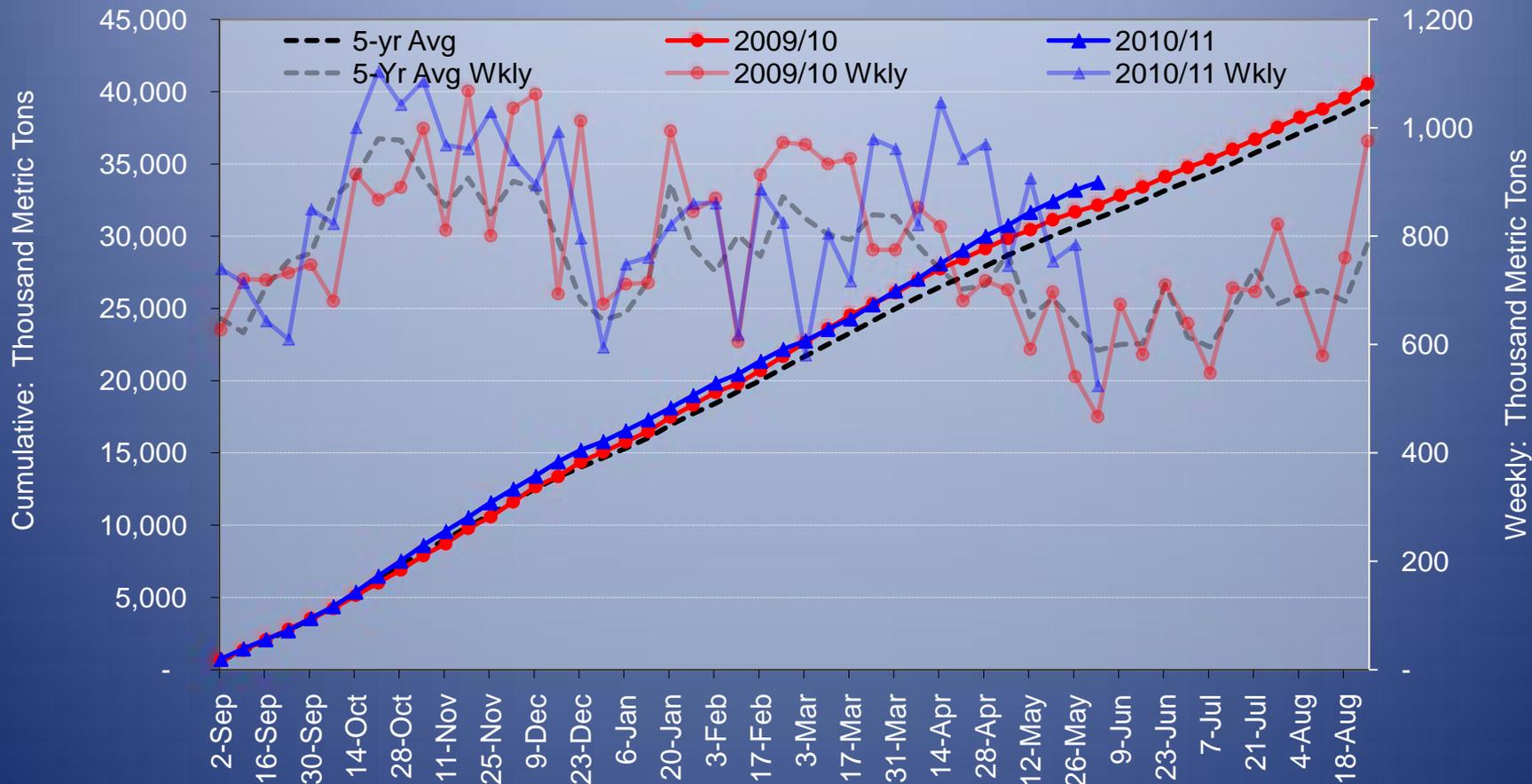
Export Grains - FGIS Only



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 Grain Inspection, Packers and Stockyards Administration
 Federal Grain Inspection Service

Market Overview (cont'd)

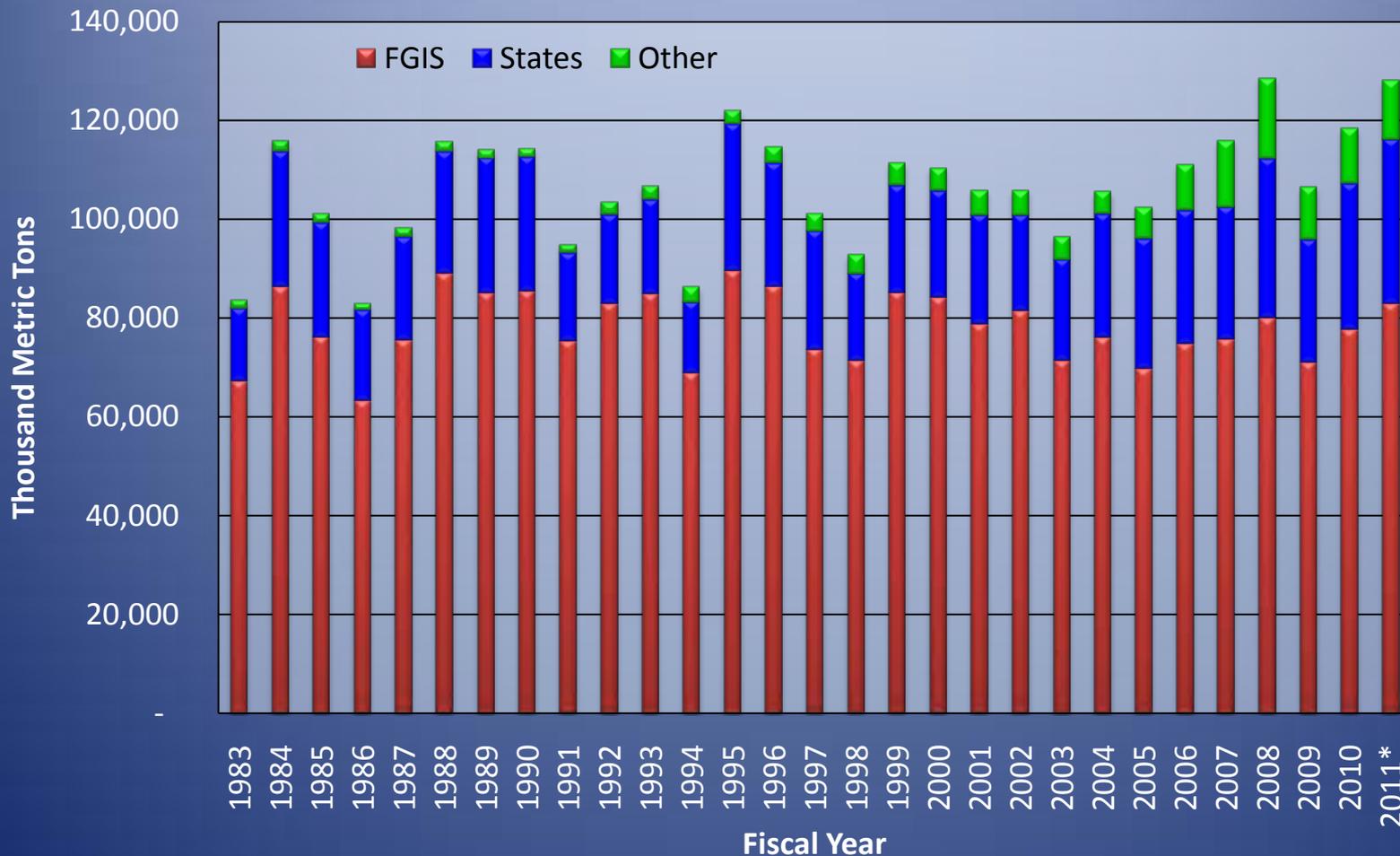
Export Grains - State & Agencies



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview (cont'd)

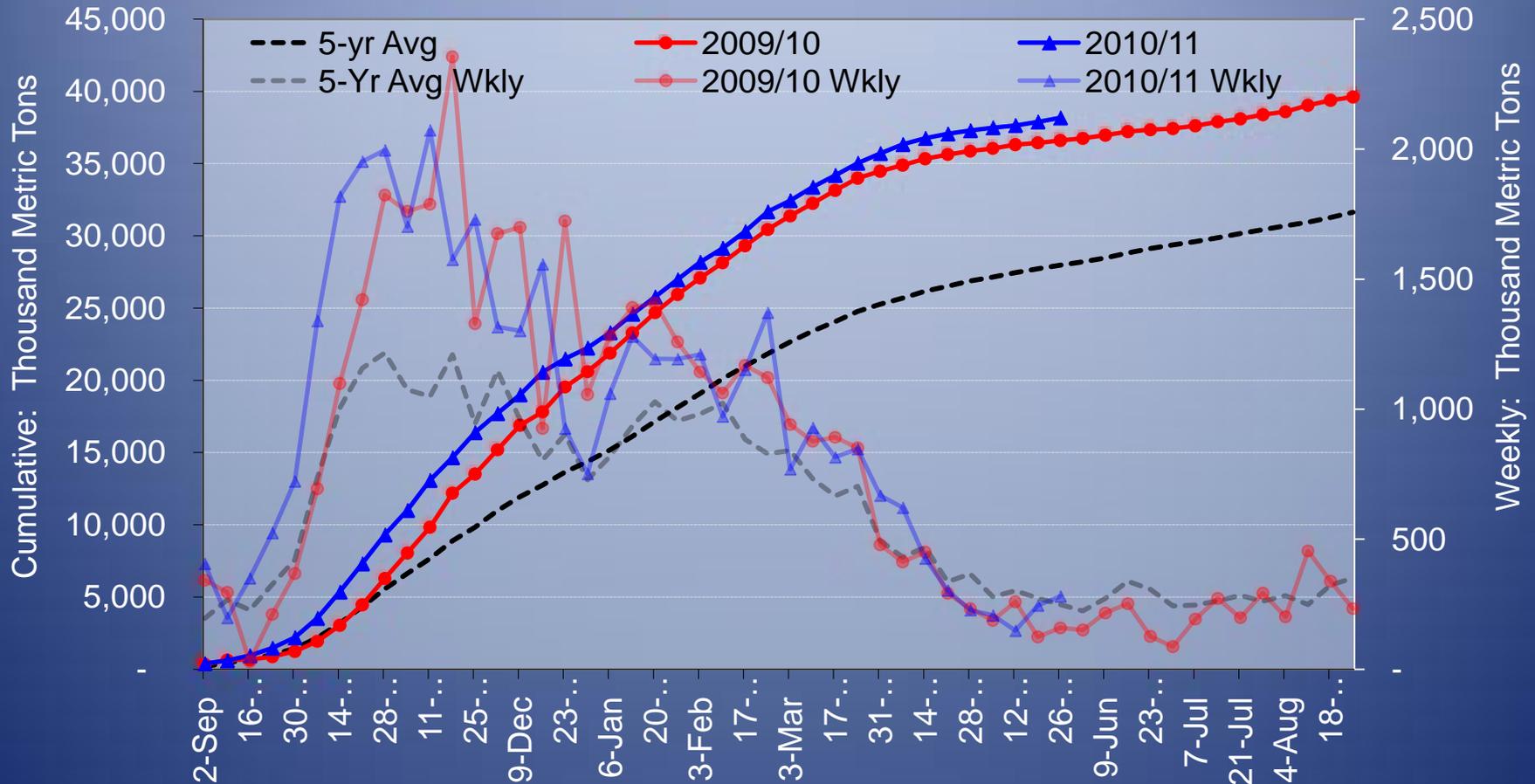
Historical Export Inspections - FGIS, States, & Other



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview (cont'd)

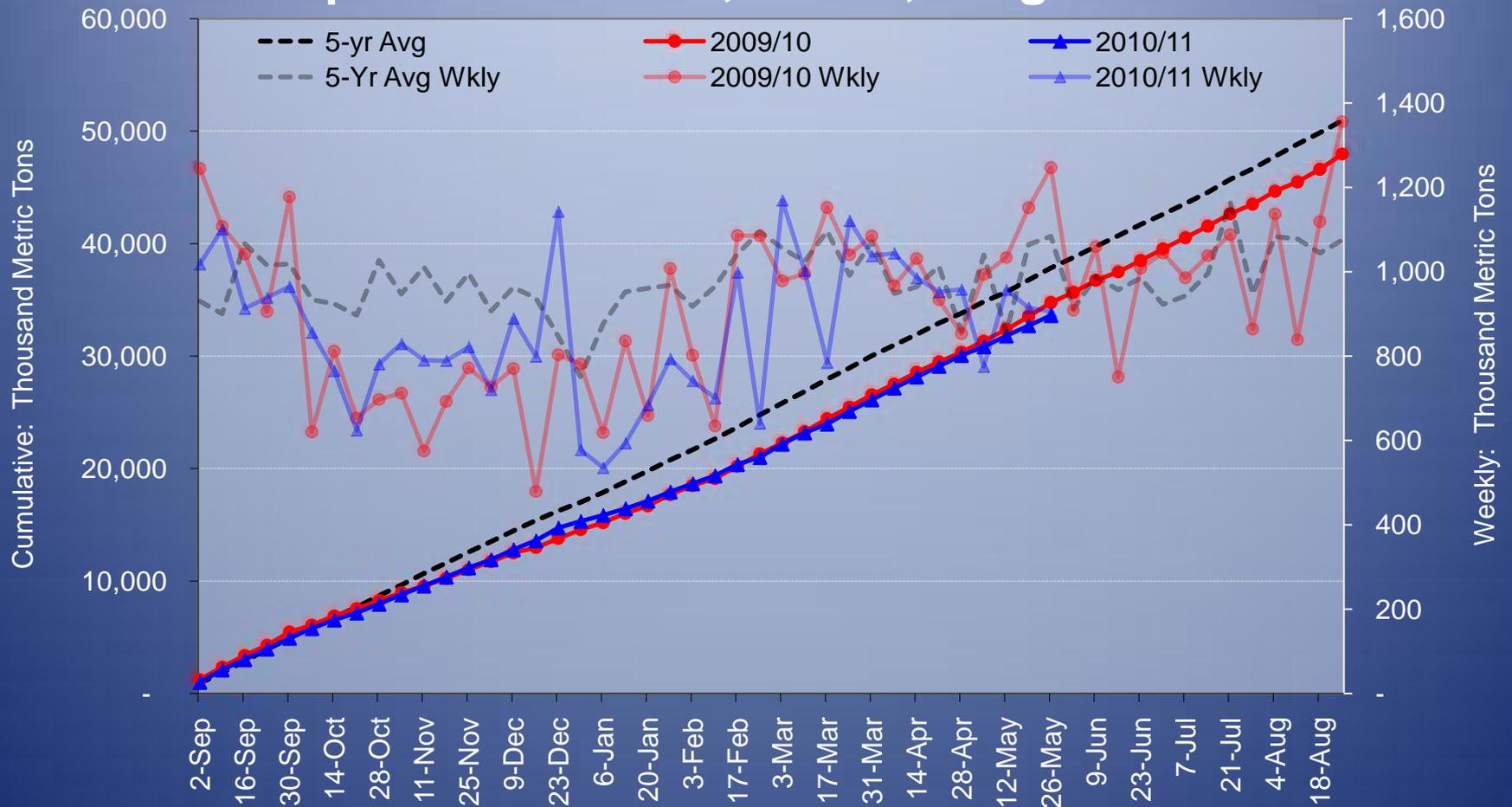
Export Soybeans - FGIS, States & Agencies



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Federal Grain Inspection Service

Market Overview (cont'd)

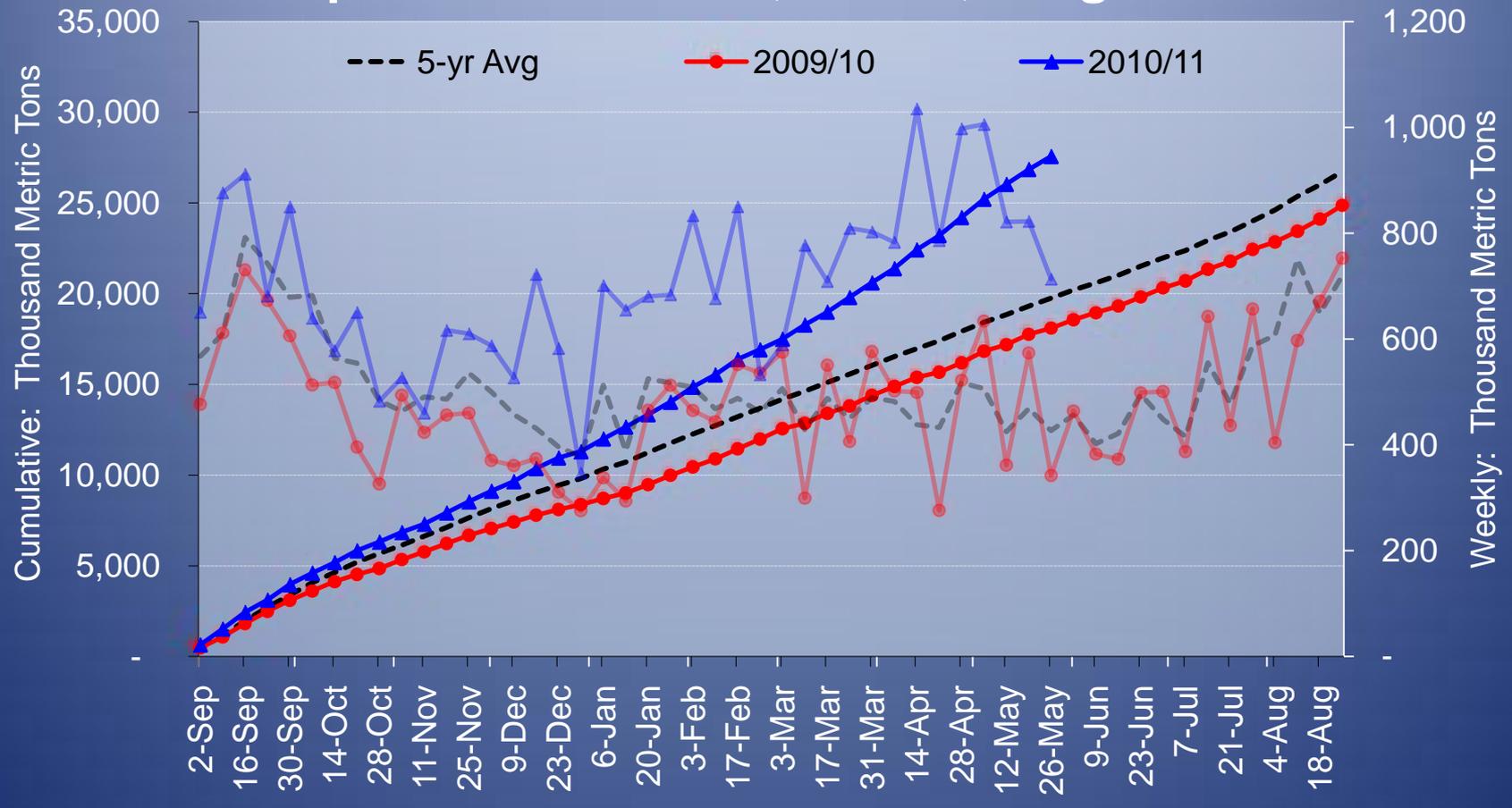
Export Corn - FGIS, States, & Agencies



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview (cont'd)

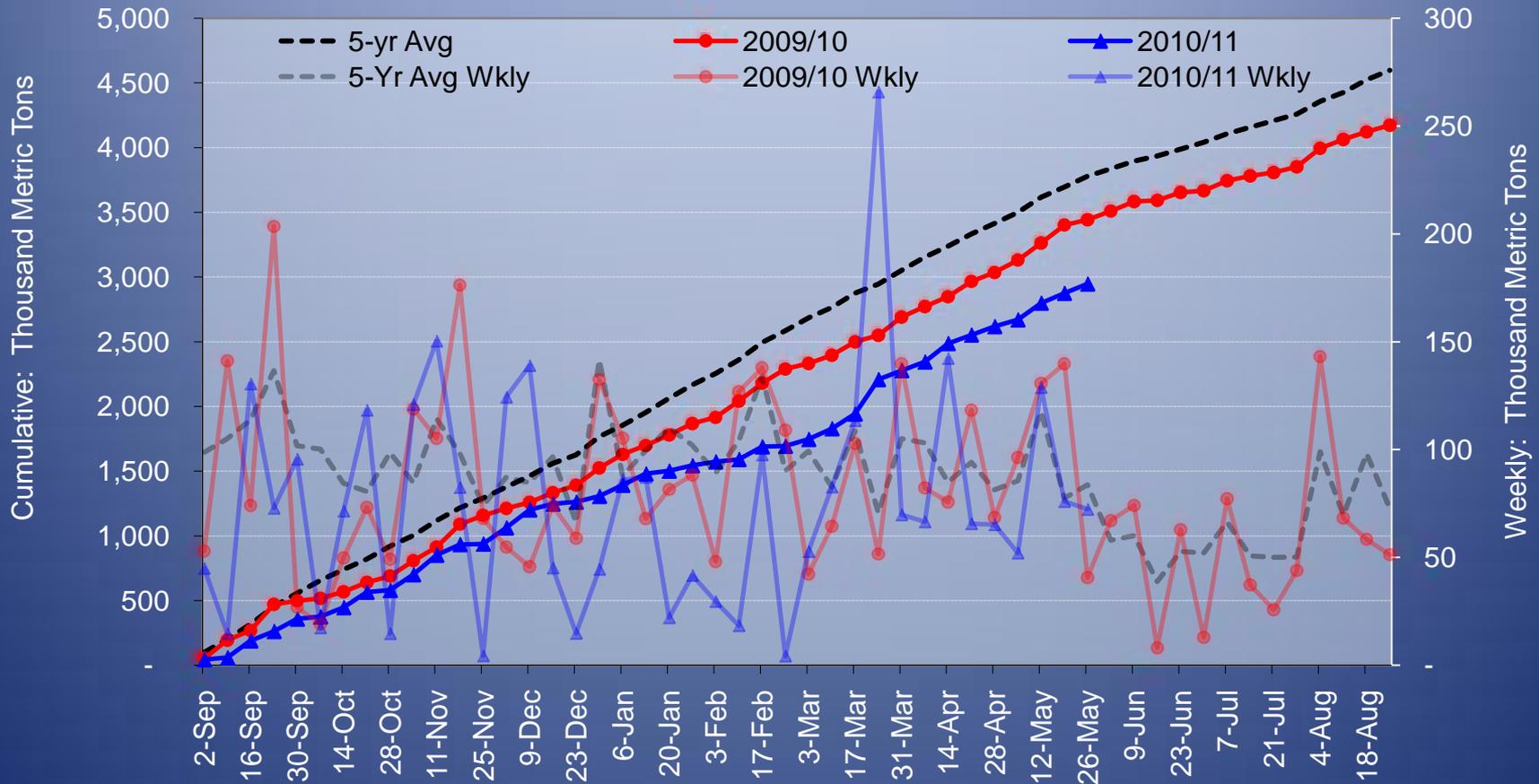
Export Wheat - FGIS, States, & Agencies



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview (cont'd)

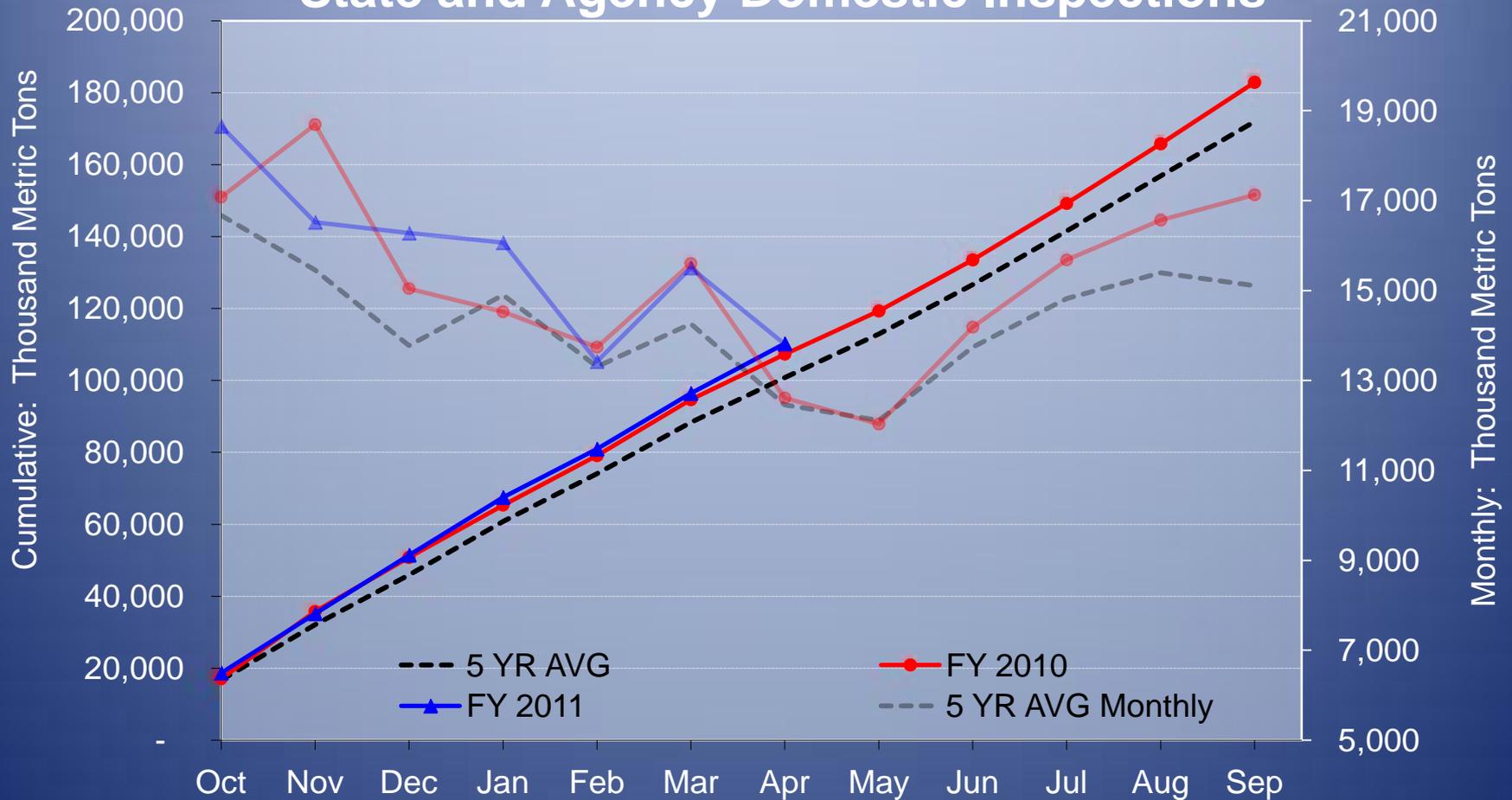
Export Sorghum - FGIS, States, & Agencies



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview (cont'd)

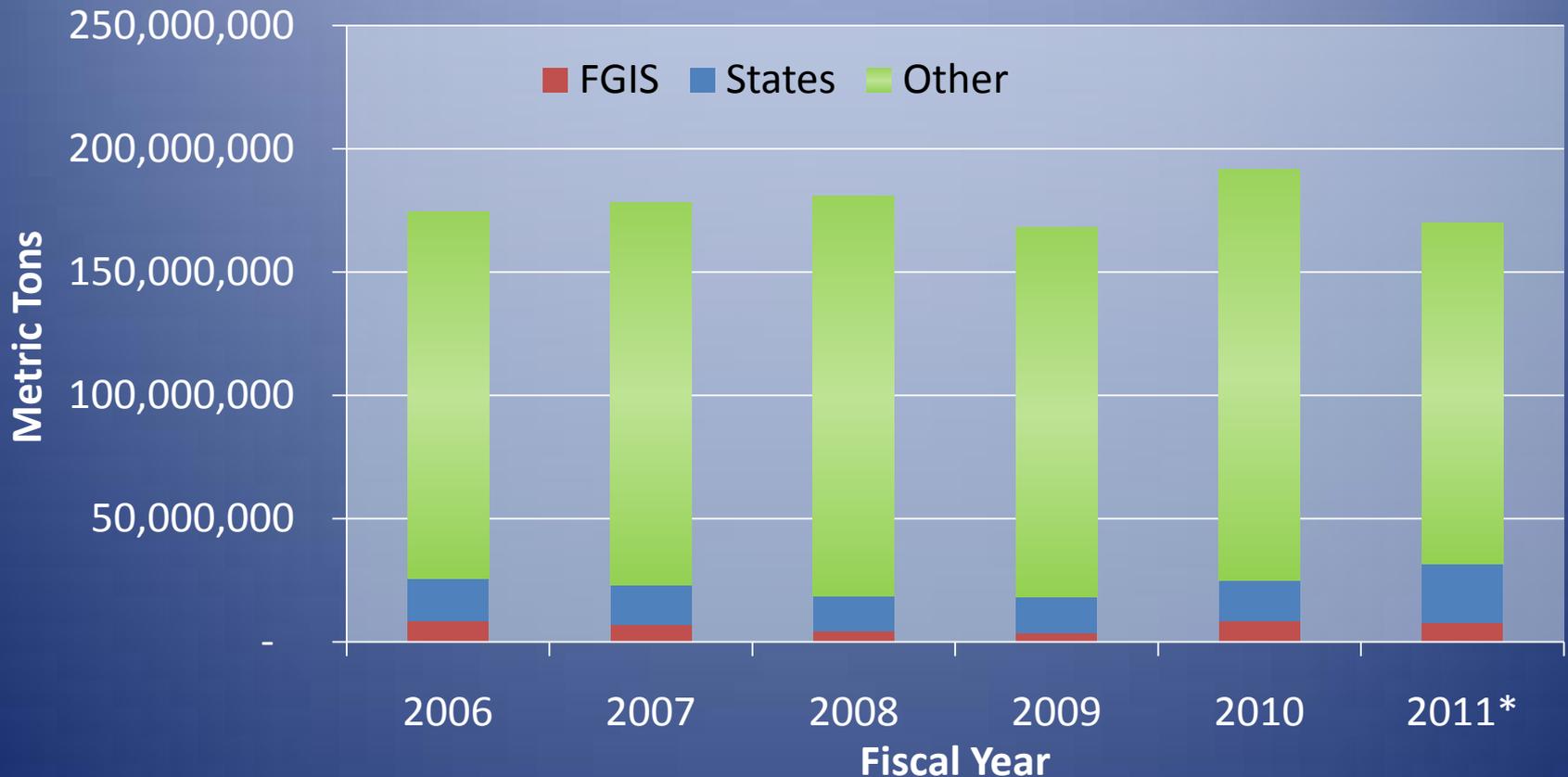
State and Agency Domestic Inspections



United States Department of Agriculture
 Grain Inspection, Packers and Stockyards Administration
 Federal Grain Inspection Service

Market Overview (cont'd)

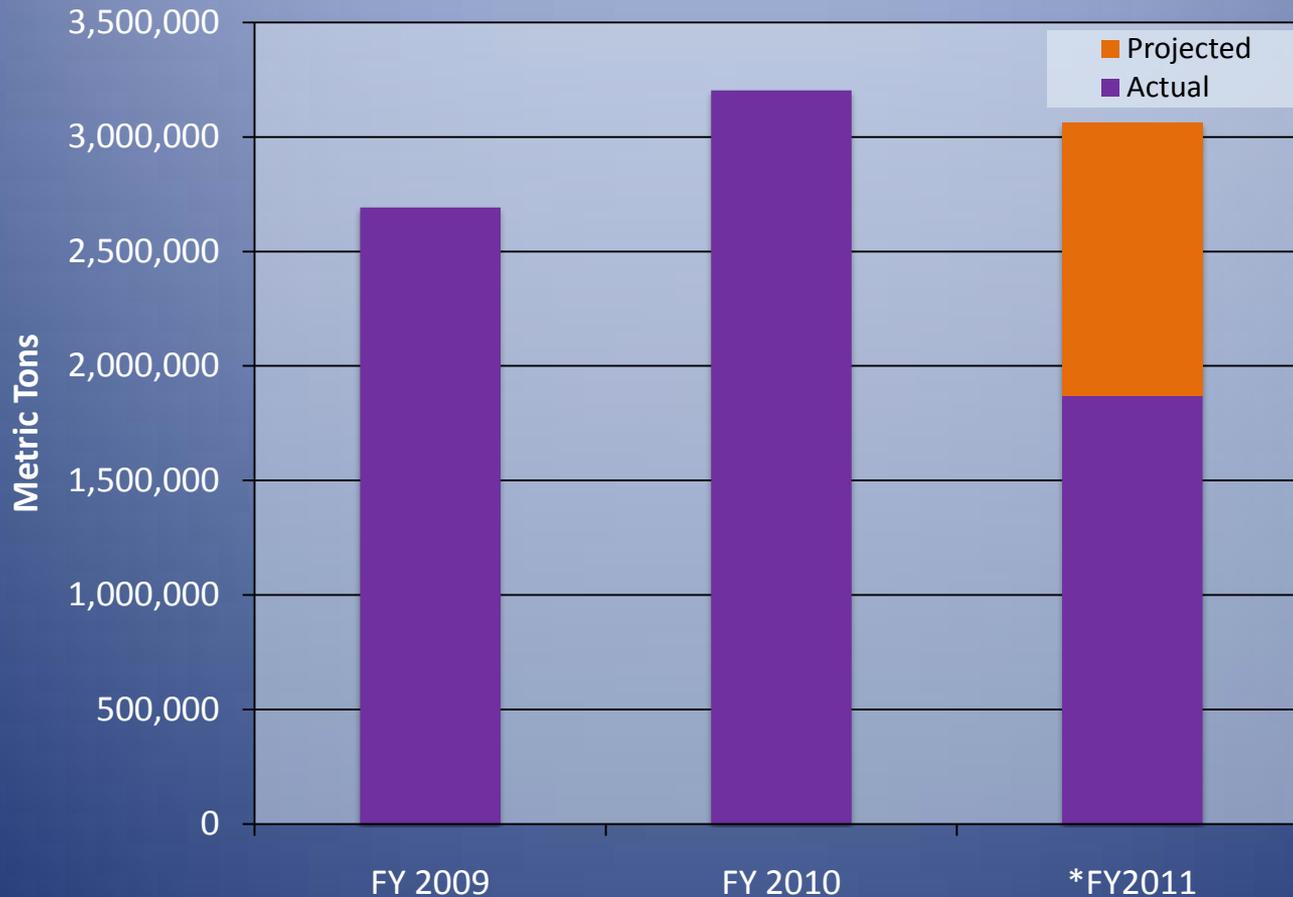
Historical Domestic Inspections - FGIS, States, & Other



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview - Rice

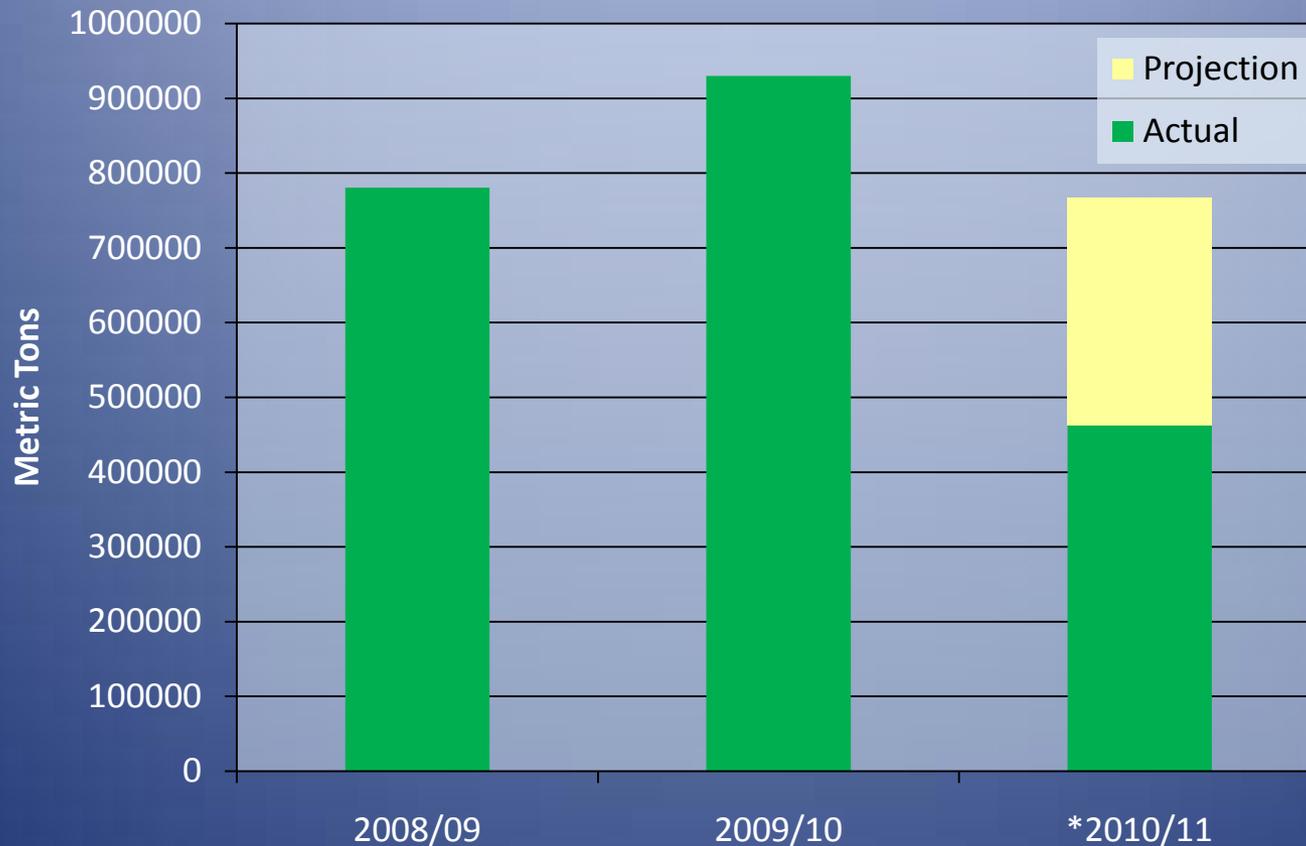
Yearly Rice Inspections



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Market Overview - Pulse

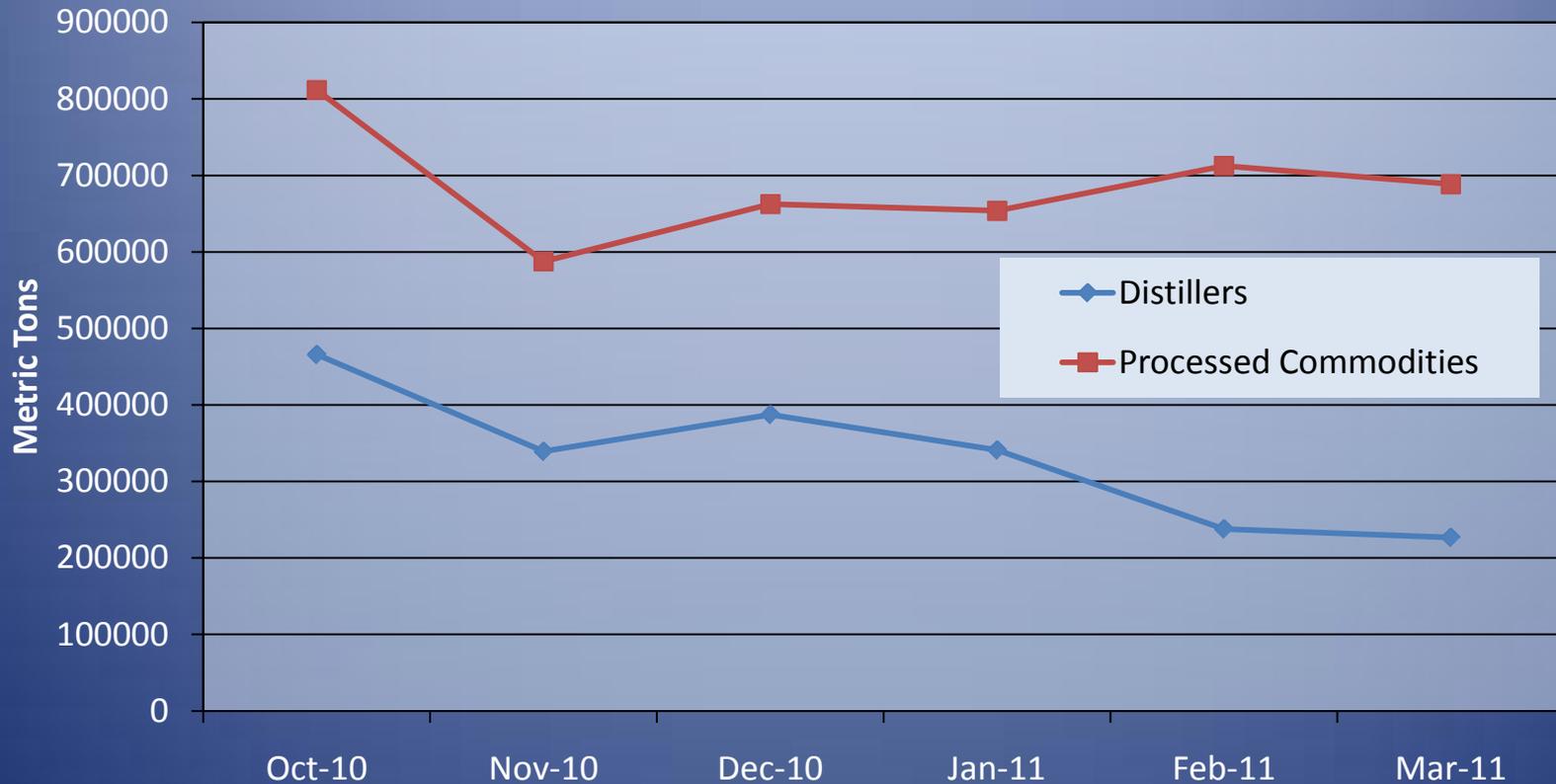
Fiscal Year Pulse Inspections



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Market Overview - Commodities

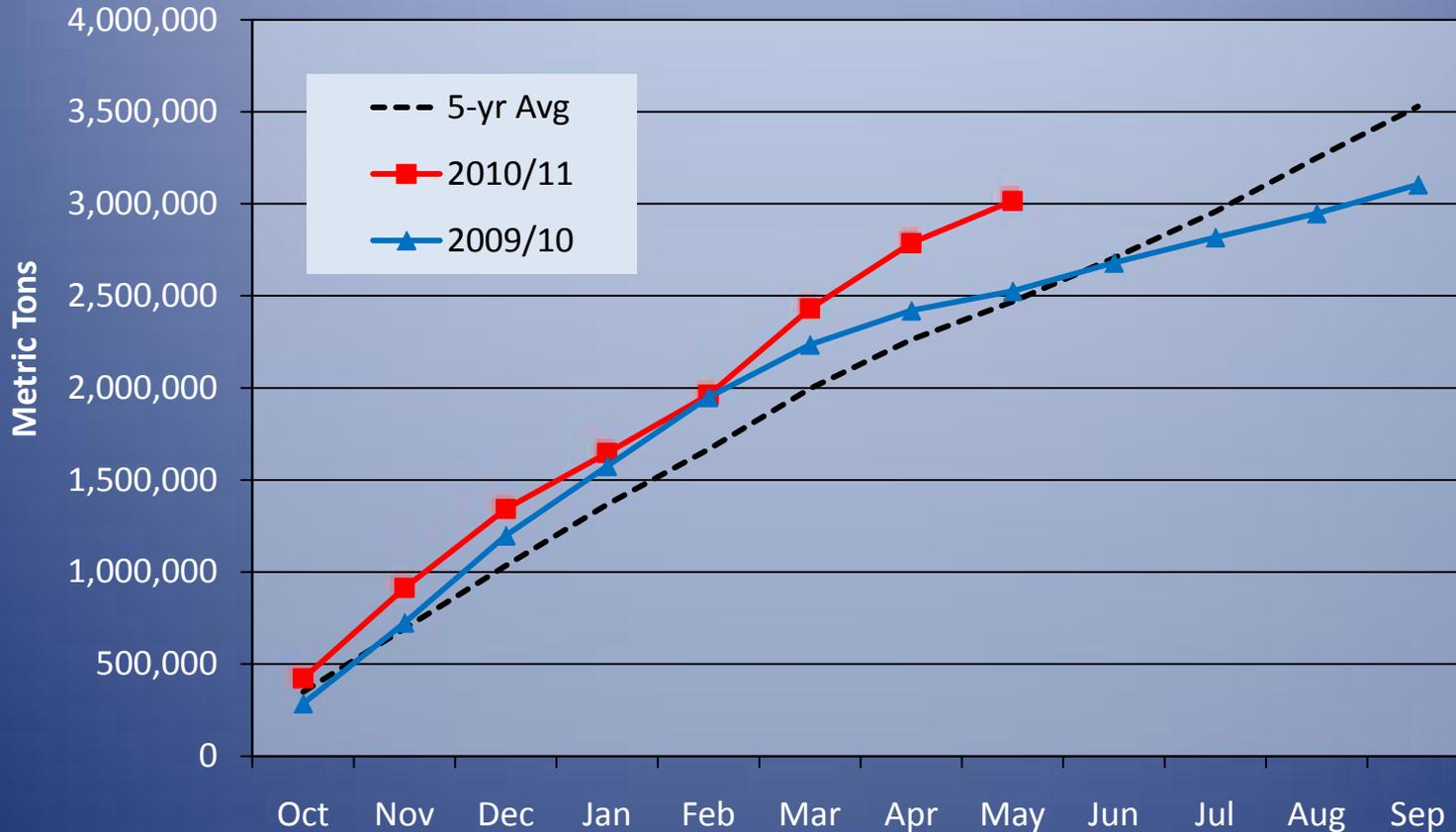
Monthly Processed Commodity Inspection



United States Department of Agriculture
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Federal Grain Inspection Service

Market Overview (cont'd)

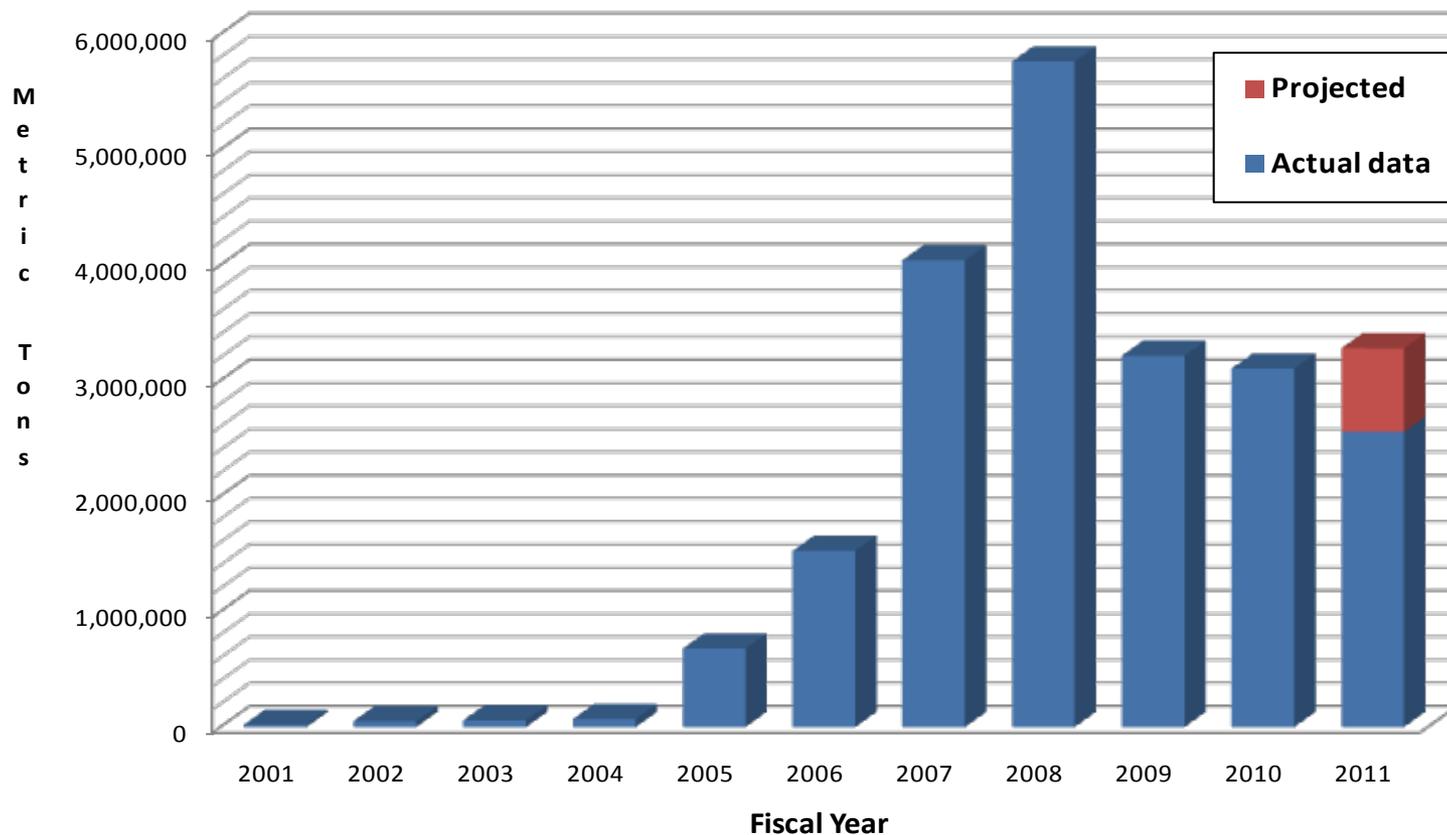
Containerized Grain Inspections, Cumulative



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

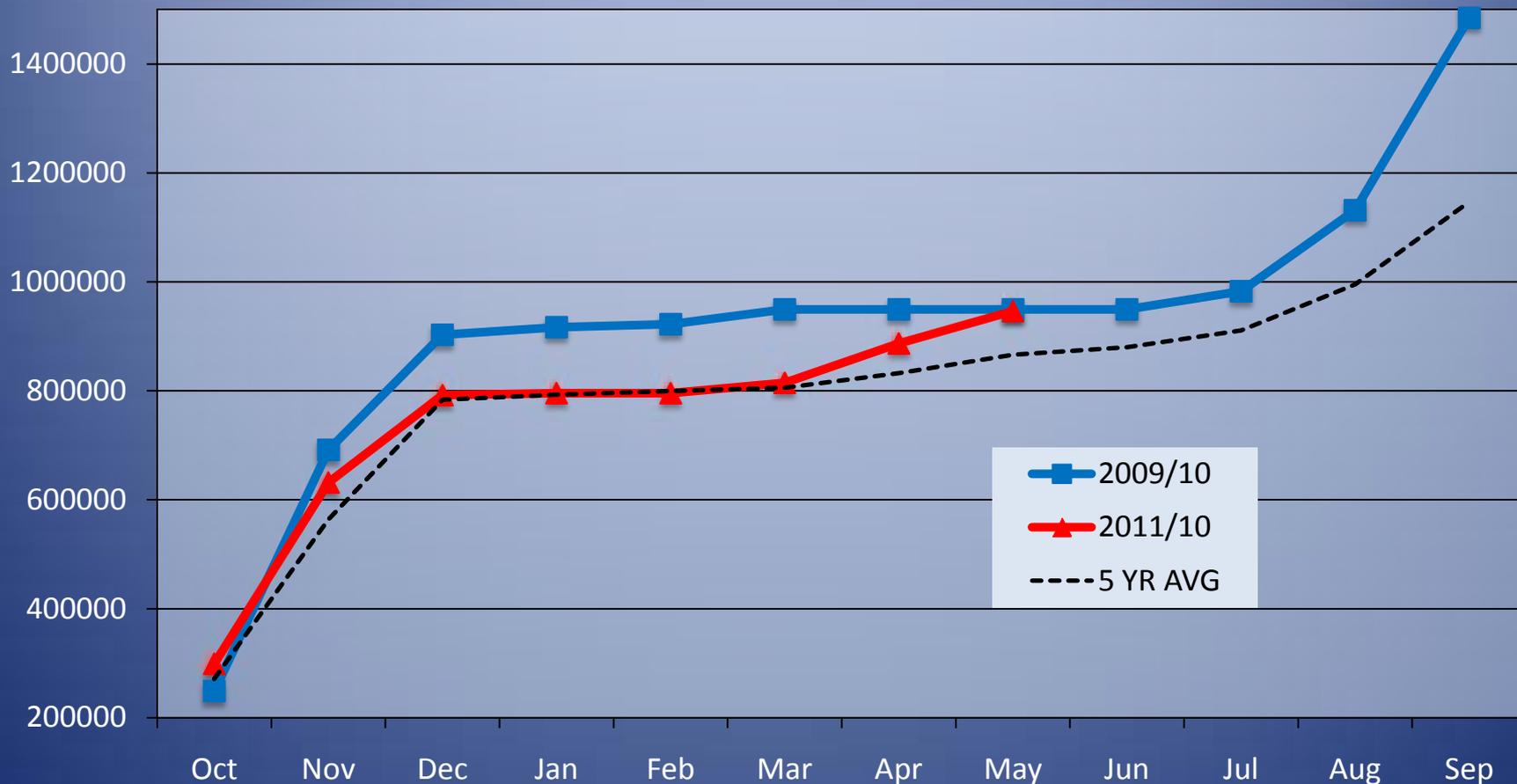
Market Overview (cont'd)

Historical Containerized Inspection Data



Canada

Canadian Port Grain Inspection by FGIS



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Corn and Wheat Soy Blend

- Sampling/testing Corn Soy Blend (CSB) and Wheat Soy Blend (WSB) for the Farm Service Agency (FSA) who buys commodities for USAID. CSB/WSB is produced in IL, WI, and NE.

	FY 2010	FY 2011
Originals	1954	524
Retests	414	86
Appeals	77	22



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service



Agenda



International Programs



Exceptions Program and Quality Management Program



Testing Diverter Type Mechanical Sampling Systems



New Rice Sheller Implementation, Moisture Measurement – Rice and Soybean Study Results, Wheat Gluten Tests, and Rapid Test Kit Evaluation Program Status

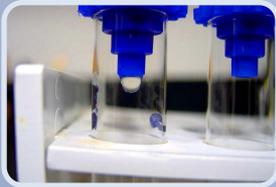


United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Agenda (cont'd)



Sorghum Odor



Tour of National Grain Center



Centralized Quality Assurance Activities



Review of Export Tonnage Fee



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Grain Inspection, Packers & Stockyards Administration

International Trade and Outreach

Grain Inspection Advisory Committee
Kansas City, Missouri

June 21, 2011

Byron Reilly

Departmental Initiatives and
International Affairs



Current International Trade and Outreach Issues

- 
- Role of DIIA
 - Collateral Duty Officer Program
 - Korea Corn Monitoring Project
 - China - Soybeans
 - Egypt - Corn
 - Quality Complaints

Departmental Initiatives and International Affairs

- 
- Facilitates resolution of trade barriers and disruptions
 - Investigates quality/weight discrepancies
 - Monitors grain shipments
 - Assists USDA Cooperators with market development projects
 - Conducts educational programs

Asia Collateral Duty Officer (CDO) Program

- 
- Established Asia CDO program in 2002
 - Temporary (2-4-month) regional assignments
 - Provides onsite and more proactive opportunities to work with overseas customers and USDA Cooperators
 - Increased regional presence since inception of the program

Long-term Assignments in Asia

➤ Last assignment - April-June 2010

- ✓ 7-Week assignment

- ✓ 7 Countries visited

- Transportation and food safety conferences
- Corn grading seminar
- Meetings with importers
- Addressed importer concerns



➤ Considering 3-5-week assignment this summer

Egypt-Corn

- Egypt stopped discharge of four corn ships
 - Excessive damage
 - Damage exceeded GOE 7.0 % limit
 - Some holds passed and discharged
- FGIS and USGC reps traveled to Egypt
 - Met with importers and Egyptian officials
 - Negotiated re-sampling and grading of rejected holds
 - Reviewed sampling and inspector separations
 - Additional holds discharged
 - New shipments based on FGIS composite loading sample

Korea Corn Monitoring Project

- Korea Feed Association (KFA) expressed concerned over BCFM levels
 - KFA and NAEGA signed a MOU to monitor 3 vessels
 - Samples were to be graded on BCFM, TW, and Moisture
- FGIS, KFA, Intertek, and NAEGA sampled at Gulf and PNW elevators
 - Samples drawn at loading by FGIS' official D/T sample, Intertek's throwing cup, and probe



Korea Corn Monitoring Project

- The team traveled to Korea to destination sample using probe and KFA sampler at 4 different ports in Korea
- Samples were drawn and sent to both TSD and KFA lab for analysis
 - Labs showed similar results when using same techniques for analysis
- Full report finalized in May

U.S./China Soybean MOU

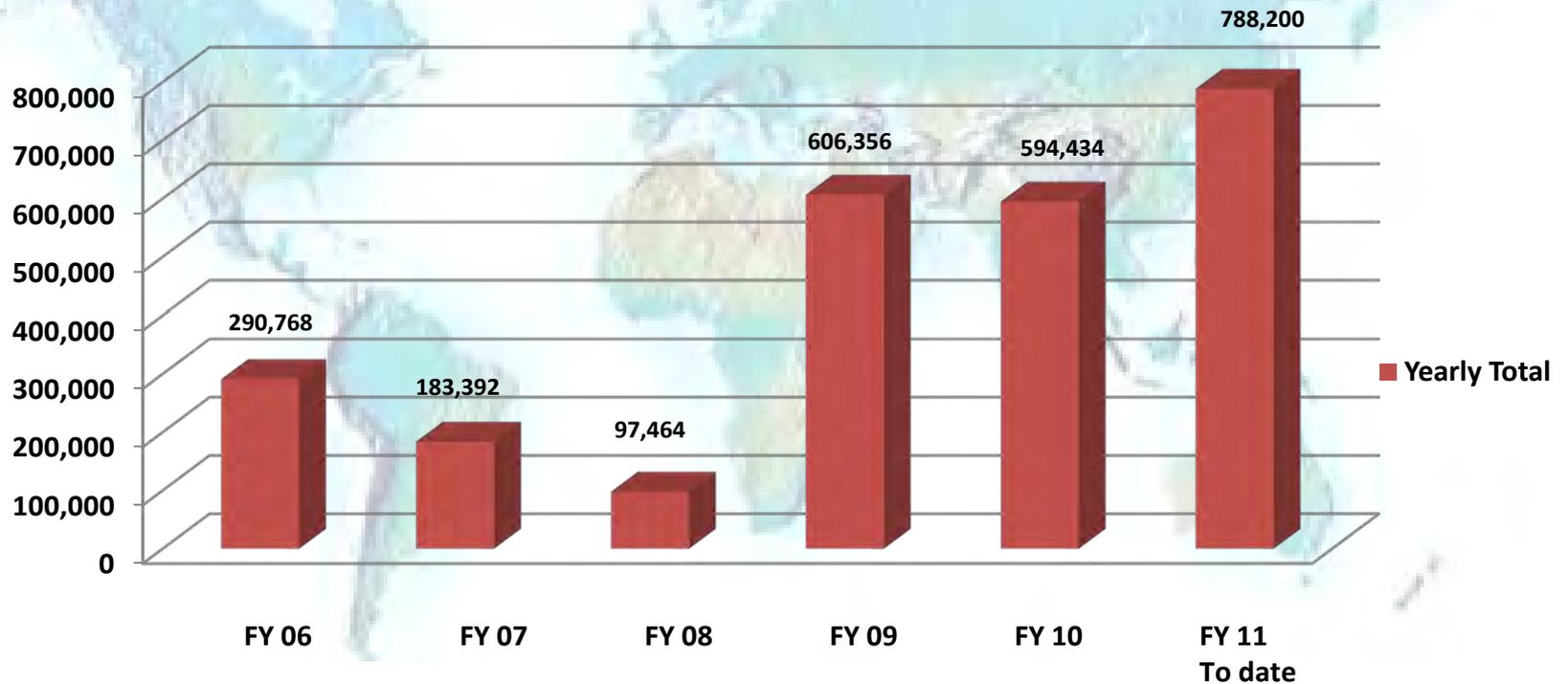
- Outgrowth of "treated" soybean issue
- July 2009 - FGIS representative traveled to China for discussions
- AQSIQ presented an MOU to address their quality, phytosanitary, plant health and food safety concerns
- USDA, FDA, with industry input revise MOU and submit to AQSIQ

China-Soybeans

- China Soybean MOU
 - ✓ July 2010 negotiations (FGIS, FAS, APHIS, FDA) in China
 - ✓ December 2011 MOU Signed
- Key Provisions
 - ✓ Bilateral technical working group
 - ✓ Rapid response team
- Discussions this week on implementation

Importer Complaints Metric Tons

Yearly Total



FY 2011 Complaints

9 Complaints from 6 countries

- China - treated soybeans 43%
- Egypt - corn damage 30%
- Other issues 27%



**Quality Assurance and
Compliance Division
GIAC, June 2011**

**Thomas C. O'Connor
Director**

Topics

- Integration of QAQC staff
- QMP implementation
- Contract Review Program
- Exception Program

Integration of QAQC Staff

- New Name: Quality Assurance and Compliance Division
- Structure
 - Office of the Director
 - Investigation and Enforcement Branch
 - ❖ Greg Tomas, Chief
 - Quality Assurance and Designation Branch
 - ❖ Chief, open (KC or DC)
 - ❖ QAQC Staff
 - ❖ Designation Staff

QMP Program Overview

- All Agencies and FO's have written manuals and have completed the 3-month or are conducting 1-year audits
- Completed 9 QMP agency audits. Eleven more are scheduled for FY 2011
- QMP audits are scheduled after the OA or FO has complete their 1-year internal audit and to coincide with their designation renewal.
- A change to a QMP manual can be submitted at anytime. Remember the QMP manual is not a static document and should be reviewed as changes occur in your agency either after an internal audit or with changes in FGIS programs or procedures.

QMP Program –Why?

- The QMP is an important tool for maintaining consistent and uniform quality in an OSPs daily operations, whether it is agency or FO
- Having a standard way of operations provides a guide for consistency for anyone performing daily operations
- It also provides a means to evaluate an OSPs operations through the internal audit process.

QMP Review Process Changes

- Reviews will tend to be shorter due to not all SSPs , D/T sites and weighing locations being reviewed
- QMP manuals procedures are reviewed for adherence
- Internal audit results are evaluated and checked as part of the review and will also be used to determine the scope of the review.
- IDW, FOL, ECT ,CRT and billing records are evaluated beforehand, which will also shorten our review time.

Reporting Process

- Draft Reports are no longer issued
- Exit Conference
- Final Reports
- Findings
- Written response(No Major non-compliances)
- Corrective and preventive action
- Responses are due in 30 days
- Agency responses will still be sent through their supervising FO

Review QMP Findings

What we are seeing.

- **4.1 Document Control lists** are not complete or being updated. Control documents can change over time. They include:
 - Fee schedule, QMP plan
 - Work forms used in your daily operations to perform official duties, i.e., pan tickets, work request forms, employee forms (training, supervision)
 - Management review forms(checklists)
 - Printed or posted GIPSA material or instructions (aflatoxin, protein SRS values, grading charts, directives, Lock-out, Tag-out)
 - Conversion tables, spill formulas, instrument operation manuals are not considered controlled documents since they do not change

Findings Continued

➤ **4.5 Equipment**

- Incorrect GAC Calibrations
- Not entering all equipment in ECT, examples-D/T's, bulk scales, incorrect laboratory scale tests, D/T's are considered equipment
- General condition monitoring should be included into your QMP plans

➤ **4.8 Internal Audits - not showing:**

- All areas of QMP as audited
- Process used to verify the findings of the audit
- Audit findings as corrected or including a preventive action plan to prevent future occurrences.

Contract Review Program

- During FYs 2009 and 2010, reviewed 890 grain shipments
 - Approximately 2% of grain export shipments
 - Compared loading instructions to contract stipulations
 - Letter sent to participants thanking them for their participation and addressing any discrepancy detected, if appropriate

Vessel Results

- 198 vessel shipments reviewed
- 193 load order conformed to sales contract – 97.5% compliance rate
 - On 3 shipments, the load order specific average quality basis but that was not reflected in the contract
 - On 2 shipments, the sales contract specified “zero insects’ or “free of live insects” but the load order was silent or specified “no infested” sublots
- For last several quarters, survey revealed 100% compliance

Railcar Results

- 470 rail shipments reviewed
- 461 loading instruction conformed to contract specifications; 98.1% compliance rate
 - On 6 shipments, the load order requested inspection on 5-car composite samples; sales contract stipulated individual grades
 - On 2 shipments, the load order was amended to allow No. 4 for BCFM but no corresponding contract amendment
 - On 1 shipment, the contract stipulated zero live insects but the loading instructions were silent on this issue
 - Reminder: Combined lost procedures
- On 33 shipments, the OA accepted verbal instructions but did not maintain a written record

Container Results

- 232 container shipments reviewed
- 155 loading instructions conformed to contract specifications; 66.8% compliance
 - On 67 shipments, the loading instructions requested average or composite basis which was not reflected in the sales contract. FGIS instructions stipulate inspection on an individual basis unless specified otherwise in the contract
- On 7 shipments, the OA accepted verbal instructions but did not maintain a written record

Future

- Continue but limit review to a single quarter that will be selected either before or during any FY -- 4th quarter – focus on containers

Exception Program

- New Program Directive 9290.18, issued December 2010
- Some changes
 - Timely Service: written documentation regarding attempts to contact incumbent OÄ before requesting alternate OÄ
 - Nonuse of Service:
 - ❖ Facility management provides written request along with justification
 - ❖ New facility or change in management no longer blanket approval
 - ❖ Monthly volume requests of requested and incumbent OÄ
 - ❖ Cancellation of inactive NUS exception after 18 months
 - ❖ Letter of jeopardy may preclude participation

Exception Program

- Barge Probe: No change
- Volume relative to total volume:
 - Rail -- less than 1%
 - Barge -- virtually nil
 - Container/truck $\approx 5\%$

Non-use of service

- Facilities that have not received official services for 90-consecutive days qualify to participate but are not automatically approved
 - Location of the facility in regards to both OÄ's
 - Services offered by both OÄ's
 - Potential impact of the loss of revenue by incumbent OÄ
 - Staffing and capability of requested OÄ

Major Changes to Non-use of Service

- Required incumbent OA's to report on services performed at exception facilities within their geographical area
 - Example: Agency "A" has an approved exception facility in Agency "B's" area. That facility calls Agency "B" to perform services. Agency "B" must report the services
 - Response to AAGIWA concerns over potential grade shopping – data do not support so far

Major Changes to Non-use of Service

- Exceptions that have been inactive (reported no volume) for 18 months are subject to cancellation
 - We contact the facility, the incumbent OA and/or the requested OA before cancelling.

Status of Exceptions

- Since program inception, received 384 requests:
 - 28 not approved
 - 108 cancelled
 - 284 on the books prior to new directive
- Since new directive
 - 47 cancelled due to no volume since 2008
 - 82 cancelled due to:
 - ❖ Service not needed
 - ❖ Facility closed
 - ❖ Using the incumbent OA
 - Currently 119 active exceptions



Diverter-Type Sampler Update

Grain Inspection Advisory Committee
Robert Lijewski, Director
Field Management Division
June 21, 2011





Mechanical Samplers

Mechanical sampling systems are composed of one or more automatic sampling devices powered either pneumatically, electrically, or hydraulically.

These systems can draw representative samples of commodities in a variety of applications.

Three types of mechanical samplers are:

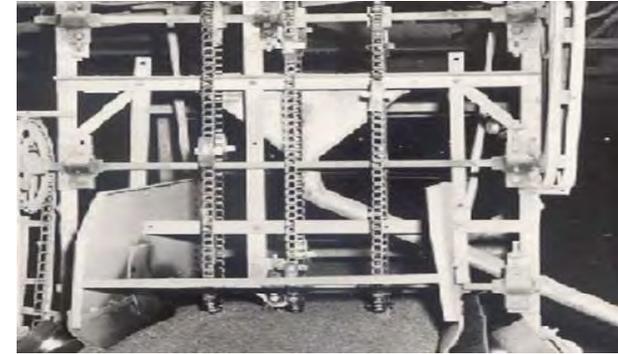
- **Point-type**
- **Probe-type**
- **Diverter-type (D/T)**



Mechanical Sampling Methods

History

- D/T samplers were introduced into the official inspection system in the early 1970s.
- Replaced the woodside sampling system.



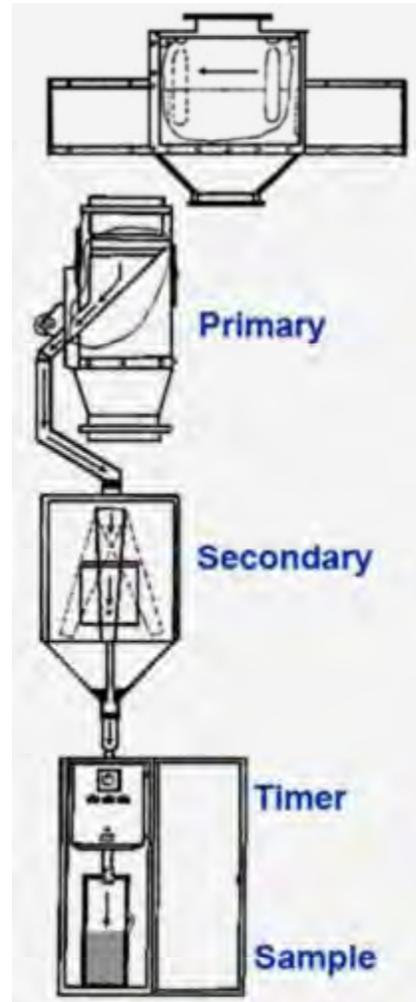
Test Theory

- Approval based upon a comparison of D/T vs. standard method (pelican sampler).
- To determine if there is grain breakage in the sampling & delivery systems.
- Results must be within 10% of the standard.
- Five samples to a set.
- After initial approval, testing was conducted on each “approved” D/T at a frequency of every 6 months.



Diverter-Type

The components of a Diverter-Type sampler are the Primary Sampler, Secondary Sampler, Timer, and Sample Collection Box.





Timer

The Timer controls the time that the Primary diverter takes a sample from the flow of the commodity.

The time is set by a formula that is based on the number of seconds in an hour, multiplied by the sampling rate desired and divided by the maximum number of bushels that can be loaded per hour; this would equal the timer setting in seconds.

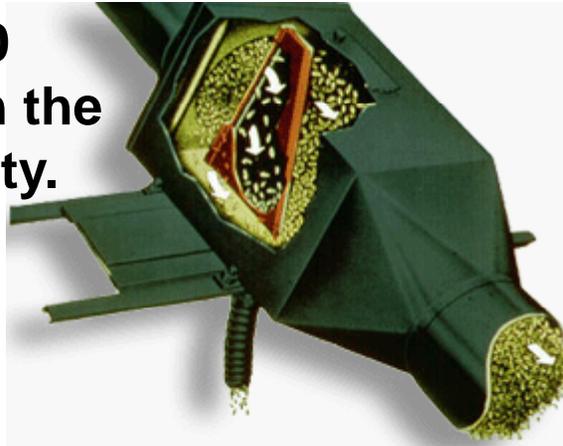
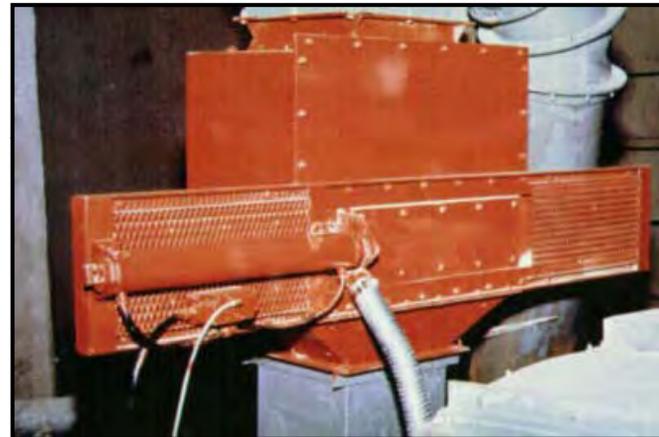




Primary Sampler

The Primary Sampler is the main sampler of the D/T.

At a timed interval (typically 12-25 seconds), the Pelican inside the housing takes a complete cut at a rate of 20 inches per second through the entire flow of the commodity.







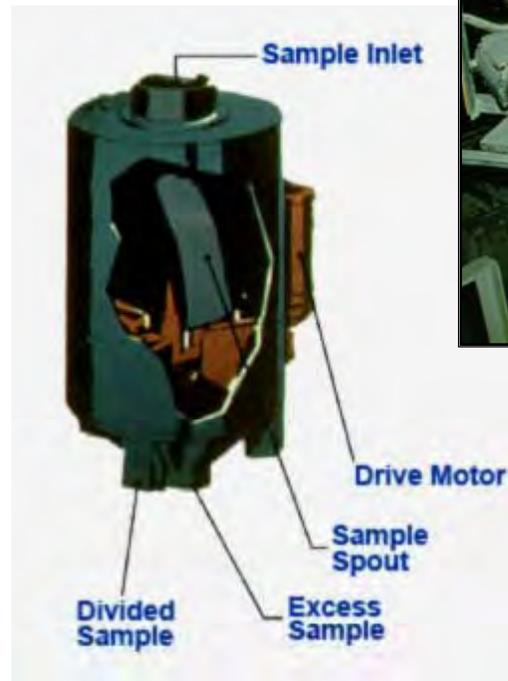
Tail



Secondary Sampler

The Secondary Sampler is a powered divider to reduce or split the sample from the primary sample.

It divides the sample into a more manageable portion while still being representative of the lot.

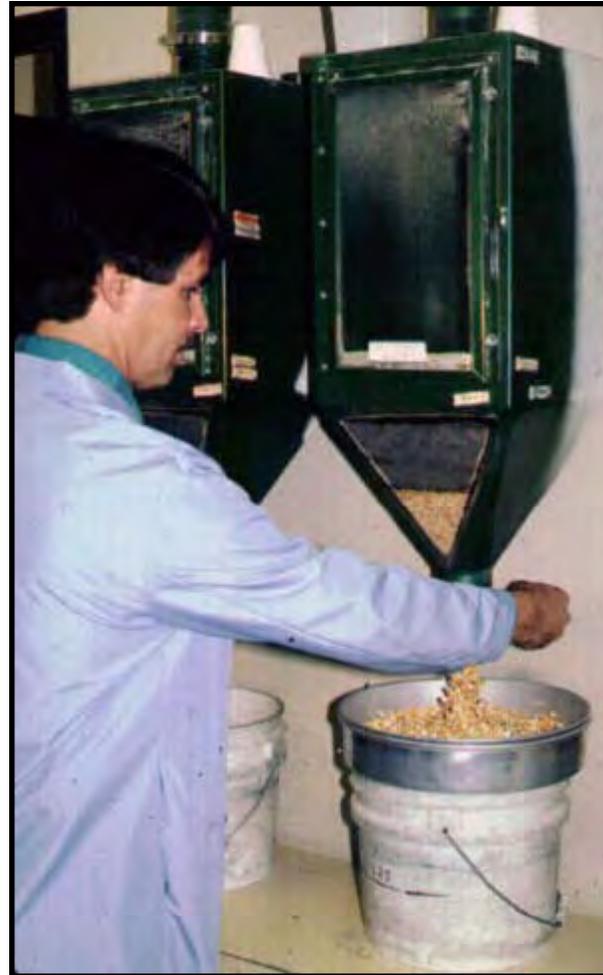




Sample Collection Box

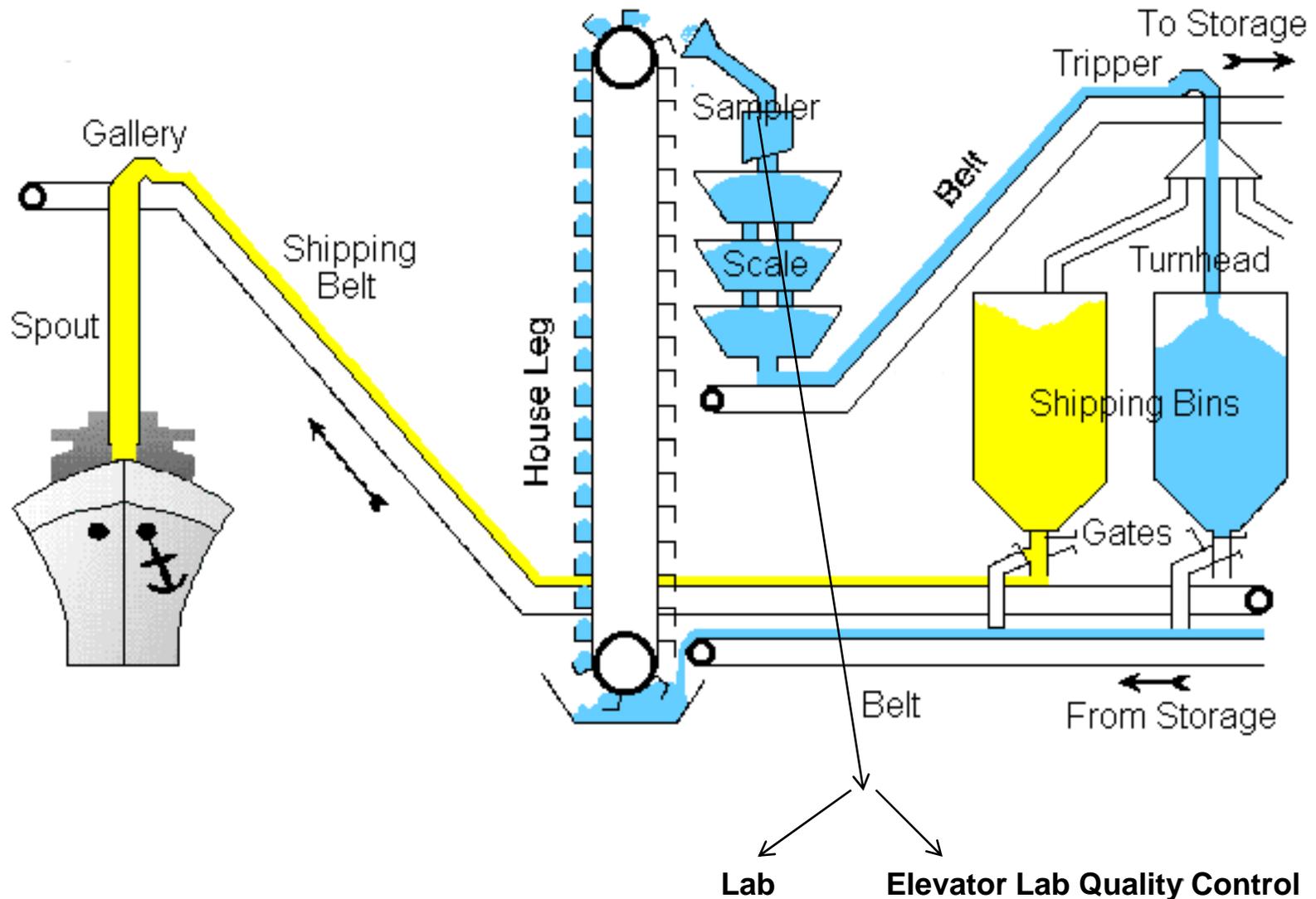
The Collection Box is the final stop for the sample portions.

The sample portions move through the Secondary, into the Collection Box, where they are collected for grading.





Modern Export Grain Loading





D/Ts in Export Facilities

Most D/T samplers have been in service for many years

- D/Ts in export facilities professionally installed;
- D/T checked upon installation
 - Check system for correct installation
 - Check performance versus Standard reference method (Pelican, Ellis cup)
 - Thereafter: D/T system performance is checked (not a grain quality check)

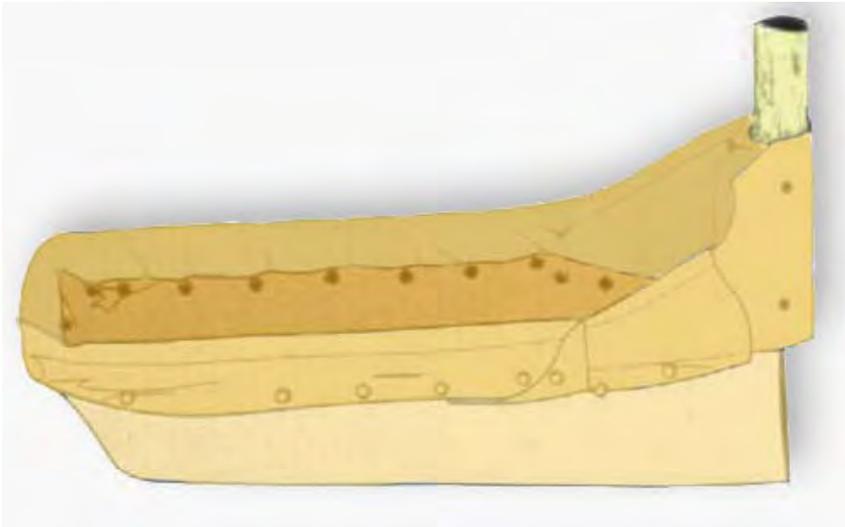
Issues

- Safety
- Grain flow rate
- D/T is not adjustable for the most part



Pelican

The Pelican is constructed of a cowhide pouch attached to a metal frame. The back side of the pouch is higher to help catch more of the commodity.



- Hold the Pelican pouch next to the stream.
- With the high side next to the stream of grain swing completely through the stream on one continuous motion.
- Keep the Pelican opening facing into the stream.
- Pour the contents into a sample collection container.





Proposed Test Procedures- “Drop Test”

- In a drop sample check, samples of known quality grain (corn) are introduced into the delivery system as close to the primary sampler as possible.
- After the drop samples are dropped or pneumatically conveyed through the sample delivery system, they are recovered and analyzed for quality.
- In order to pass the drop sample check, the factor results (BCFM) must meet the requirements (+/- 10% of the original result).



D/Ts in Export Facilities

Sample Drop Test (June '11) Location 1 (Spout Sampler)

Location	Original avg. result	After drop avg. result
Thru 2 ^{ndary} into FGIS lab (4 samples)	2.9%	2.9%
Below 2 ^{ndary} into FGIS lab (5 samples)	3.4%	3.4%
Thru Primary thru 2 ^{ndary} into FGIS lab (3 samples)	3.3%	3.3%

Grain = 40 K grams Corn

Factor = BCFM



D/Ts in Export Facilities

Sample Drop Test (June '11) Location 2 (Belt End)

Location	Original avg. result	After drop avg. result
Thru 2 nd ary into FGIS lab (2 samples)	3.65%	3.95%
Thru Primary thru 2 nd ary into FGIS lab (3 samples)	5.30%	5.33%

Grain = 40 K grams Corn

Factor = BCFM



D/Ts in Export Facilities

Future testing of D/T's in export facilities

- New D/Ts scheduled to be installed in U.S.
- GIPSA proposes to test any new D/T installation or modified system by:
 - Reviewing engineering drawings & grain volumes
 - Checking for proper system installation (GIPSA Equipment Engineer)
 - Inspecting sampling & delivery system
 - Using check (drop) samples



D/Ts in Domestic Facilities

D/T samplers in unit train loading facilities

- FGIS policy mandates all mechanical sampling systems must be successfully tested against a standard sampling reference method
- Official agencies responsible for testing D/T sample systems in their jurisdiction
- May or may not be professionally installed



D/Ts in Domestic Facilities

FGIS asked AAGIWA for input in testing

- The current procedures utilize inefficient methods that are prone to human error and thus do not lend themselves to repeatability or accuracy for high volume samplers.
- It is difficult for samplers using hand probes, Ellis cups, and hand held pelicans to duplicate D/T sampler results in high volume situations.
- The volume and capacity of the Ellis cup and hand held pelican do not allow for a full cross section sample, because devices are filled beyond capacity halfway through the product stream.



D/Ts in Domestic Facilities

AAGIWA recommends FGIS:

- Adopt approval procedures based on adherence to proper physical installation of the sampling system to obtain an accurate sample.
- Reinstate the visual exam policy approval immediately and have it remain in place until such time as the physical installation policy is in place.



Pelican Sampling



FGIS Research Update

Grain Inspection Advisory Committee

June 21, 2011

David B. Funk, Ph.D.

Acting Director

Technology and Science Division



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Outline

- New Rice Sheller for California Production
- Rapid Test Kit Evaluation Program
- Wheat Functionality Research
- Moisture Measurement Research
- Official Moisture Technology Selection

New Rice Sheller Implementation

- California Rice Industry requested evaluation of Yamamoto sheller.
- FGIS evaluated sheller and reported differences between Grainman sheller and Yamamoto sheller.
- California Rice Industry requested that Yamamoto sheller be used for 2011-crop MGRR and SGRR.
- FGIS is preparing to implement the Yamamoto sheller for 2011-crop.
- FGIS will continue to use Grainman sheller for LGRR, southern production MGRR & SGRR, and all 2010-crop rice.

New Rice Sheller Implementation Timeline (2011)

- Certificate of Model Approval June 27
- Procure Yamamoto FC2K Units July 29
- Set up units at TSD August 1
- Document field set-up and checktest August 8
- Issue Program Notice August 15
- Checktest Field Machines August 29
- Implement FC2K rice sheller September 1

GIAC Resolution Regarding Rapid Test Evaluation Program

June 2010

“The Advisory Committee recommends that GIPSA work closely with the vendors and industry to improve the timely acceptance and approval of mycotoxin test kits to help facilitate the movement of grain.”

Rapid Test Evaluation Program

- Qualitative
 - Mycotoxins and biotechnology-derived proteins
 - Validate manufacturer performance claims
 - Standardized test methodology
 - Certificates of Performance
- Quantitative
 - Mycotoxins
 - Evaluate performance
 - GIPSA Design and Performance Criteria
 - Standardized test methodology
 - Certificates of Conformance

Timeline Since Program Restart in October 2010

- Purchased Reference Materials
- Updated Aflatoxin and DON Reference Methods
- Certified Aflatoxin and DON Reference Materials
- Hired program manager
- Moved into new laboratory space
- Completed 12 rapid test kit evaluations
- Expect to clear backlog of test kits in queue by October 2011

FGIS Wheat Functionality Research

- Farinograph standardization
- Varietal identification for classification assistance
- Gluten quality assessment

Farinograph Standardization

Accomplishments

- Conducted ring study with 4 labs and 5 instruments.
- Identified opportunities for improvement.

Ongoing Work

- Mathematical algorithms have the potential for improving consistency and objectivity.
- Continue to work closely with the manufacturer.
- Expand ring study to include additional laboratories.



Revised Farinograph Instrument

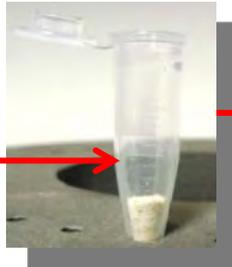


- Automatic water dosing
- Variable speed
- Higher torque
- Temperature control
 - Dosing water
 - Dough
- Advanced software options
 - Calculate mixing energy
 - Program speed profiles
 - Create individual test profiles
 - Define new evaluation methods
 - Integrate reference curve

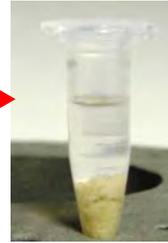
Varietal ID by HPLC (Protein Separation)



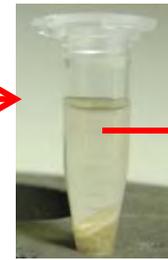
Grind



Extract in
Propanol/Water



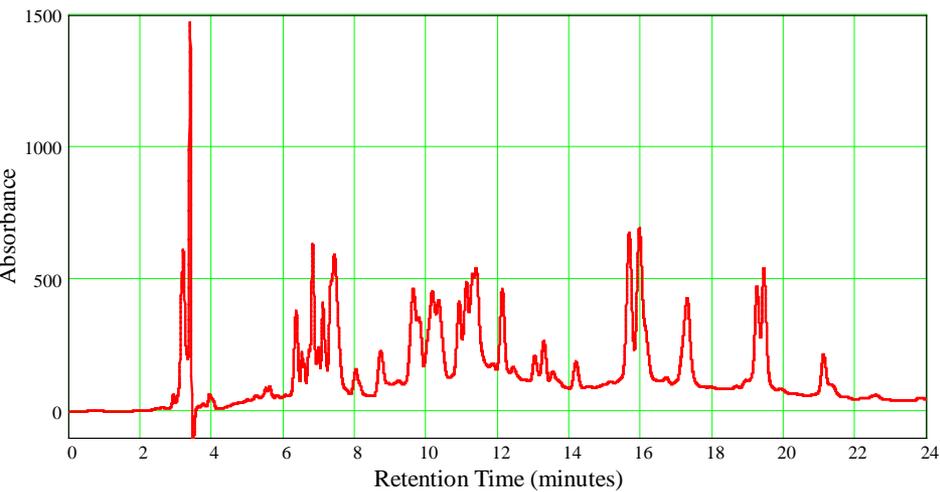
Centrifuge



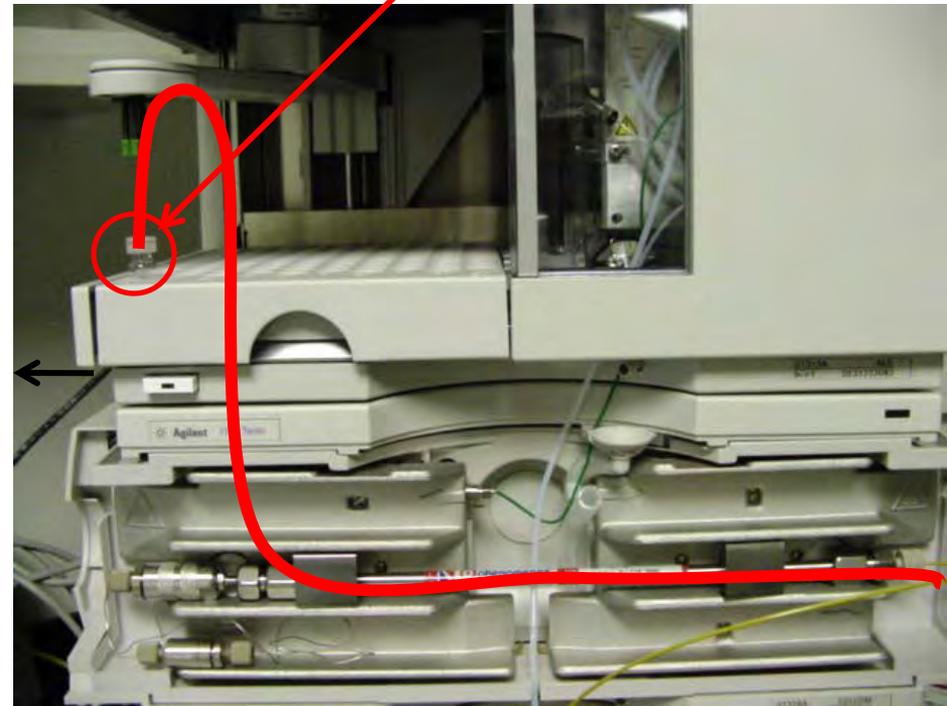
Aliquot of
Supernatant



Chromatogram



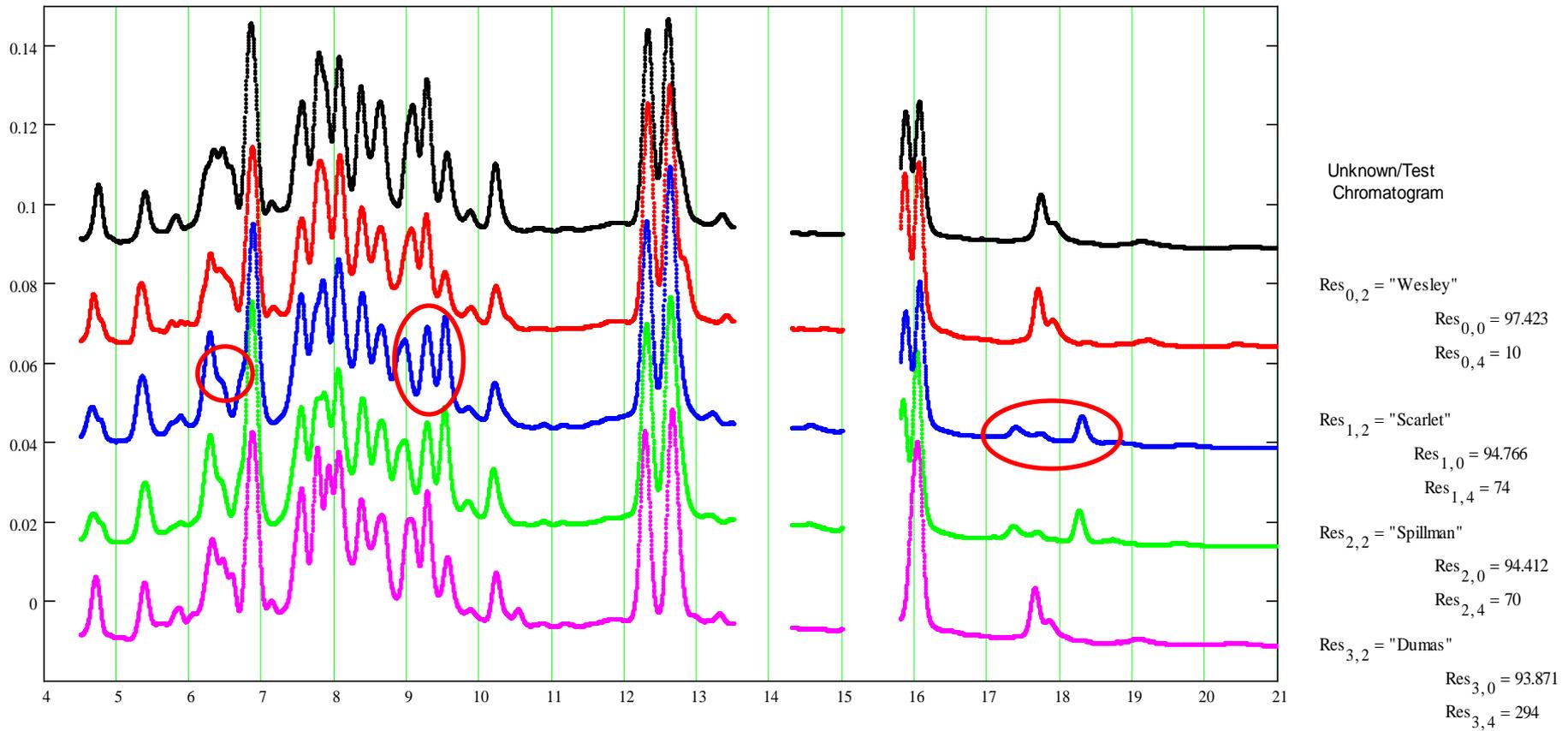
HPLC



Varietal Identification Matching Example

Unknown 1 was matched with Wesley at 97.423%

Normalized/Adjusted Chromatograms for Top 4 Hits (Original on top, descending Match Index)

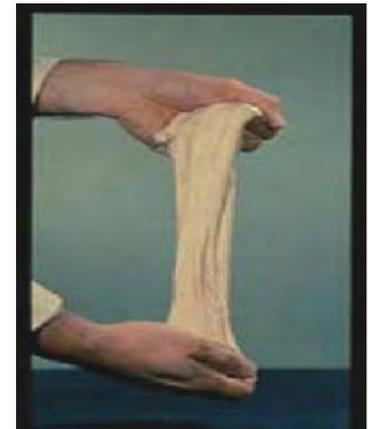
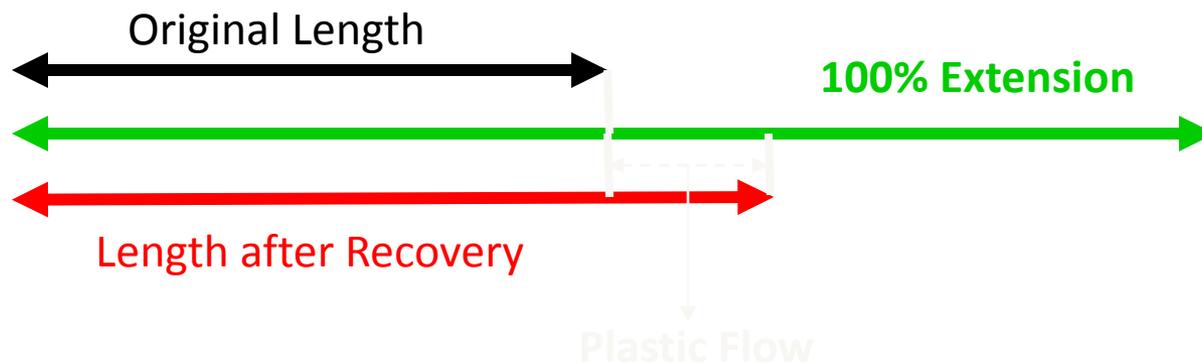


Varietal ID Accomplishments

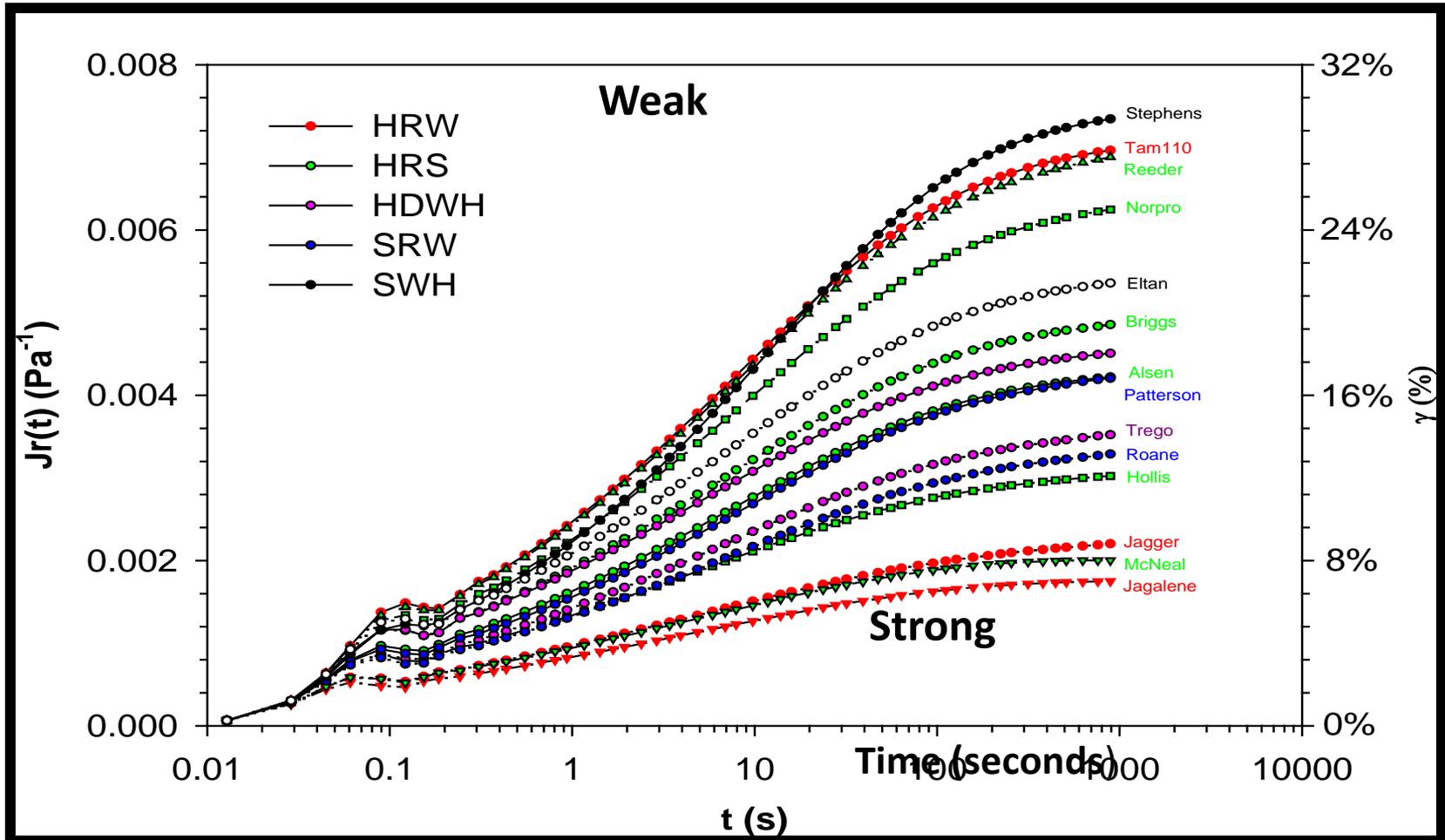
- Created fingerprint library of most US wheat varieties.
- Developed mathematical method for automated matching of chromatograms.
- Verified that cultivars grown in different regions match well.
- Successfully transferred the method to a different HPLC unit.
- We are routinely using the method to assist the BAR in classifying difficult wheat samples.

Gluten Quality: Key to Wheat Functionality?

- Gluten quality defined by its visco-elastic properties
- Viscous: Plastic Flow
- Elastic: Recovery after stress



Basic Rheological Tests Successfully Differentiated Wheat Varieties



Laboratory Rheological Tests

- Observed separation between “strong” and “weak” gluten
- Results expressed in fundamental physical units
- Slow, tedious
- Expensive



Prototype Development

- Cornell University formed a collaboration with Perten Instruments to design and build a prototype.
- GIPSA assembled and milled a representative sample set consisting of 18 wheat varieties.
- Cornell tested the samples' rheological characteristics and sent samples to Perten to use in the instrument design phase.
- Prototype instrument's process:
 - compress formed/relaxed gluten cylinder into a disk
 - hold disk under constant force
 - release force
 - precisely measure the height of the disk as it relaxes

Testing Protocol



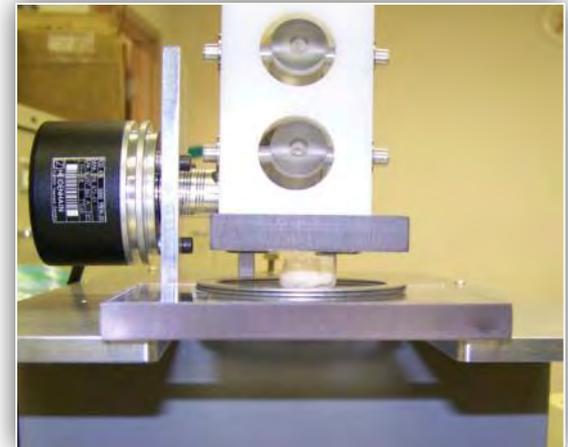
Grinding



Glutomatic



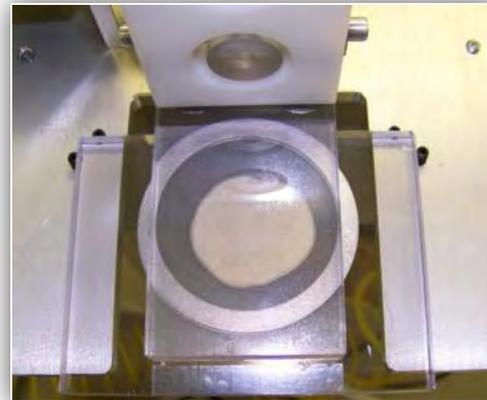
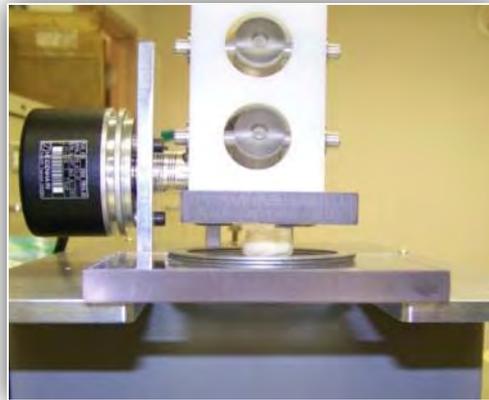
Shaping



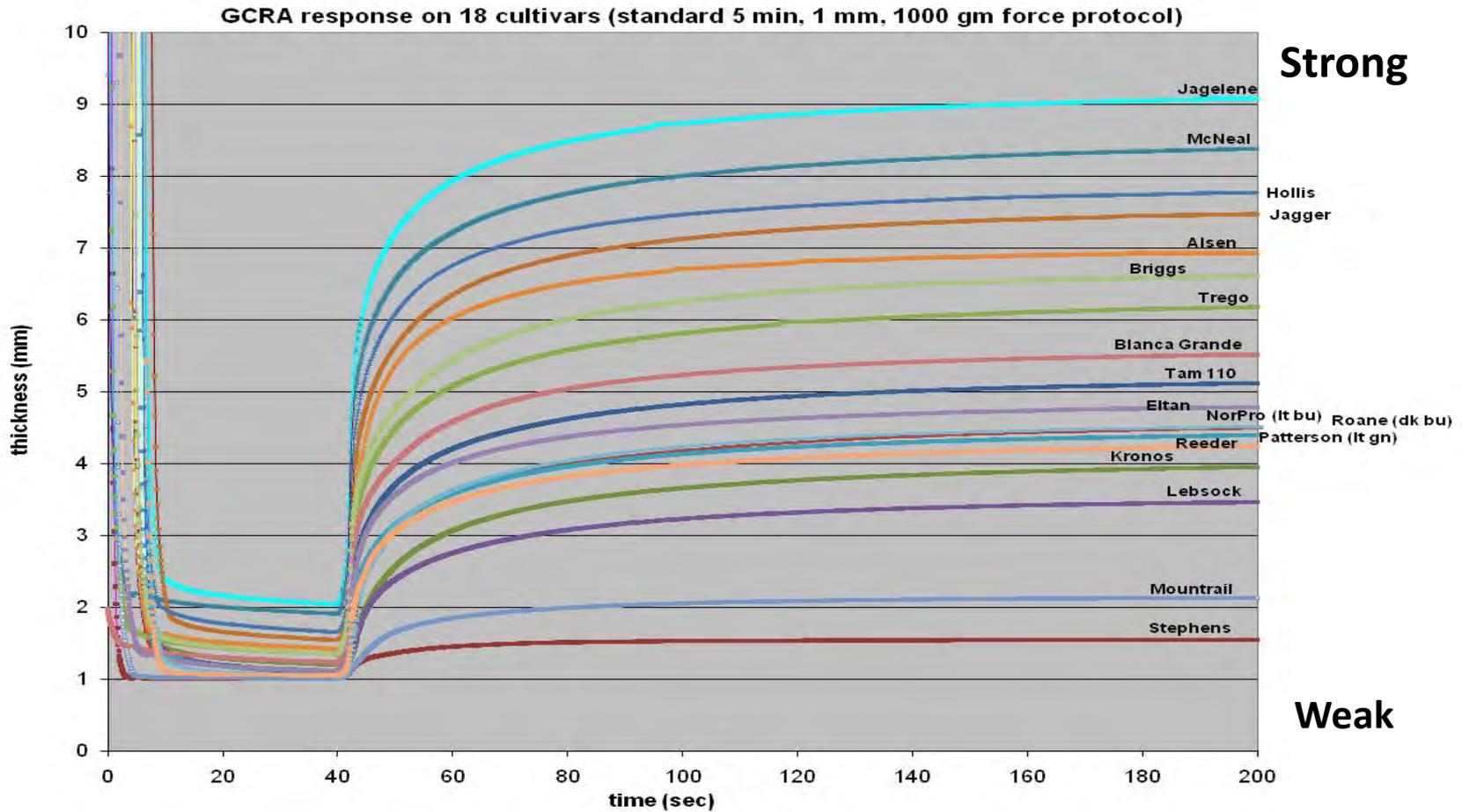
Compression, recovery
and data processing

Prototype Testing

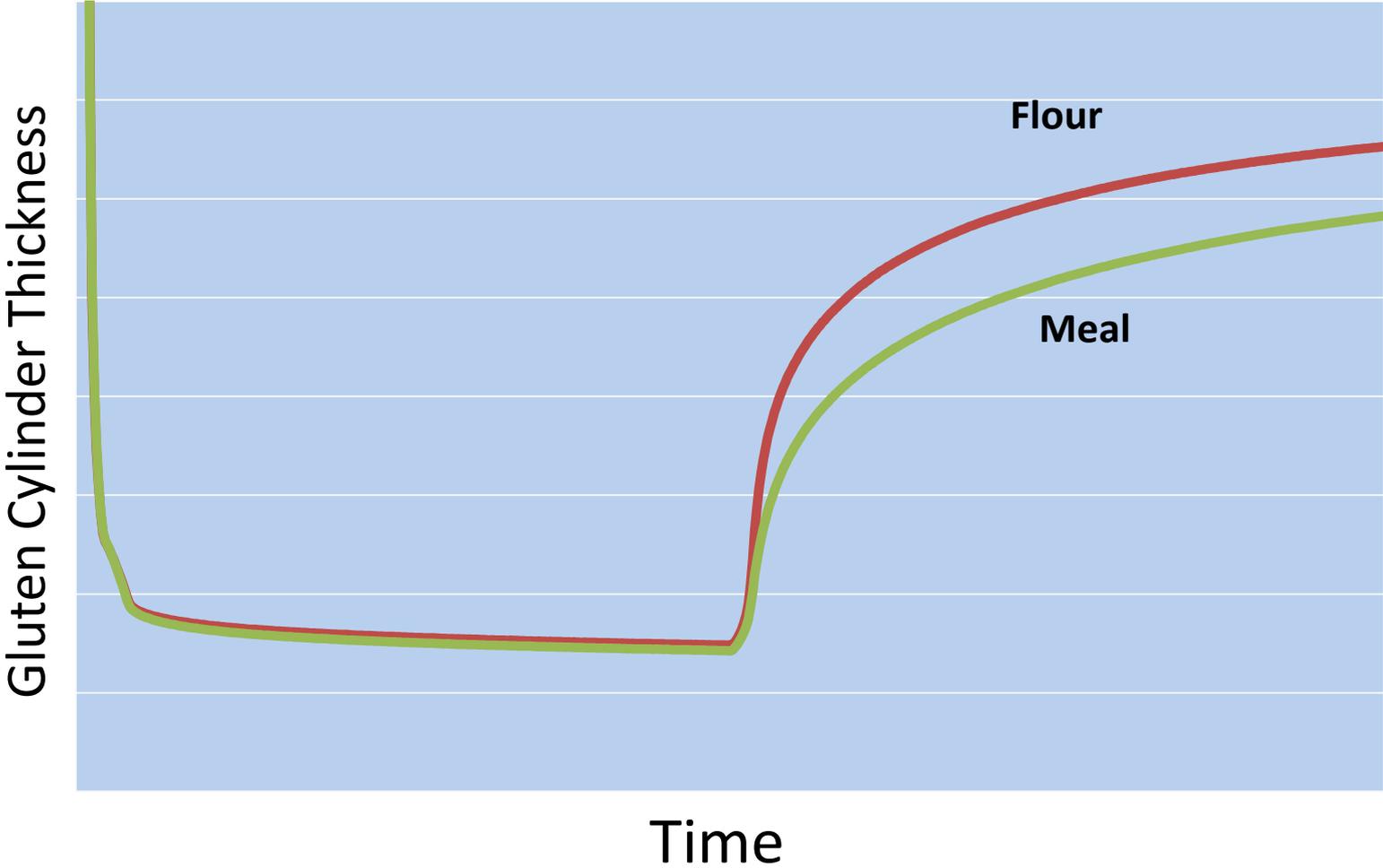
- GIPSA tested prototype on the same 18 cultivars sent to Cornell.
- Prototype produced a family of curves that ranked the cultivars in a similar order as Cornell laboratory rheology tests.
- Initially tested prototype with milled flour.
- Also tested prototype with whole meal from FN grinder.



Separation of Strong and Weak Wheat



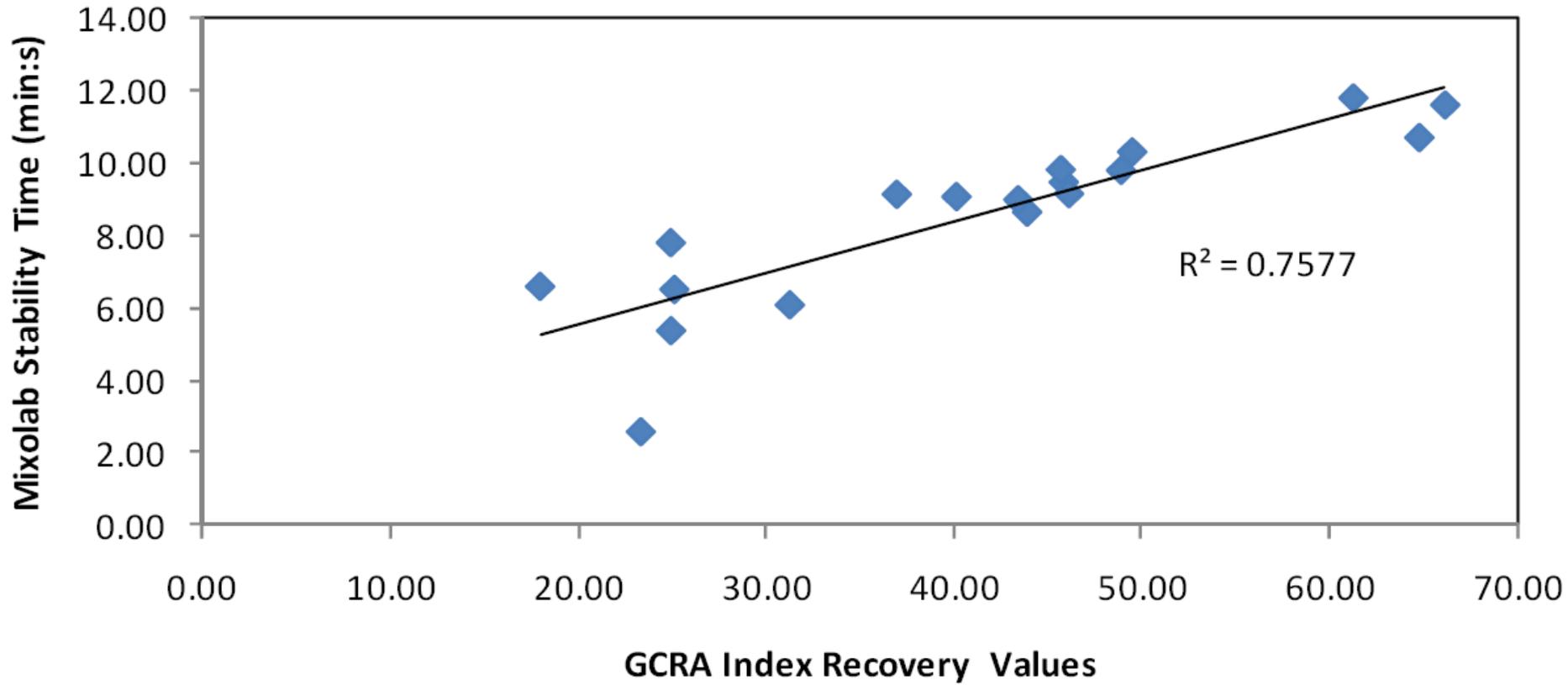
Instrument Response—Flour vs. Meal



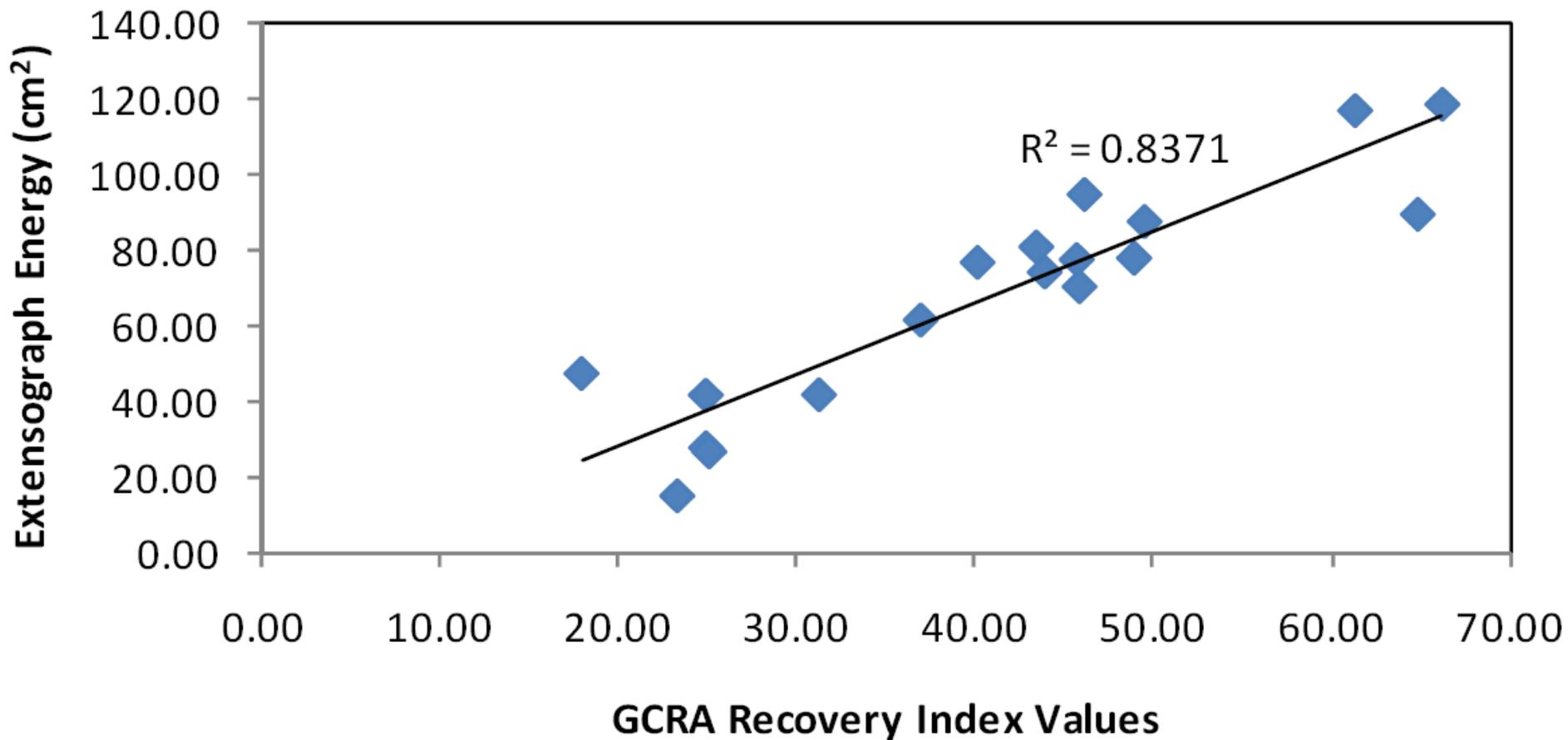
Establishing Relevance of Gluten Visco-elastic Tests

- Gluten quality tests must be proven meaningful to end-users.
- We compared gluten recovery index to several popular wheat functionality methods.
- Some significant correlations were observed.

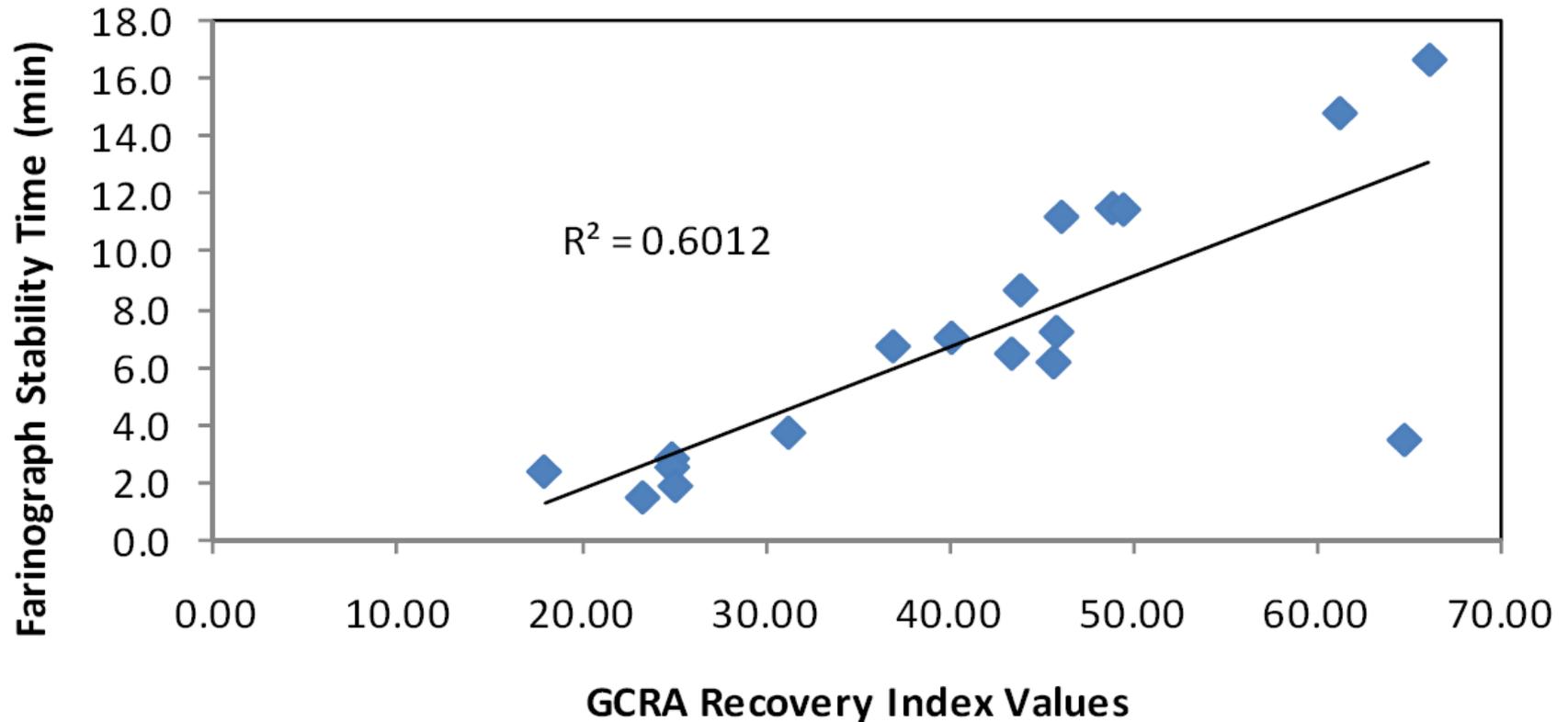
Mixolab Stability Time vs. Recovery Index



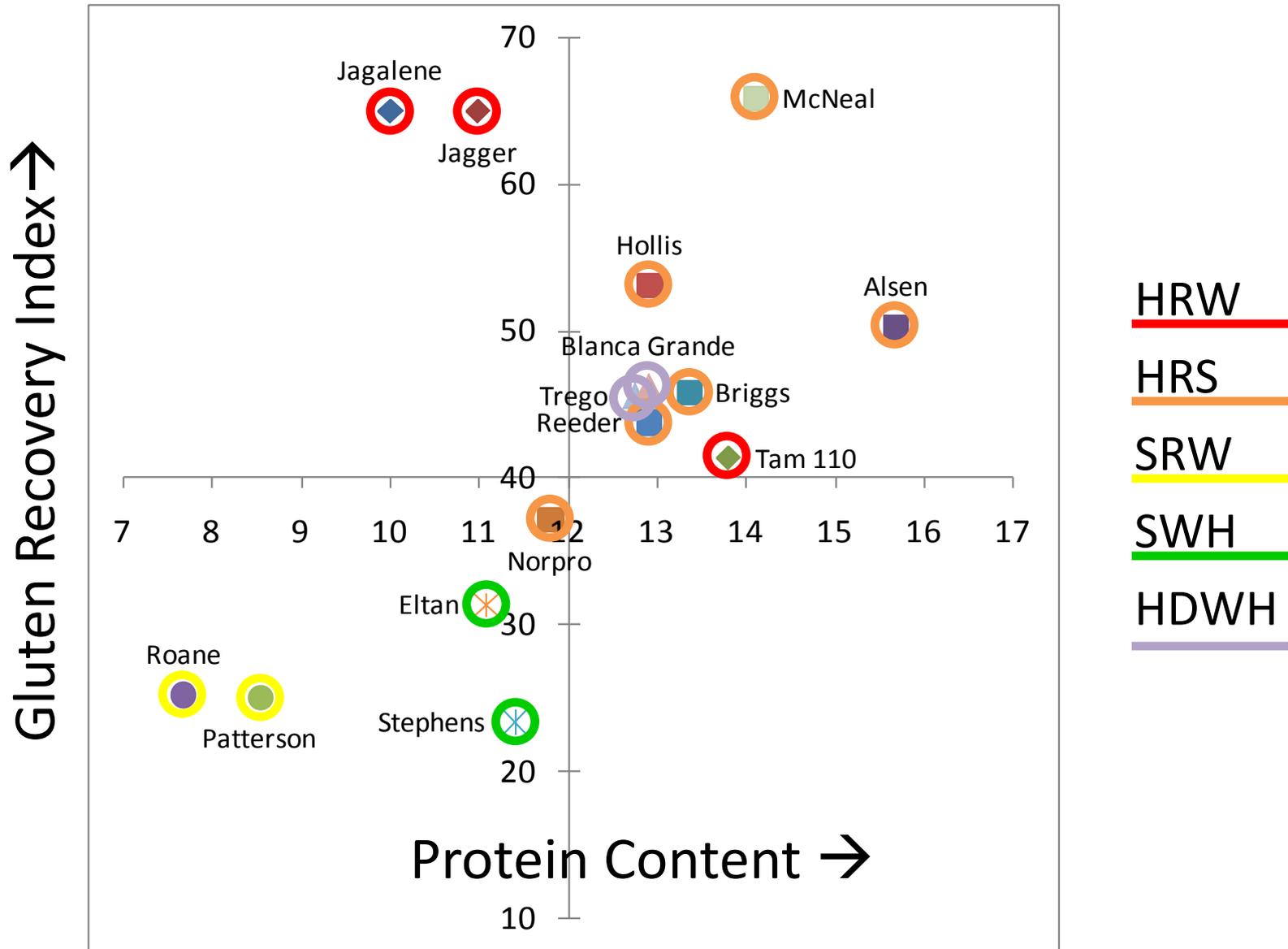
Extensograph Energy vs. Recovery Index



Farinograph Stability Time vs. Recovery Index

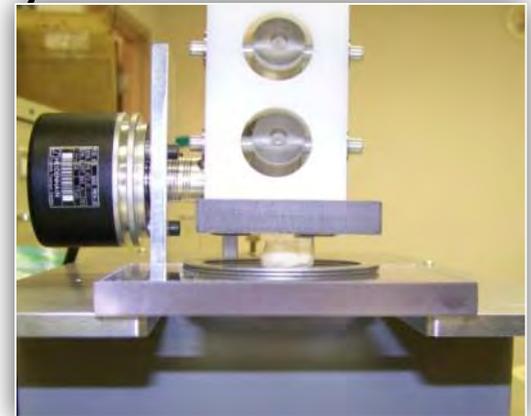


Two Dimensions of Wheat Functionality



Current Status and Next Steps

- Continue refinement of commercial prototype
- Continue refinement of algorithm
- 2010 – Assessed relationships to other tests
- 2011 – Test performance of new commercial prototype
- 2012 – Attempt NIR Calibration to predict gluten strength
- 2012 and beyond – Assist the wheat industry in using gluten quality measurement to predict functionality.



FGIS Moisture Research

- National Type Evaluation Program Success
- Secondary Density Correction for Corn
- Understanding Effects of Sample Loading
- Assessing the Feasibility of Measuring Oil or Protein with Dielectric Moisture Meters
- Effects of drying (rebound) and mixtures on dielectric and NIR moisture meters

National Type Evaluation Program: 1994 - Present

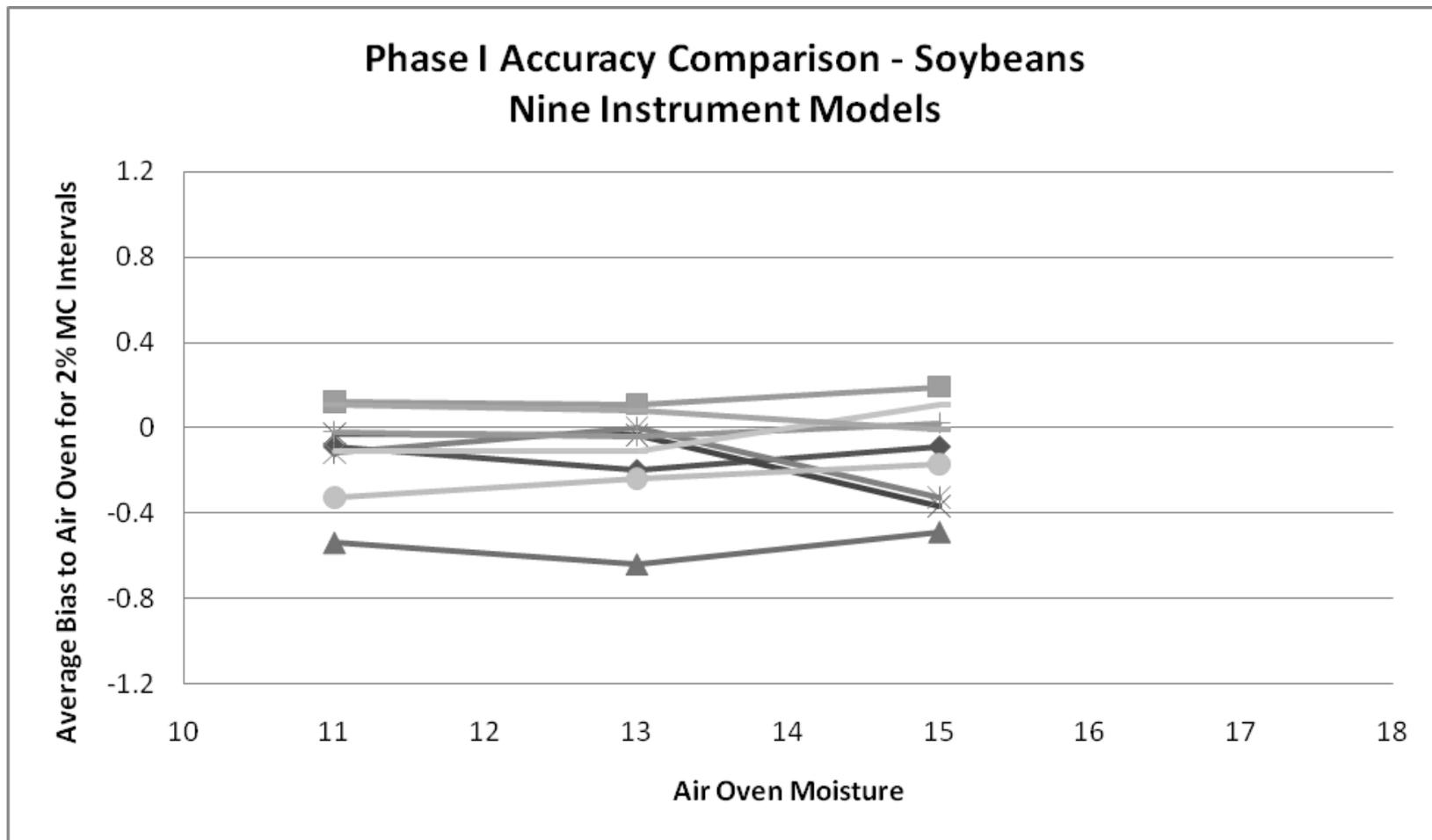


FGIS Annual Calibration Study

- Approx. 1100 samples collected from each crop year to evaluate and enhance official moisture meter accuracy.
- For 15 major grains, same samples are tested with all NTEP-certified models (for a fee).
- Calibrations are optimized for the most recent 3 crop years—with consideration of abnormal conditions.
- Calibrations are changed only if certain error thresholds are exceeded—to minimize “hunting”.

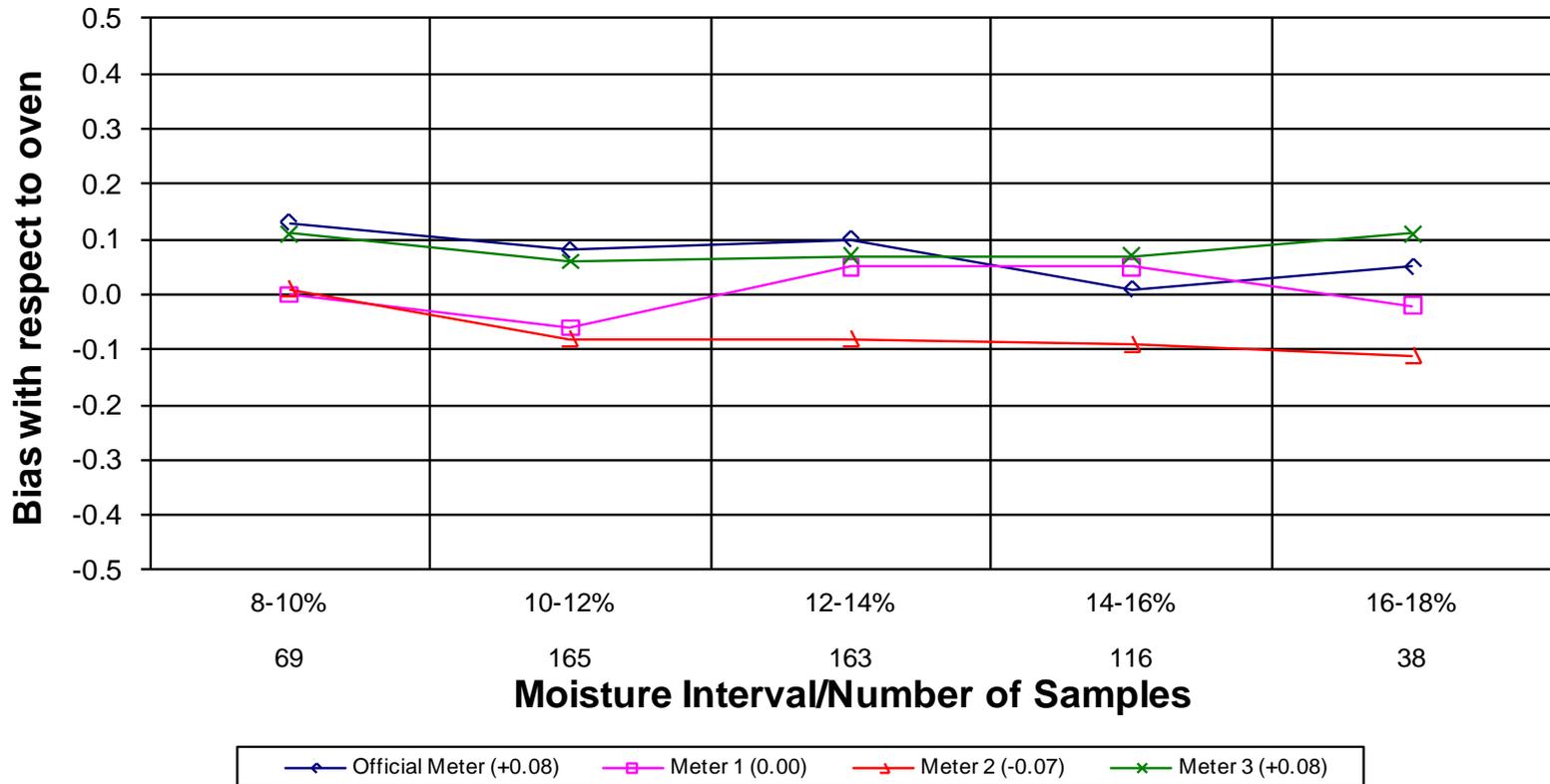
Initial Soybean Calibration Accuracy

(Data for 30 selected soybean samples)



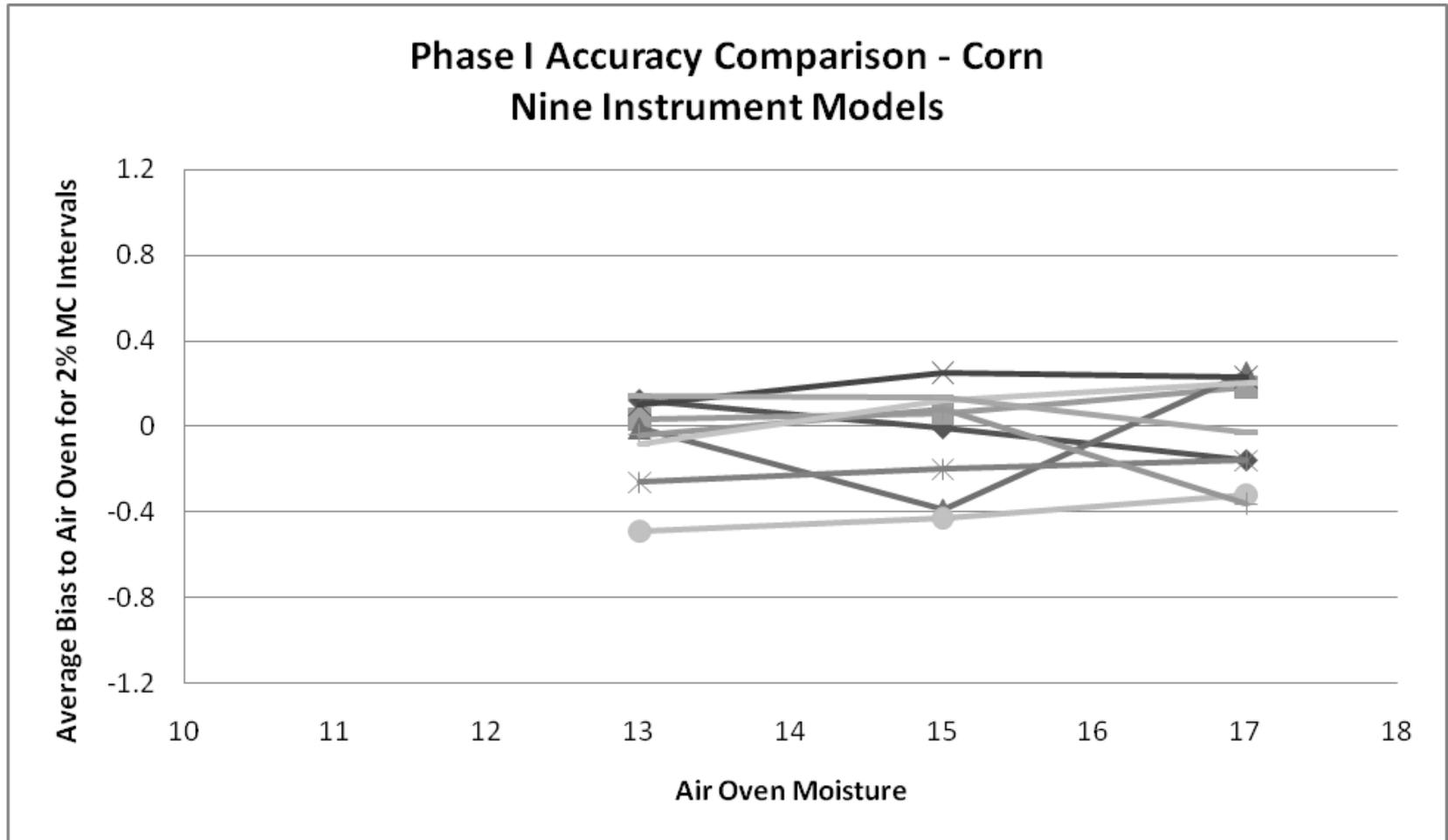
Calibration Performance for NTEP Moisture Meters (Only models with 2007-2009 data are included)

Moisture Meter Comparison - Soybeans 2007 - 2009 Crop Years



Initial Corn Calibration Accuracy

(Data for 30 selected corn samples)

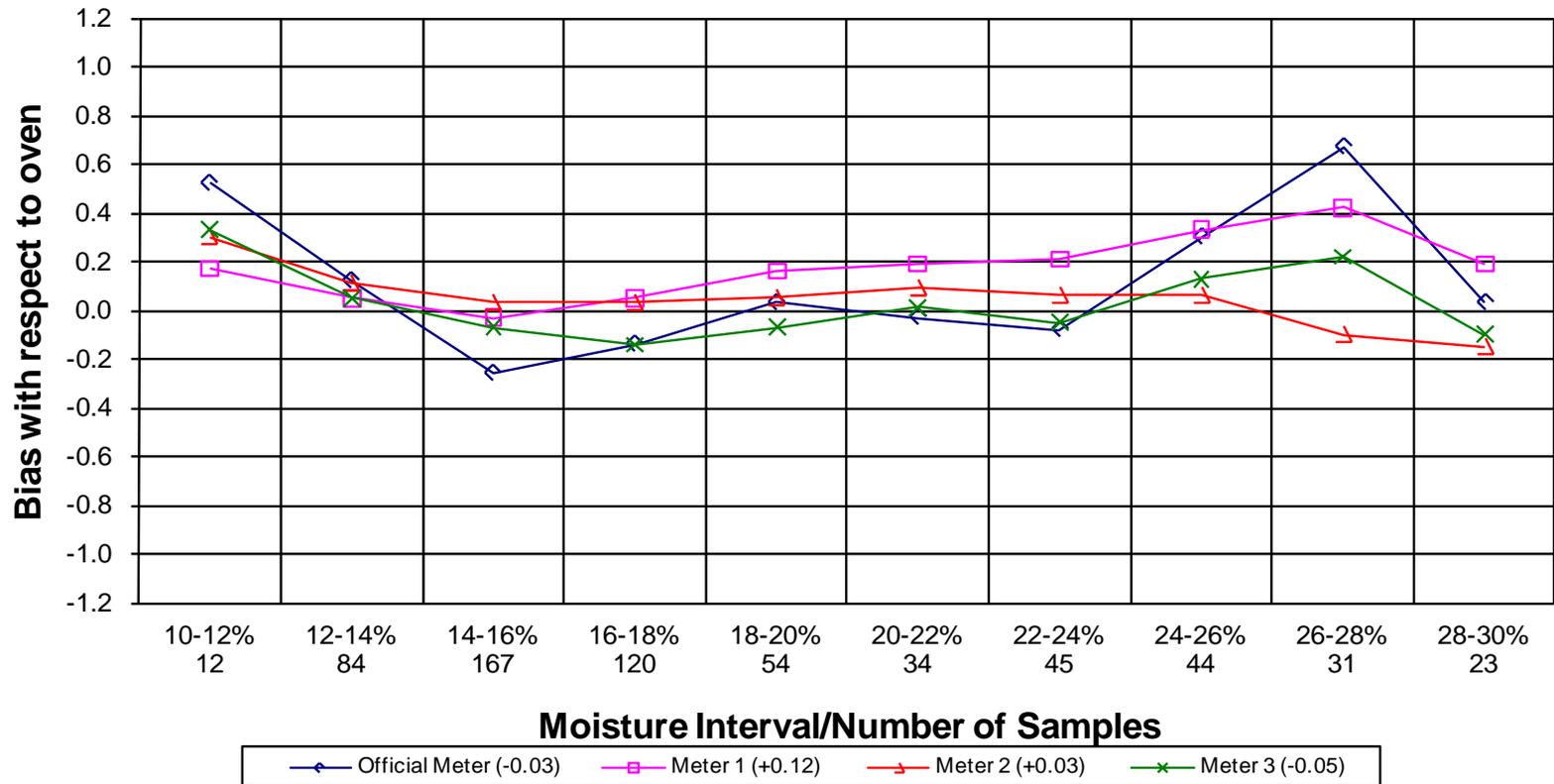


Calibration Performance for NTEP Moisture Meters

(Only models with 2007-2009 data are included)

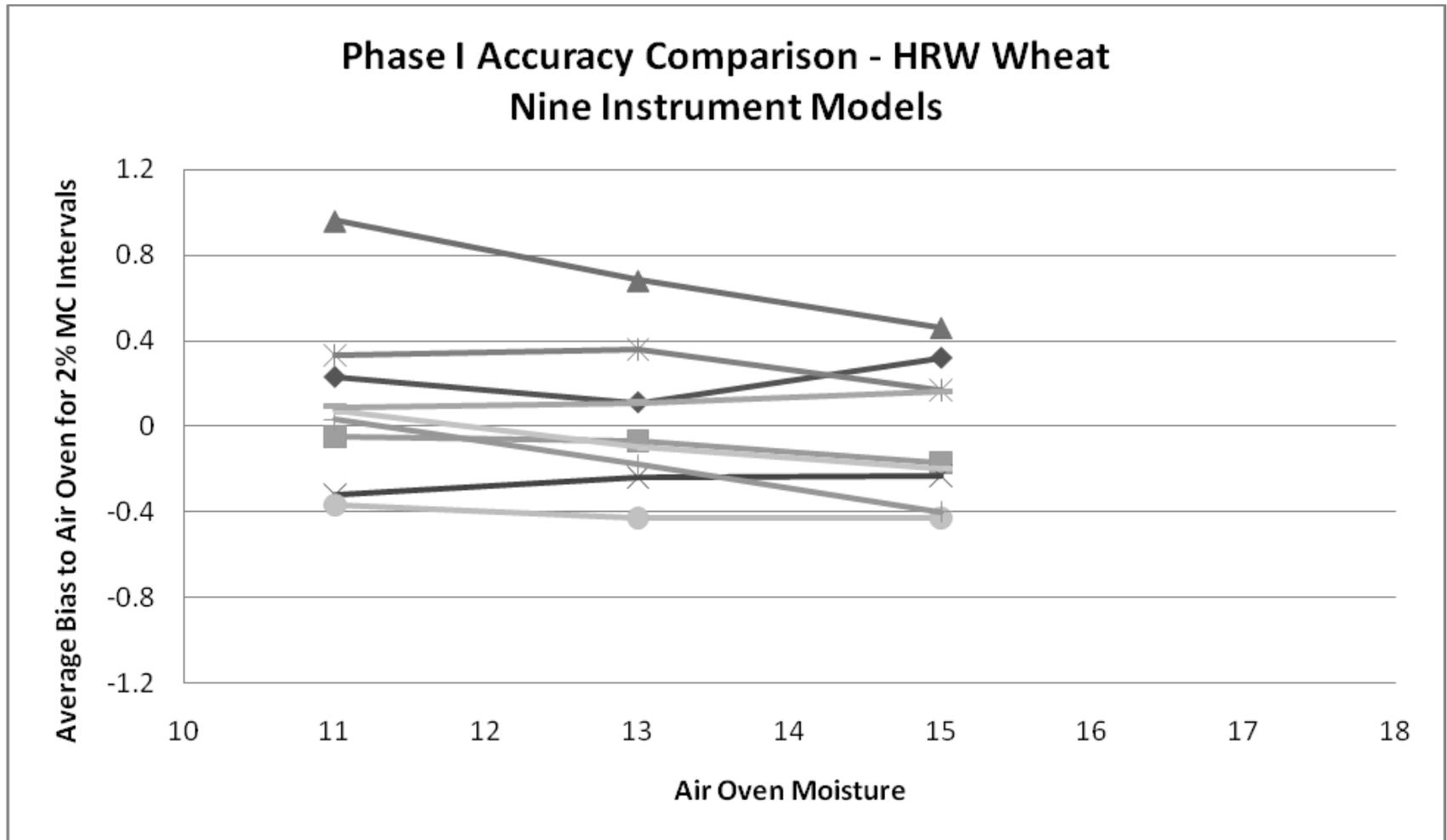
Moisture Meter Comparison - Corn

2007 - 2009 Crop Years



Initial HRW Wheat Calibration Accuracy

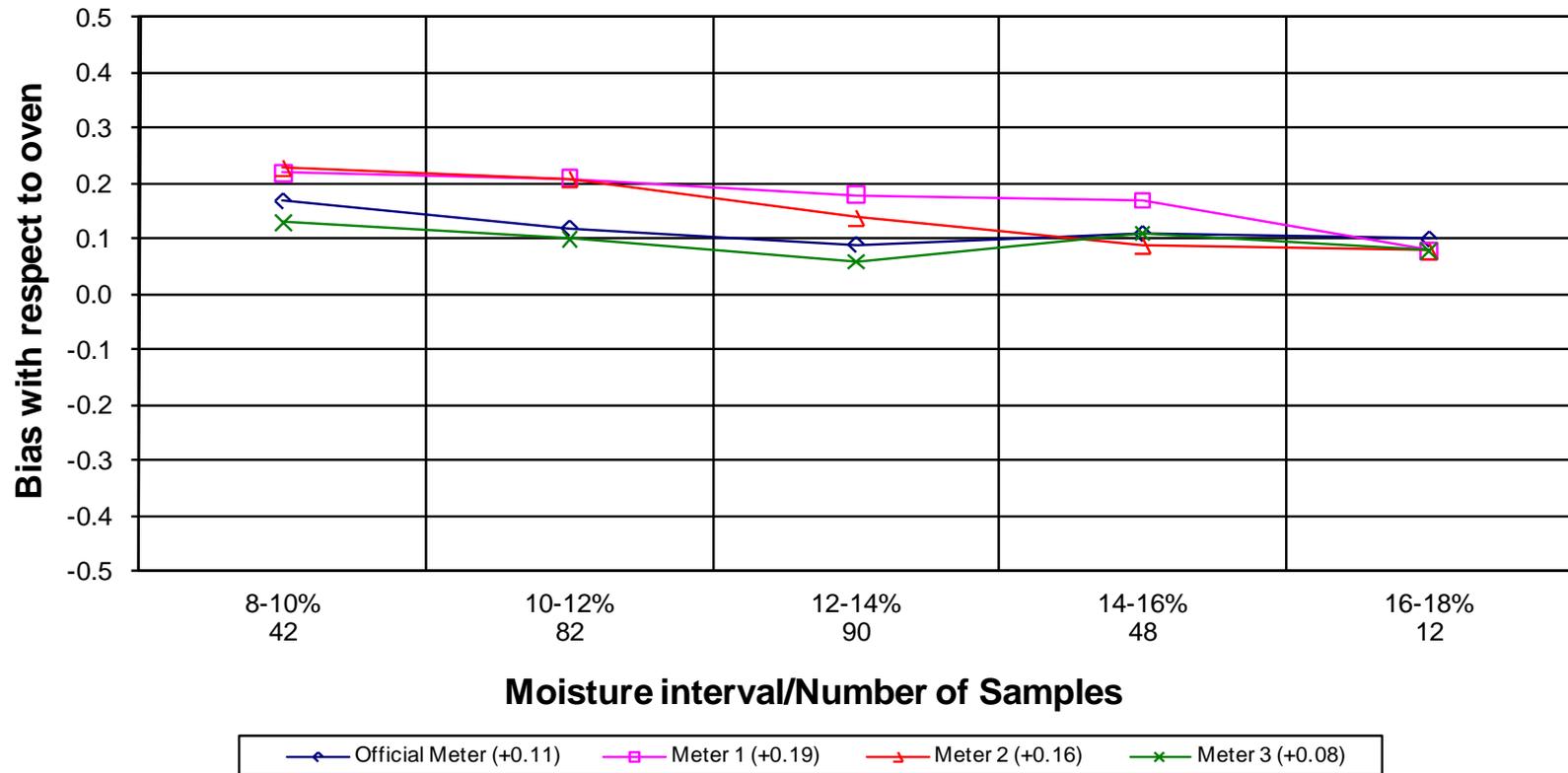
(Data for 30 selected HRW wheat samples)



Calibration Performance for NTEP Moisture Meters

(Only models with 2007-2009 data are included)

Moisture Meter Comparison - Hard Red Winter Wheat 2007 - 2009 Crop Years



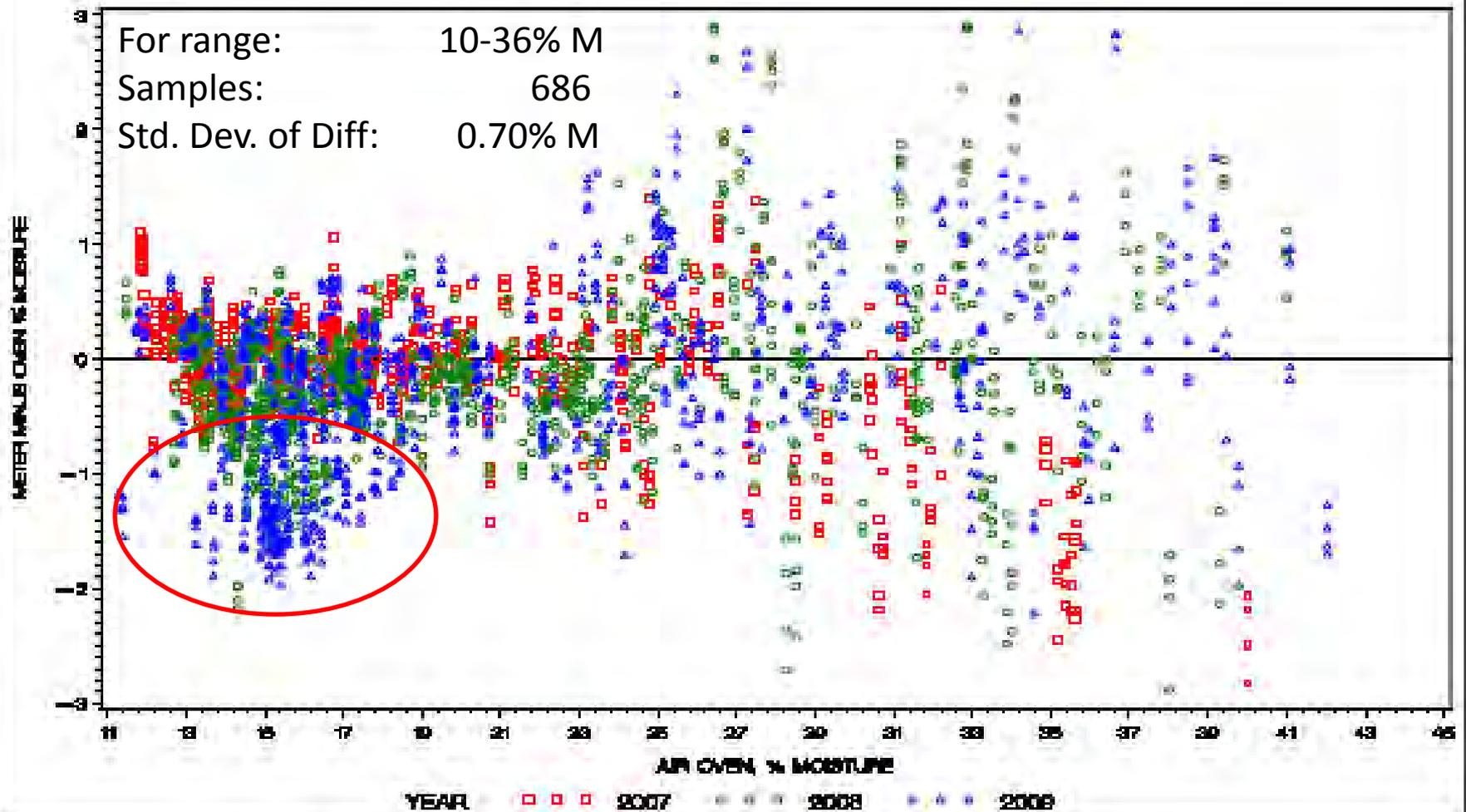
NTEP Conclusions and Comments

- The NTEP program provides a better defined process for introducing new meter designs
- Agreement between different meter models has been improved through participation in the on-going calibration program
- Inherent differences between measurement technologies limit the extent to which results can be further standardized.

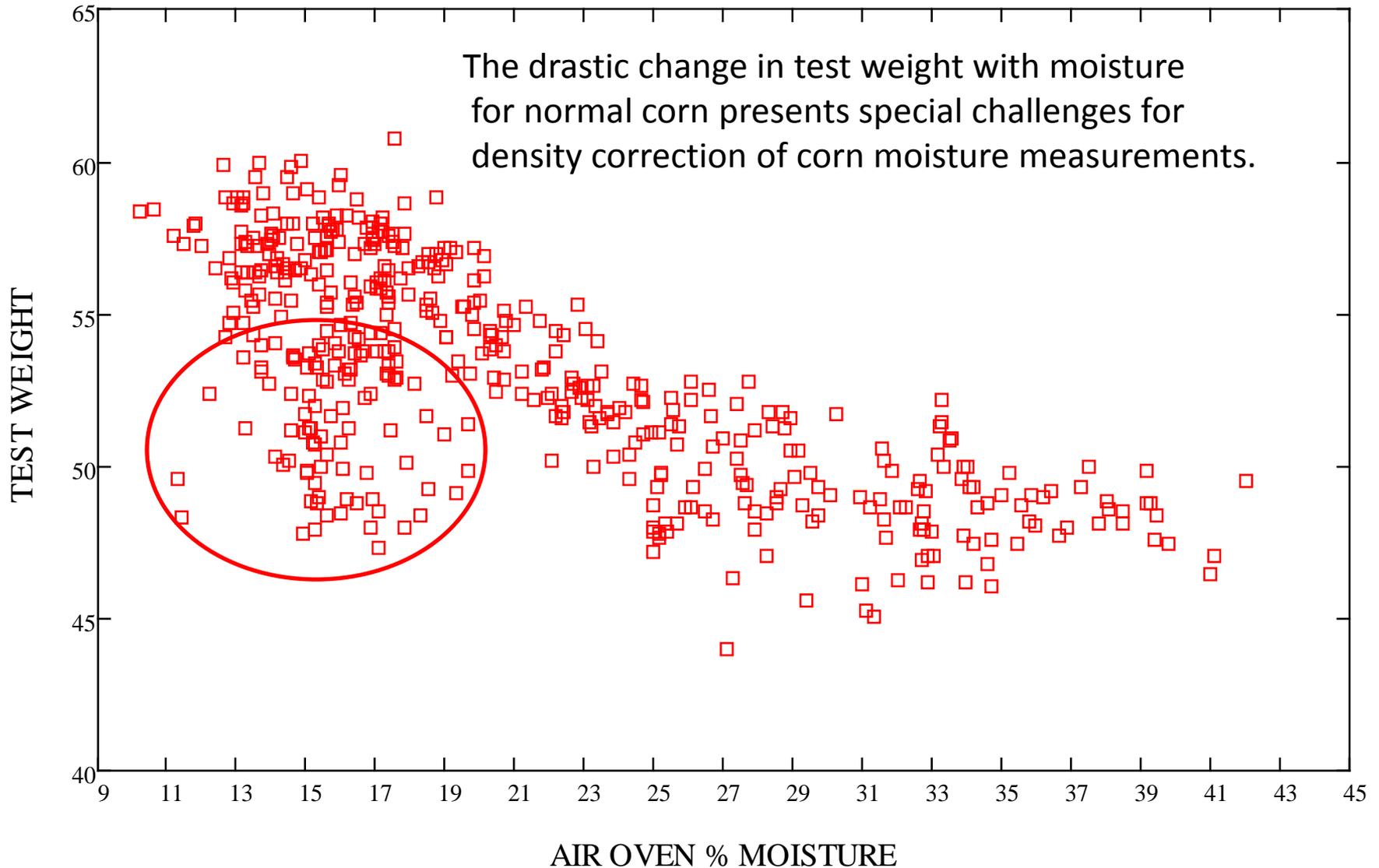
GAC 2100 Corn Results—Density Issue

Accuracy for 2007-2009 Crops

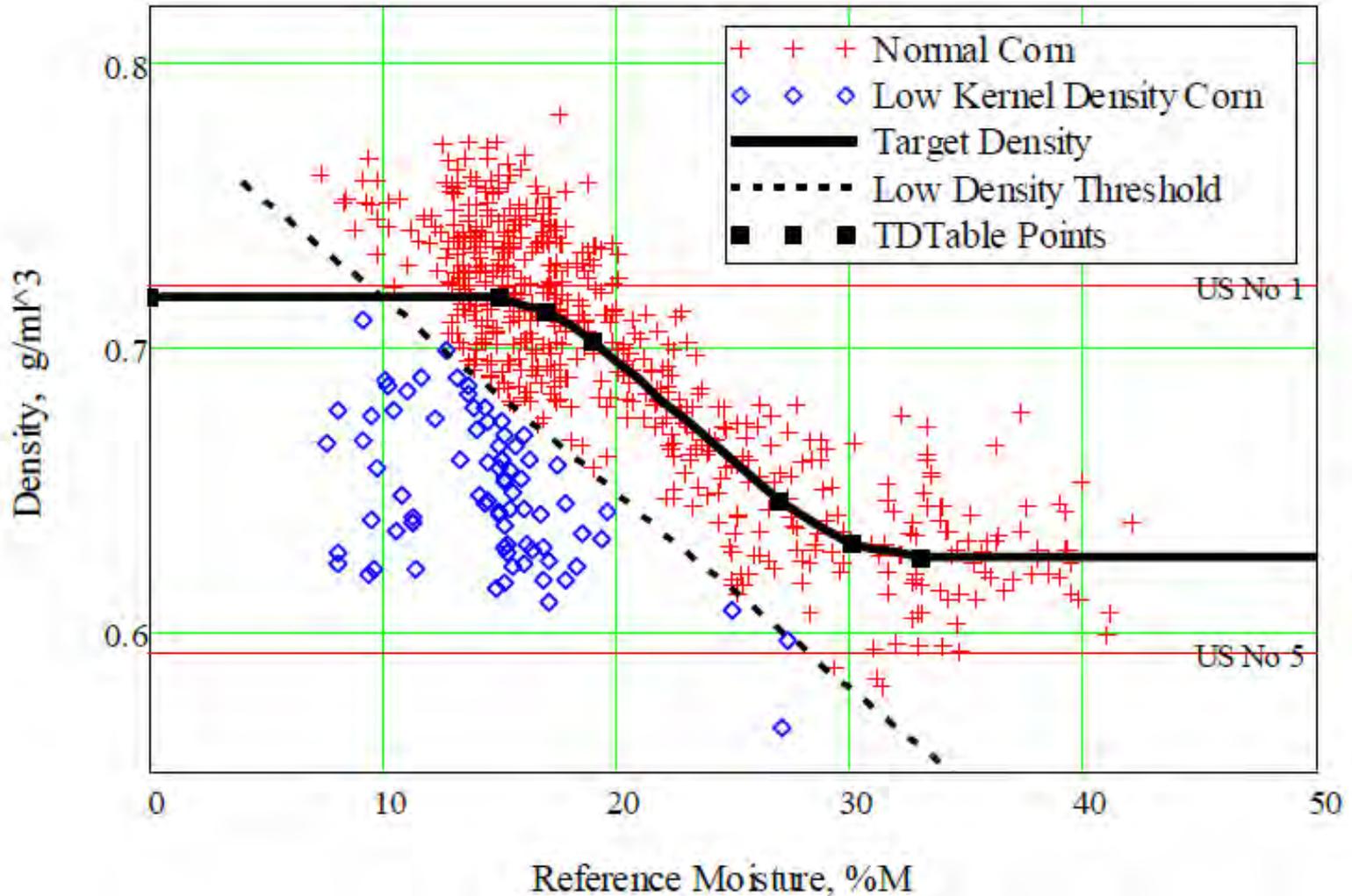
A. Plot of GAC2100 Accuracy vs. USDA Air Oven Moisture, Room Temperature Data Only



Corn: Official Test Weight vs. Air Oven Moisture

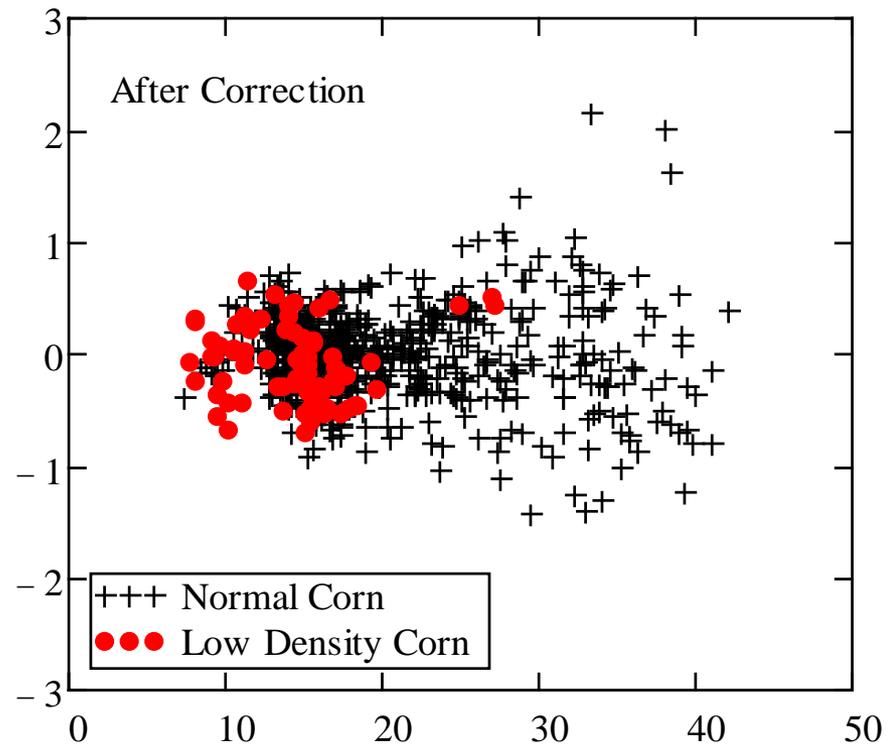
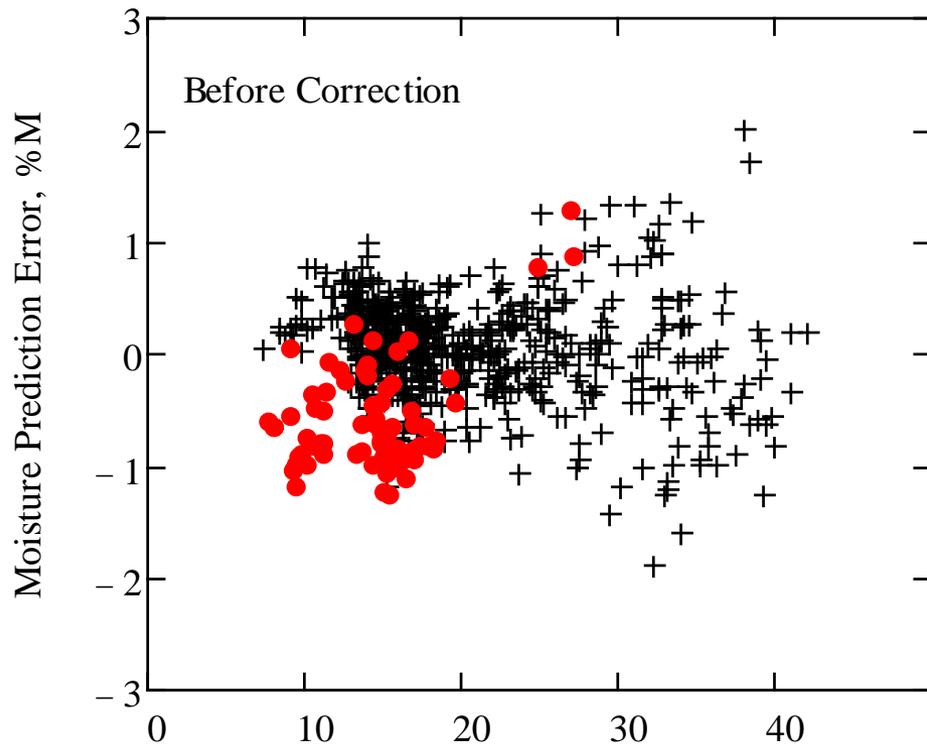


Development of Secondary Density Correction for Corn



Secondary Density Correction

149 MHz Corn Results



Air Oven Moisture, %M

Air Oven Moisture, %M

Before	Bias	STD	Slope	After	Bias	STD	Slope
All Samples	-0.04	0.46	-0.01	All Samples	-0.01	0.31	-0.01
Low Density	-0.66	0.34	0.00	Low Density	-0.11	0.32	-0.03
Normal	0.09	0.36	-0.04	Normal	0.01	0.30	-0.01

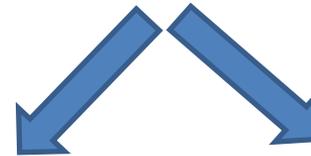
Conclusions regarding Secondary Density Correction for Corn

- Low density corn samples show significant moisture prediction errors.
- Secondary density correction successfully reduced the moisture prediction error—not only for the low density samples.
- The secondary density correction is applicable to other dielectric grain moisture meters.

Effects of Loading Methods

Loading method used for the UGMA development

Funnel



Manual Pour

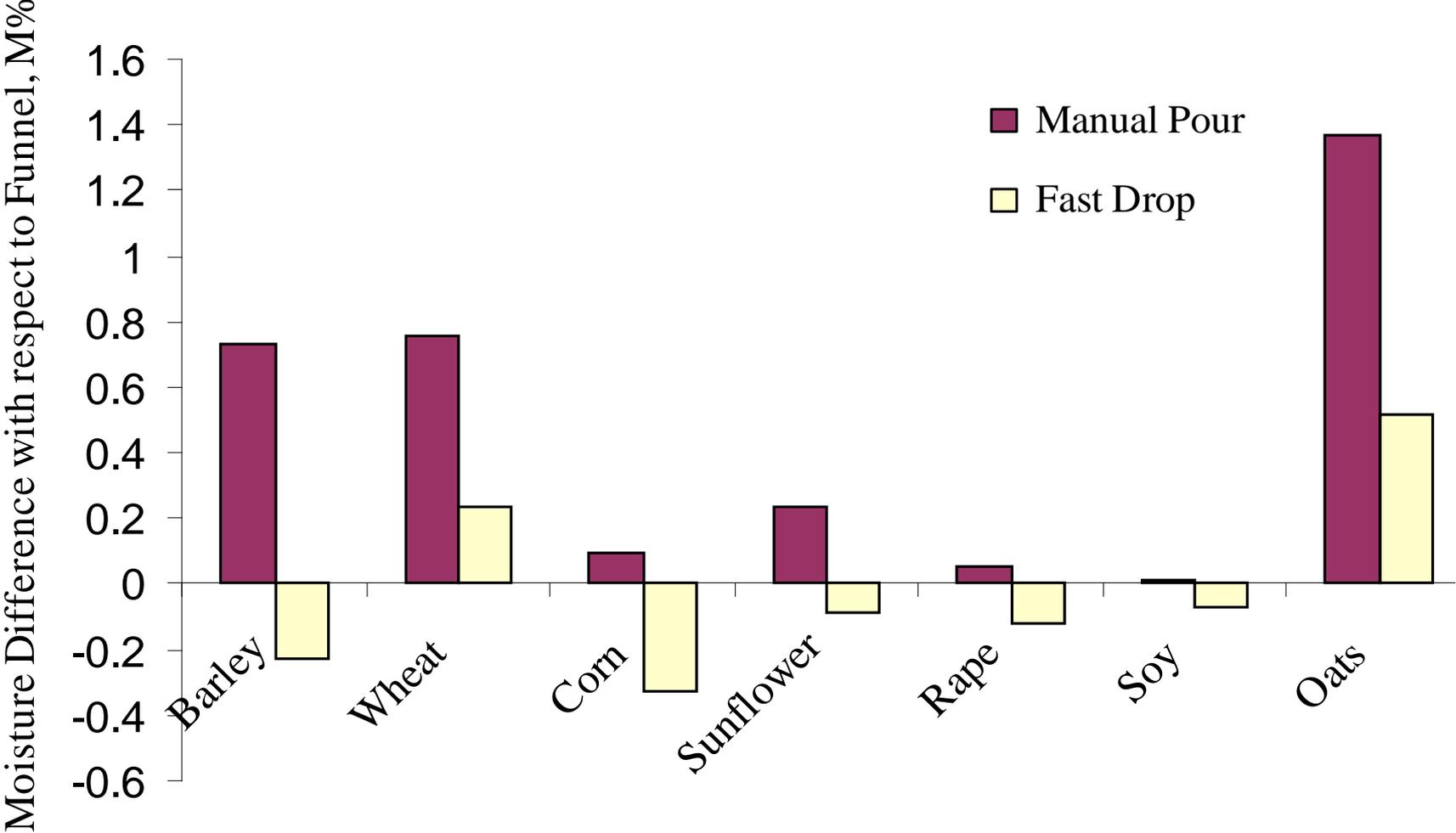


Fast Drop

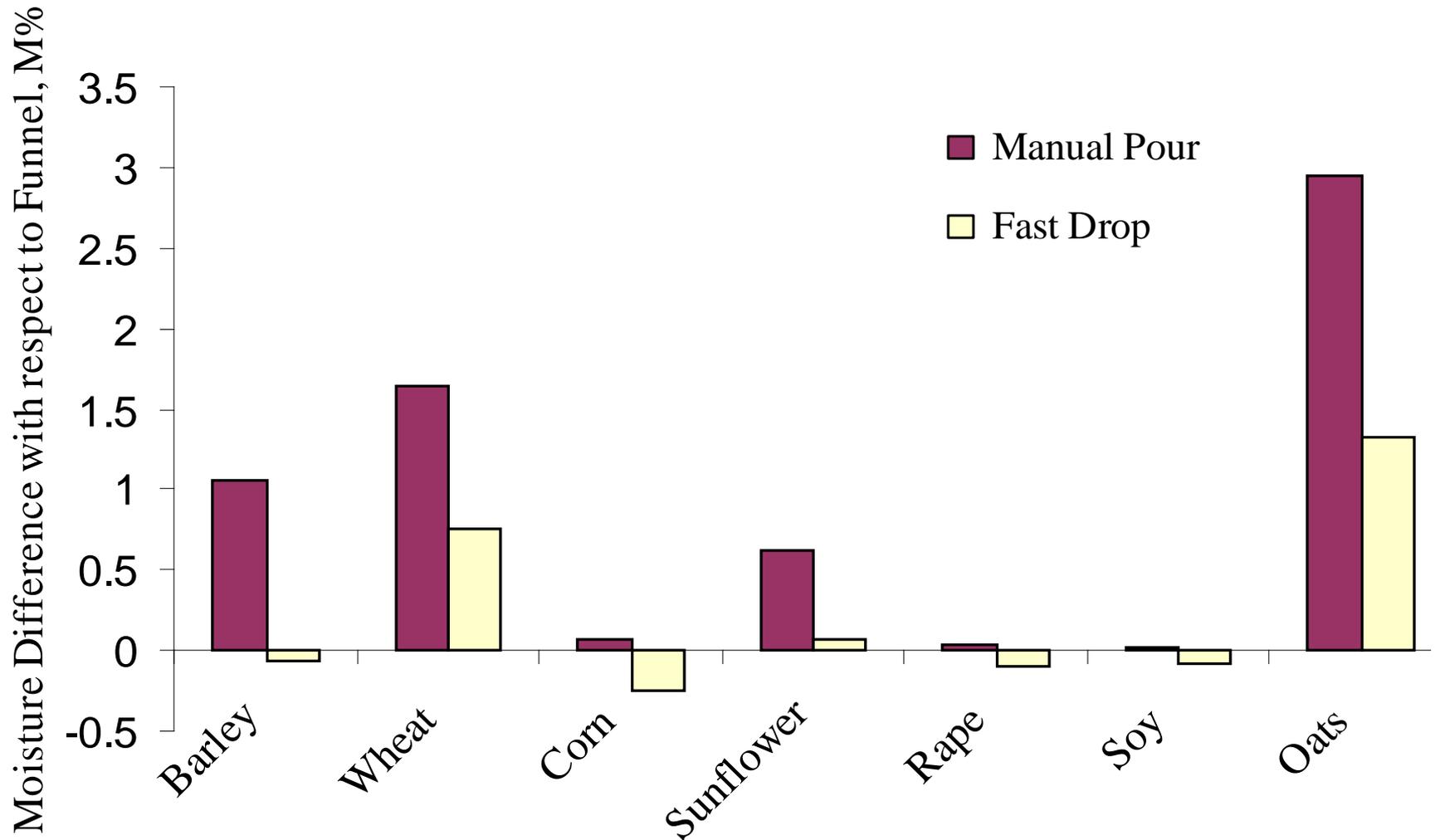


Alternative loading methods

Moisture Prediction Difference with respect to Funnel, Dry Samples



Moisture Prediction Difference with respect to Funnel, Wet Samples

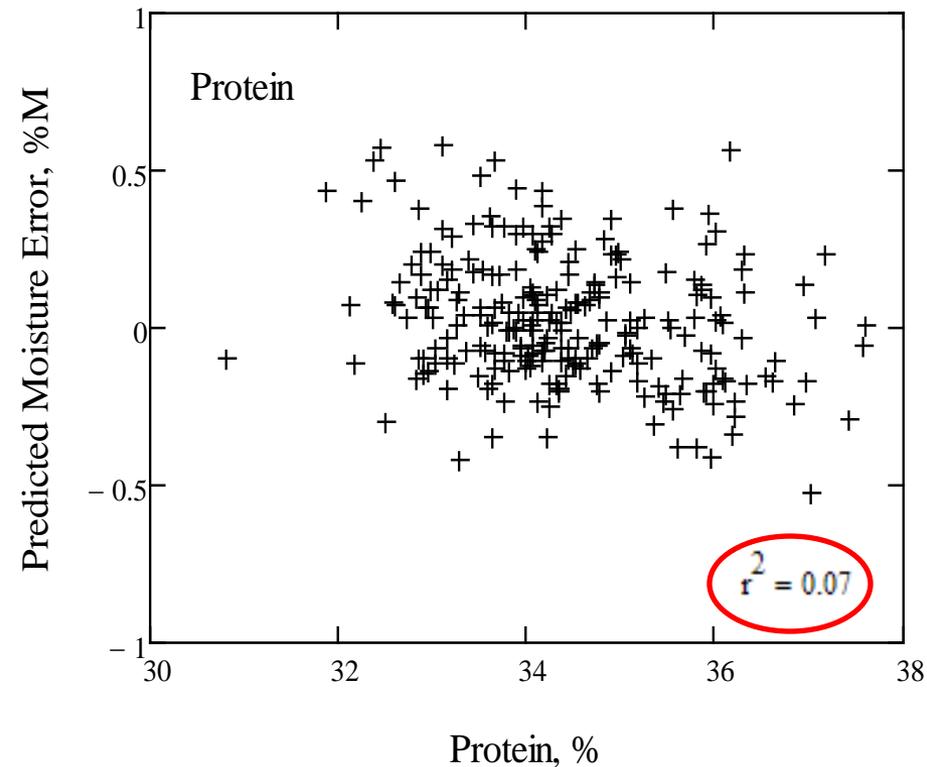
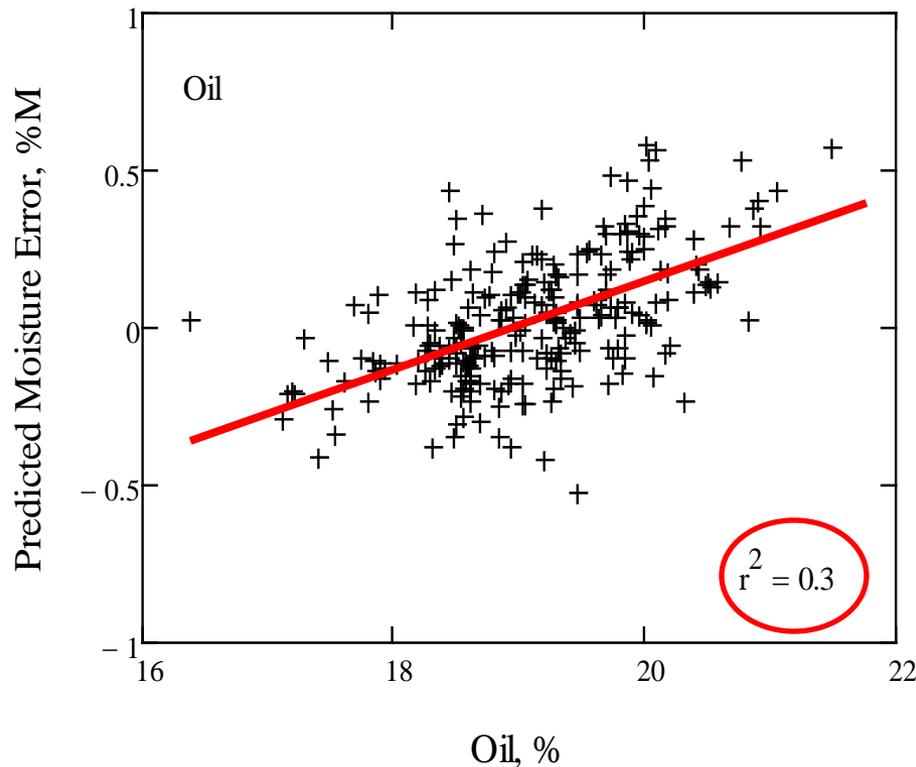


Conclusions regarding Loading Methods

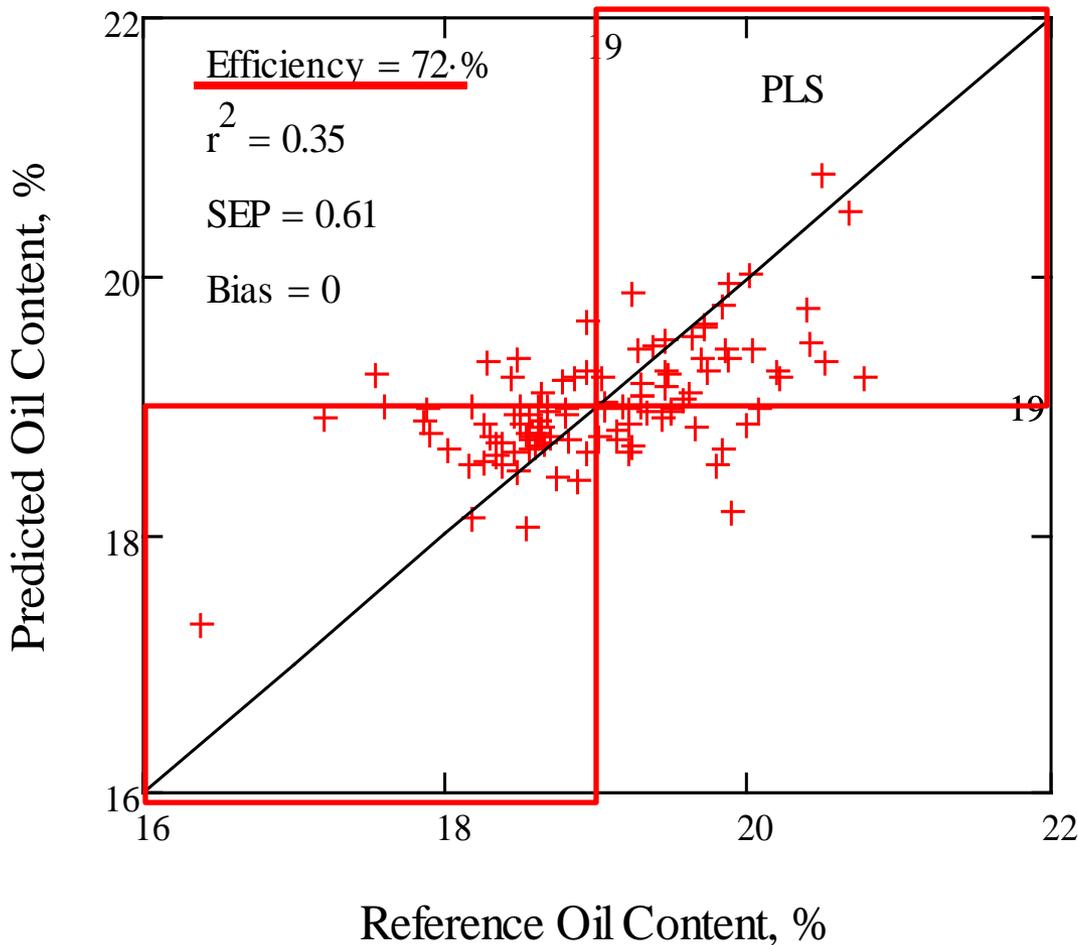
- The different loading methods caused different kernel orientation tendency in the test cell.
- The kernel orientation caused significant moisture prediction differences.
- It is essential to specify the loading method for measuring dielectric properties of any elongated granular material.

Limitations of Dielectric Methods: Is it possible to Sense Oil and Protein Content in Grains?

Predicted moisture error (UGMA) dependent on oil
content but not protein content



Best Oil results for PLS: 1 to 250 MHz data



Validation Samples

Variables used

- UGMA %M
- Sample mass³
- Temperature
- Loss @11 freq.
- Loss² @ 11 freq.
- Frequencies
 - 3, 13, 23...
 - 103 MHz

Conclusions regarding Measuring Oil or Protein with Dielectric-Type Meters

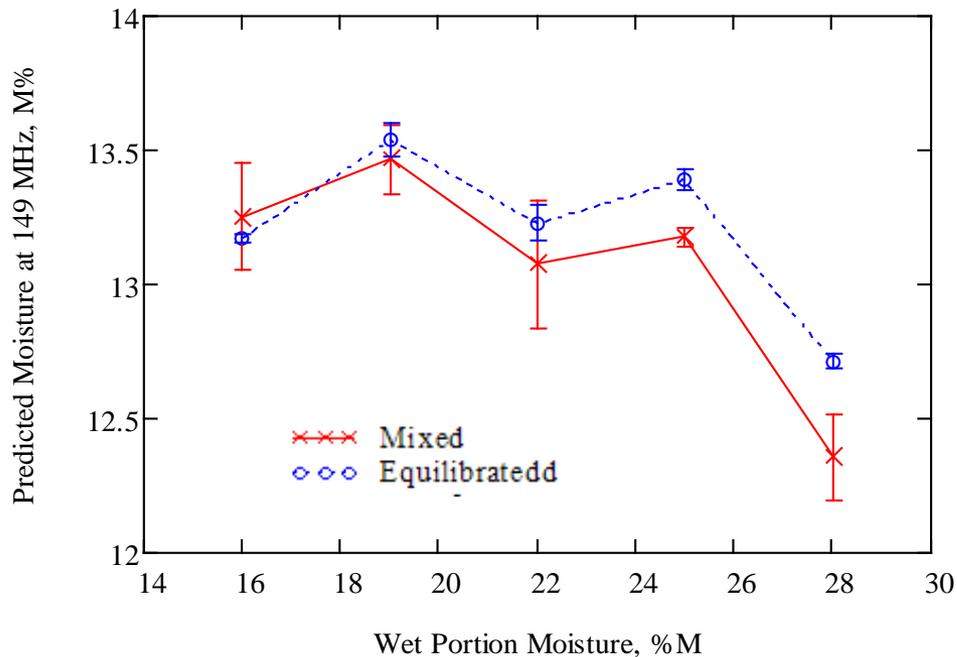
- Oil content introduced some error in dielectric moisture measurements.
- Oil prediction possible—but poor.
- High and low frequency ranges yielded similar results.
- Protein prediction not achievable.

Effects of Drying (Rebound) and Mixtures on Dielectric and NIR Moisture Meters

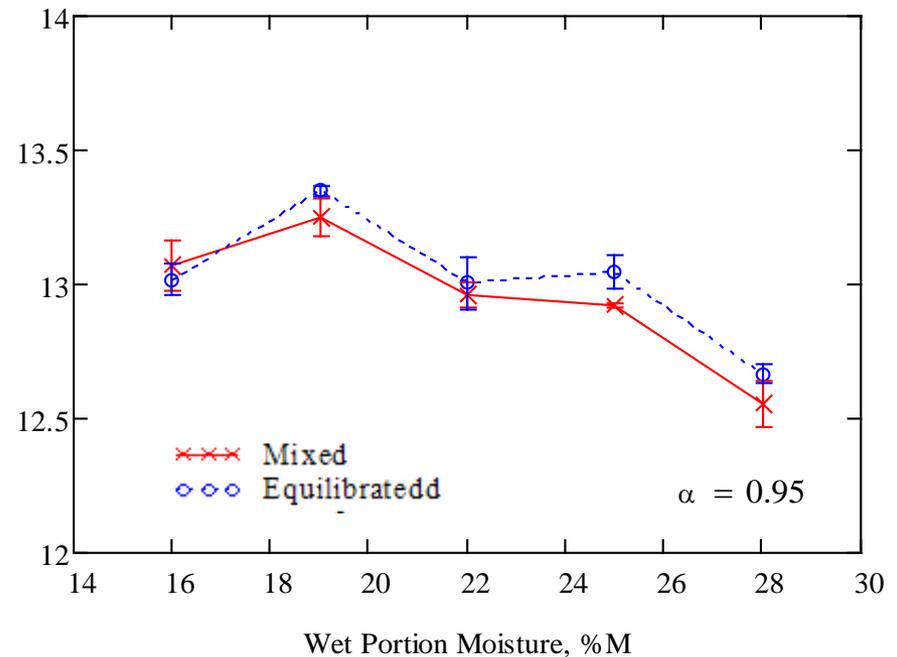
Soybean Mixtures (2006)

Wet and Dry Portions Mixed to 13%

8% M Dry Portion



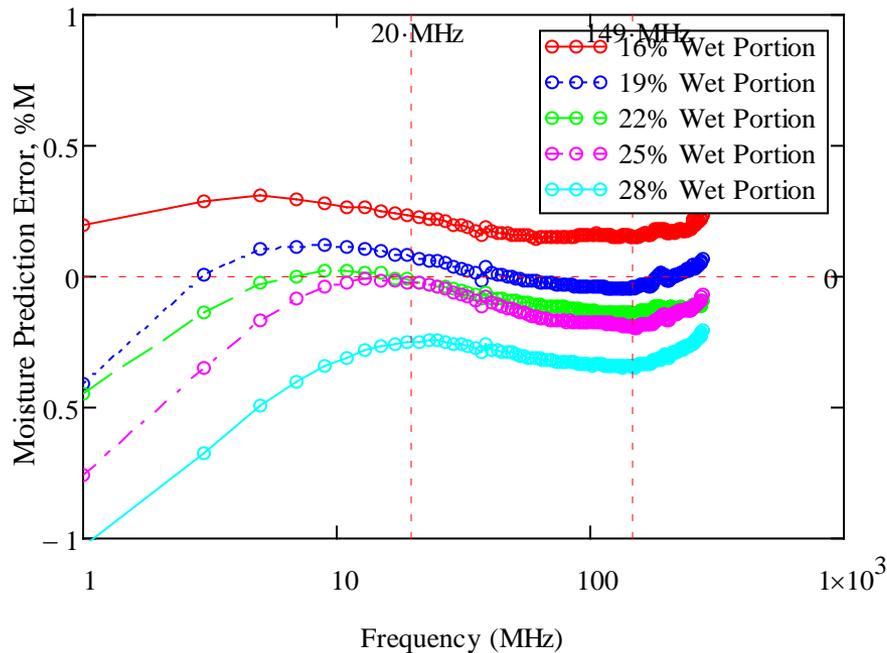
10% M Dry Portion



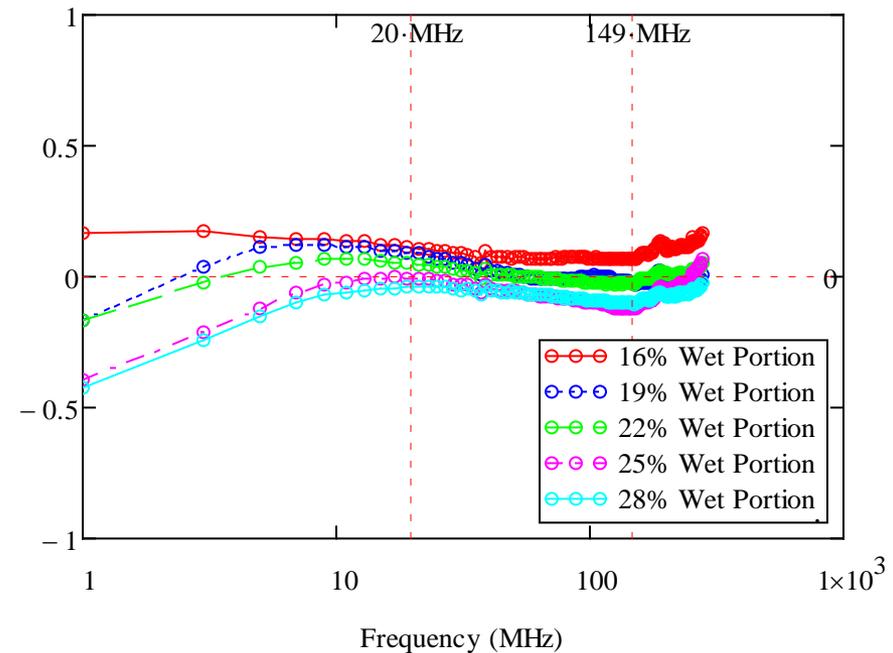
Soybean Mixtures (2006)

Wet and Dry Portions Mixed to 13%

8% M Dry Portion



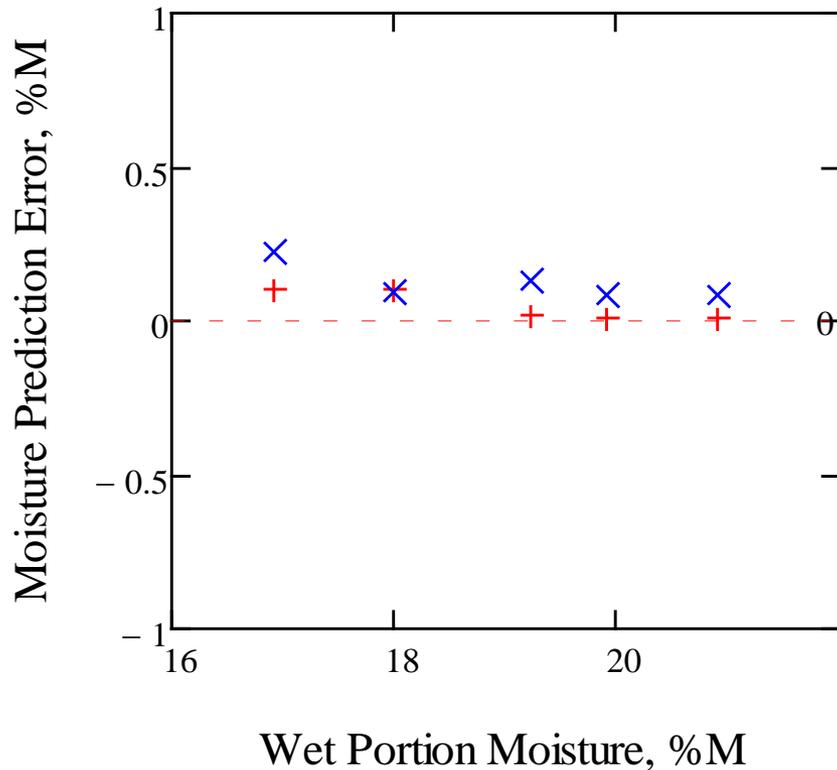
10% M Dry Portion



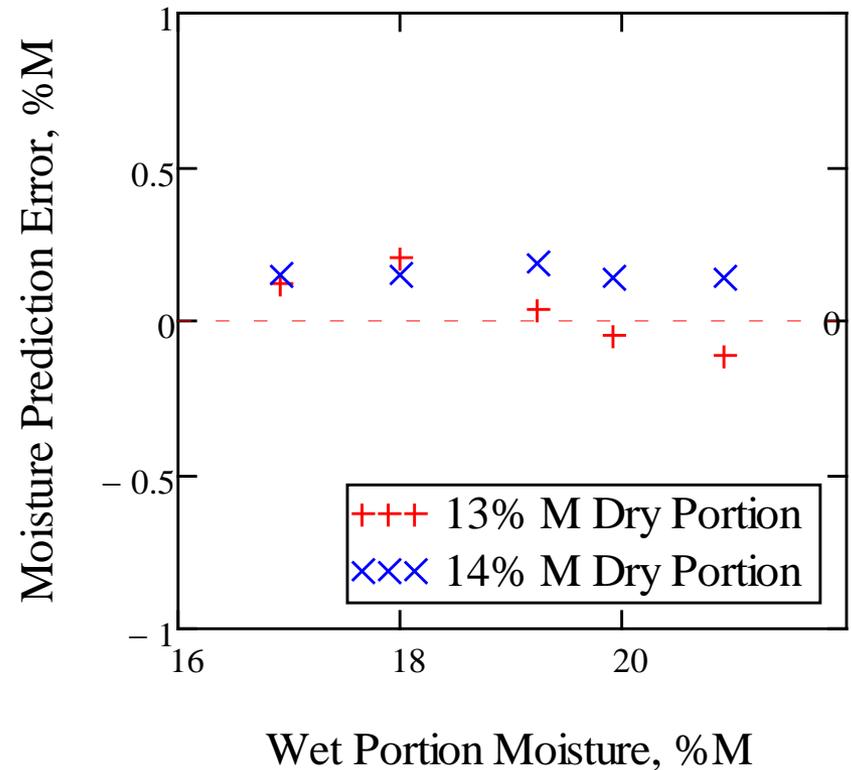
Long Grain Rough Rice Mixtures

Wet and Dry Portions Mixed to 15%

149 MHz Technology



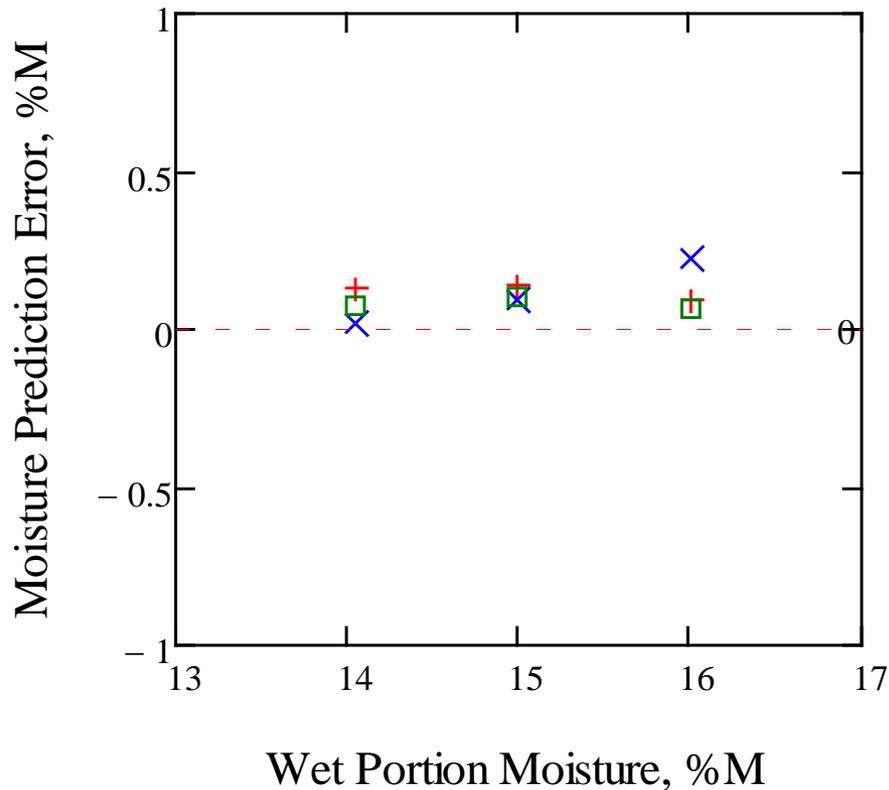
NIR Technology



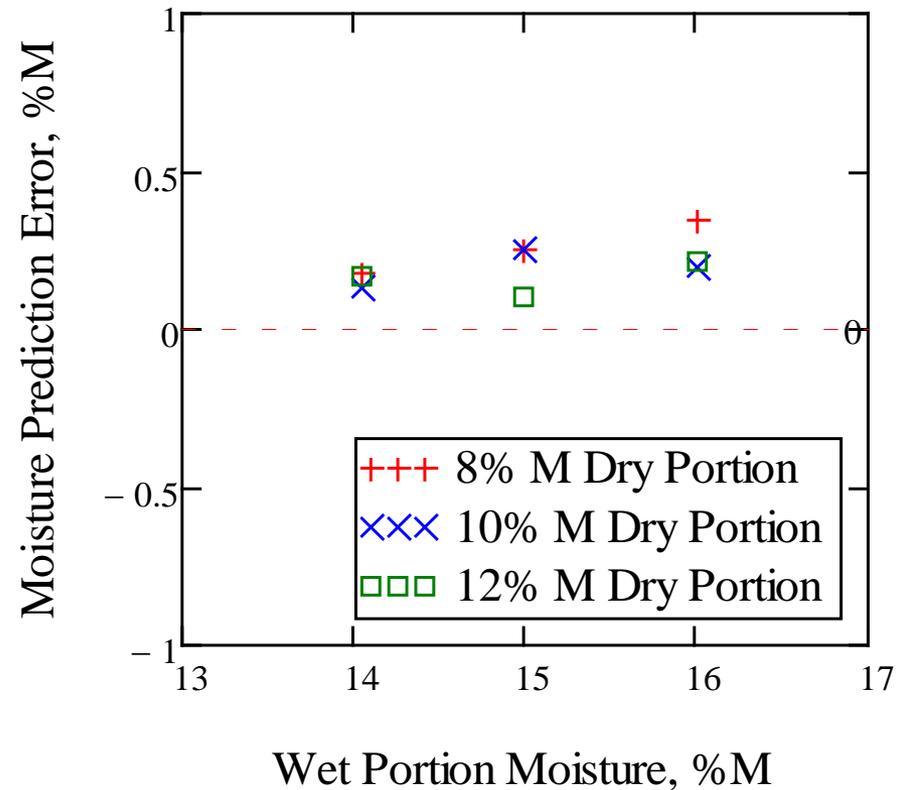
Soybean Mixtures

Wet and Dry Portions Mixed to 13%

149 MHz Technology



NIR Technology



Rebound Experiments

Soybeans:

- 15.4, 15.6% M samples
- Dried for 3, 9, 25 minutes
- Cooled before testing

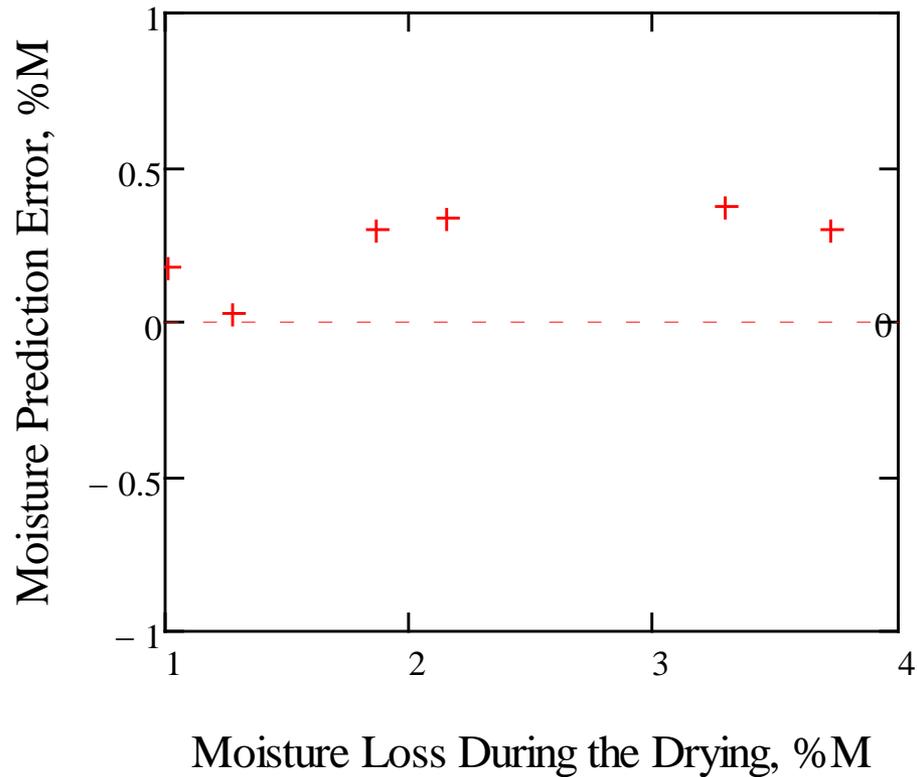
LGRR:

- Samples: 17.4, 18.3, 19.4, 20.4, 21.5%
- Dried for 2, 4, 6, 12 minutes
- Cooled before testing

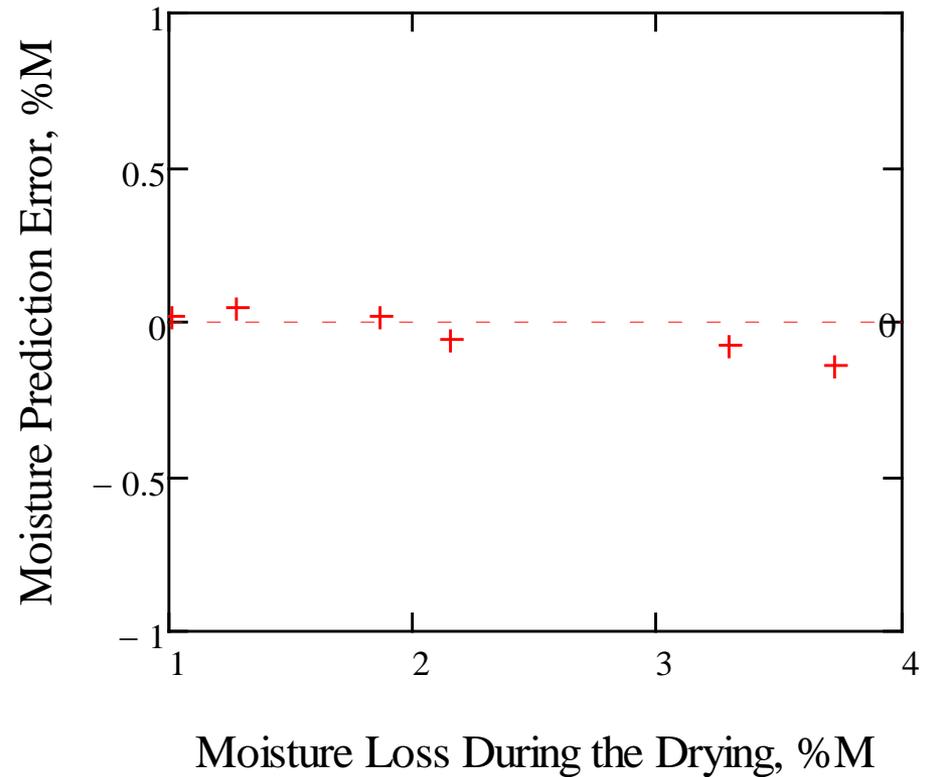


Soybean Rebound

149 MHz Technology

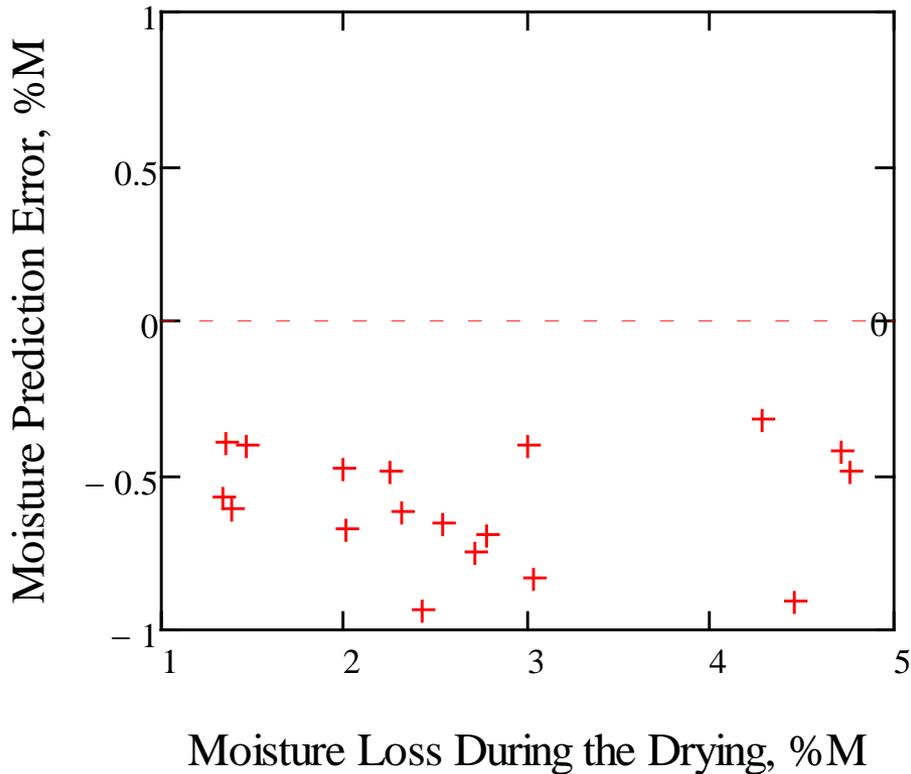


NIR Technology

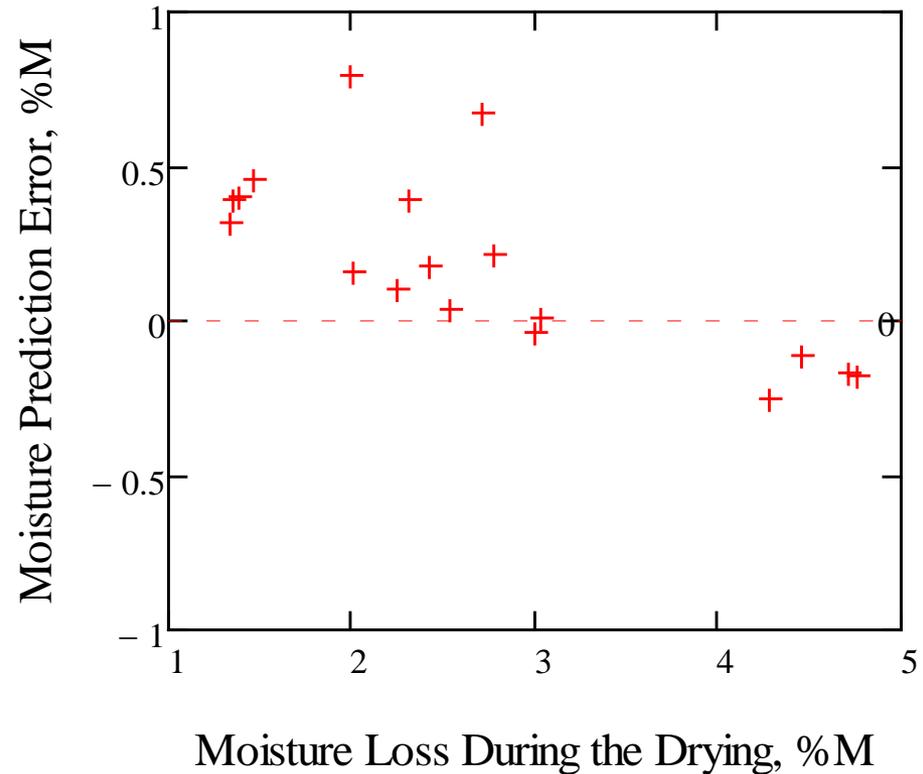


Long Grain Rough Rice Rebound

149 MHz Technology



NIR Technology



Conclusions regarding Mixtures and Rebound

- Dielectric (149 MHz) and NIR methods respond differently to mixtures and drying (rebound).
- The effects are complex, depending on several factors
 - Type of grain
 - Measurement method (or frequency)
 - Extent of drying or mixing extreme moisture levels
- Higher frequency dielectric methods are somewhat less sensitive than lower frequency methods.
- NIR is probably less sensitive than dielectric methods.
- More tests at harvest time are needed for definitive results.

GIAC Resolutions Regarding Adopting Moisture Technology

June 2010

“The Advisory Committee recommends that GIPSA/FGIS move forward with expediency to determine the feasibility and selection of a new federal standard moisture measurement technology and/or instrument(s), for use in the official system.”

November 2010

“That when reviewing and selecting new moisture testing technology that GIPSA include in its analysis parameters for “Green” rough rice during the harvest season, Aug-Sept.”

Historical Timeline

- June 2010:
 - GIAC passed resolution supporting adoption of new Official moisture measurement technology.
- August 2010:
 - Agency made decision to pursue new Official moisture technology.
- November 2010:
 - GIAC passed resolution urging testing of “Green” rough rice.
- May 2011:
 - Completed initial assessments of sensitivity to “Green” rough rice and soybeans.

Projected Timeline

- July-December 2011:
 - Collect calibration data for new technology.
- September 2011:
 - Conduct additional “Green” grain tests to quantify effects.
- February 2012:
 - Finalize technology selection decision.
- May 2012:
 - Develop and validate calibrations for Officially-inspected grain types.
- May 2013:
 - Implement new technology for initial grains.
- September 2013 and later:
 - Implement new technology for other grains

Crucial Criteria for New Official Moisture Technology

1. To optimize consistency of official results, FGIS should select a single technology for use as the Official moisture measurement technology for each grain type for which FGIS has inspection responsibility.
2. To avoid requiring multiple moisture meter types within inspection labs, the selected technology must be capable of providing accurate measurements of moisture for all Officially-inspected types of grains, oilseeds, pulses, and processed commodities.

Crucial Criteria for New Official Moisture Technology

3. Developing and maintaining calibrations for all products under FGIS inspection responsibility must be practical for the selected technology.
4. To allow commercial users to obtain results consistent with the Official system, the selected technology must be currently represented by at least one commercial product certified by the National Conference on Weights and Measures (NCWM) for commercial grain moisture measurement.

Crucial Criteria for New Official Moisture Technology

5. To provide procurement competition, the selected technology must be “open” such that a Qualified Products List of fully equivalent (in FGIS’s definition) equipment can be established.
6. Purchase cost should be an important factor in selecting new Official moisture technology.

Conclusions regarding Crucial Criteria for New Moisture Technology

- If all these five criteria are, indeed, necessary, there is only one option for new Official moisture technology.
- The FGIS Executive Management Team recommends that the FGIS' 149 MHz (Unified Grain Moisture Algorithm) method be implemented as the Official moisture technology.



Sorghum Odor

Grain Inspection Advisory Committee Meeting

David Lowe
Chairman, Board of Appeals & Review
June 21-22, 2011



United States Department of Agriculture
Grain Inspection, Packers & Stockyards Administration
Federal Grain Inspection Service



Background



- | | |
|-------------------|---|
| May 2008 | Odor differences occurred between an origin and export location |
| June 2008 | Exporters, handlers & producers concerned with current musty odor line and consistency of its application |
| Nov 2008 | GIPSA surveyed 62 individuals from 26 companies in 5 states for odor |
| Dec 2008 | Advisory Committee resolved GIPSA to form a taskforce to validate the odor line |
| Jan 2009 | National Sorghum Producers requested that a taskforce also be formed |
| April 2009 | GIPSA convened a taskforce which was led by Dr. Edgar Chambers |



Input From Industry Stakeholders



April 8, 2009 Taskforce meeting was held in
Kansas City, Missouri

Participants

6 Handlers (domestic and export)

2 Producers (National Sorghum Producers)

6 Domestic End-users



Taskforce Charge



- Seek consensus on the official odor line for musty sorghum
- Sensory evaluation was guided by Dr. Edgar Chambers IV, internationally distinguished sensory expert at Kansas State University



Questions asked to Taskforce



1. When smelling sorghum samples, consider each as the only grain available. Blending to diminish the intensity of any off-odor is not an option. With this in mind, do you consider the odor present acceptable, without discount, for its intended use?
2. Sorghum end-users may find different types and levels of odor unacceptable based on their processes and end-products, but GIPSA must establish an “odor line” that is independent of the specific end-user. To what percentage of end-users should sorghum representing the GIPSA “odor line” be unacceptable without discount?



Taskforce Outcomes



- End-users odor line is tighter than handlers and producers
- There were significant differences within individuals even within the same group
- No consensus was reached on the level of end-users that should find the official line unacceptable
- Reporting “levels” of odors for samples should be explored
- Handlers and producers have great concern about the consistency of odors between inspection points



Sorghum Inspection Facts for 2010



- There were approximately 28,762 **official** inspections for Sorghum
- Approximately 60% of the domestic sorghum graded by Kansas Grain
- Approximately 20% done by **official agencies** in Oklahoma and Texas
- There were approximately 972 export sorghum lots inspected
- Approximately 66% of the export lots inspected by the League City
- QAQC monitoring was performed on approximately 2.8% of the 28,762 sorghum samples inspected nationally
- Approximately 94% were OK on odor, 2.5% musty, 2.5% sour, and 1% cofo
- Approximately 96.4% agreement between the original and supervision



Sorghum Odor Project



- July 7, 2009 – Sorghum Odor Project awarded to Dr. Edgar Chambers IV, PhD., Director, Sensory Analysis Center, Kansas State University, Manhattan, Kansas



Dr. Edgar Chambers IV

Sensory Analysis
Center



Sorghum Odor Project

“Storage Musty”



Objective:

Develop consistent “standard reference samples” to be used for comparison during training and evaluation of “storage musty” odors in grain sorghum.



Sorghum Odor Project

“Storage Musty”



The project will:

1. Determine odor compounds that mimic “storage musty” in grain sorghum.
2. Develop individual compounds or blends of compounds that can be used to “spike” grain sorghum samples to mimic “storage musty” in grain sorghum.
3. Determine concentrations of odor compounds that will achieve various types and intensities of “storage musty” odor in spiked grain sorghum samples.
4. Develop procedures for spiking samples that can be used to provide consistent spiked reference samples.
5. Determine storage procedures and storage limits for maintaining consistent spiked reference samples.
6. Provide specifications for reference materials (compounds, concentrations, spiking procedures, storage conditions) for use in day-to-day operations for GIPSA and other official agencies.



Sorghum Odor Project

“Storage Musty”



- The BAR provided 27 different samples from September 1, 2009 to May 1, 2010 to the Sensory Analysis Center (SAC), Kansas State University, Manhattan, Kansas.
- All 27 samples were subjected to descriptive sensory analysis (odor), carried out by highly trained panelists.
- SAC determined the compounds that were present in the sorghum samples characterized as “storage musty”.
- The panel did a 3 month shelf life study on the chemical compounds.
- SAC agreed with the BAR on all 27 samples submitted for odor. 14 of the 27 samples were musty.
- All the musty samples had intensities of mustiness between 2.5 and 5.0 which was similar to the intensity found by SAC in the samples that had been tested in Kansas City in April of 2009.



Compounds present in “Storage musty” Sorghum



- Hexanal
- 1-Octen-3-ol
- 3-Octanone
- 3-Octanol
- Methoxybenzene
- 1,2-Dimethoxybenzene
- 1-Ethyl-4-methoxybenzene
- 1-Ethenyl-4-methoxybenzene
- 1,2,4-Trimethoxybenzene
- 2-Ethyl-6-methylpyrazine
- 2,5-Dimethylpyrazine
- Trimethylpyrazine
- Geosmine



Compounds Tested at Three Temperatures For Shelf Life Study



- Frozen
- Refrigerated
- Room

The samples were most stable at frozen, but the decline in odor intensity was not too great even after three months at room temperature for some compounds.



Evaluation of Base Sample



- It was determined that new crop sorghum with an okay odor was the wrong type of okay odor to use in the odor study.
- The odor of new crop sorghum with an okay odor tended to mask the intensity of the chemicals added.
- It was determined that sorghum with an okay odor should be older sorghum that still had an okay odor in the sorghum odor project.
- The BAR recommended that a mixture of Geosmine and 1,2,4-Trimethoxybenzene be blended with older sorghum which still had an okay odor.



Sorghum Odor Surveys



- From Jan-April 2011 the BAR completed two surveys. The samples were sent to the key QASs that inspect sorghum to obtain their opinion. The samples were evaluated by the BAR/GSL and the following locations: Topeka, Salina, Wichita, Concordia, Dodge City, Kansas City, Kansas; Enid, Oklahoma; League City, Texas; and New Orleans, Louisiana.



Chemical Compound Concentrations Evaluated



1. 1, 2, 4-Trimethoxybenzene-12.5 mg/hg, Geosmine-0.0125 mg/hg
2. 1, 2, 4-Trimethoxybenzene-12.5 mg/hg, Geosmine-0.0100 mg/hg
3. 1, 2, 4-Trimethoxybenzene-12.5 mg/hg, Geosmine-0.0080 mg/hg
4. 1, 2, 4-Trimethoxybenzene-12.5 mg/hg, Geosmine-0.0060 mg/hg



Chemical Compounds Odor Validation



Both surveys confirmed that the combination of the chemical compounds of Geosmine & 1,2,4-Trimethoxybenzene mimic “storage musty” odor in sorghum

- Sample 1 81% of inspectors felt sample mimicked “storage musty”
- Sample 2 72% of inspectors felt sample mimicked “storage musty”
- Sample 3 63% of inspectors felt sample mimicked “storage musty”
- Sample 4 54% of inspectors felt sample mimicked “storage musty”



GIPSA Standardized Odor Procedure May 2011



1. The inspector(s) is/are responsible for making an impartial determination for all odors using their professional judgment.
2. Cold samples may need to be warmed before making an odor determination.
3. Stir or agitate the sample as necessary before making an odor determination.
4. Place nose as close as possible to the surface of the sample without the nose touching the sample.
5. If the odor is distinct, apply the odor. If the odor is marginal utilize a consensus approach to make an odor determination.
6. Use a reference sample when necessary.



“Redefined Consensus” to Clarify “Distinct”



1. The old policy defined “consensus” as a simple majority.
2. To improve inspection uniformity, FGIS clarified the term “consensus” and a sample has to have a **clear** majority to apply an odor. For a sample to have a clear majority a sample must have at least 2/3 or more of the inspectors agree before an odor can be applied when the consensus approach is used.
 - a. Two inspectors – both inspectors must agree
 - b. Three inspectors – two of the three inspectors must agree
 - c. Four inspectors – three of the four inspectors must agree
 - d. Five inspectors – four of the five inspectors must agree
 - e. Six inspectors – four of the six inspectors must agree



Sorghum Odor Timeline



- April 2011** Fine tune the mixture of chemicals with KSU so that the reference samples mimic the established odor line as established by the BAR.
- June 2011** Reconvene the taskforce of stakeholders (including producers, handlers, and end users) to reach consensus on the “storage musty” odor line.
- June 2011** Report status of project to the Grain Inspection Advisory Committee.
- July 2011** Review sorghum odor taskforce stakeholders and Advisory Committee comments and develop a pilot study to involve the key sorghum inspection areas. Pilot study would contain both spiked reference samples and natural storage musty sorghum further confirm that the reference samples properly mimic the odor line.



Sorghum Odor Timeline



- Sept 2011** Evaluate results of the pilot study and render decision whether to implement mass production of spiked reference samples and associated standardization process. Determine whether to conduct similar studies with base samples from other states (i.e. Texas, Oklahoma). Determine the appropriate shelf life for reference samples.
- Nov 2011** (If additional testing is not required) Prepare for rollout of reference samples (e.g. obtain clearance, issue any required public notice, etc).
- Jan 2012** Train all GIPSA employees and all Official Agency personnel that grade sorghum. Determine procedures and begin production of spiked reference samples. Determine who should receive spiked reference samples and whether a fee is required.
- March 2012** Finish development of and distribute reference samples. Conduct a pilot study to assess the benefits and uniformity of having spiked reference samples. The intended application is that the use of spiked reference samples will not be a “permanent” part of our odor standardization processes until the benefits have been confirmed through a pilot study.



Sorghum Odor Project will not Address all Odors



- If approved, this reference sample will only address one type of musty found in sorghum
- This project does not address the other types of musty found in sorghum (ground, insect, or moldy)
- This project does not address sour or cofo odors found in sorghum or any other grain



Advisory Committee Resolutions November 17-18, 2010



- The Advisory Committee recommends that GIPSA continue the current sorghum odor project with Dr. Chambers and KSU through September 2011. It is also recommended that GIPSA work with Dr. Chambers to identify potential companies that could have an interest in biosensor development for identifying chemical compounds that are believed to produce odors in sorghum or other grains.

Edgar Chambers has identified a research instrument that would enable more rapid and precise identification of odor-causing chemicals in grain samples. This could help in developing additional chemical reference samples for standardizing additional types of grain odors, and might be successful in identifying key chemical markers for specific odors. However, this instrument requires a trained human operator to identify and quantify odors while the responsible chemicals are simultaneously identified by gas chromatography.



Advisory Committee Resolutions November 17-18, 2010



- The goal is to determine if chemical biosensor technology has advanced far enough to provide any assistance to odor inspections capabilities

Since current biosensors, at best, are sensitive to specific chemicals, not odors, current biosensor technology offers little hope to replace human inspectors for odor assessment. The two chemicals that, in combination with stored sorghum, seem to mimic the “storage musty” odor when smelled by inspectors are not a suitable definition of “storage musty” for creating and training biosensors.



Advisory Committee Resolutions November 17-18, 2010



- Moving forward, it is recommended that GIPSA determine if sorghum industry partners want to continue the sorghum odor project

GIPSA is working closely with the Sorghum Odor Taskforce which includes handlers, producers, and end users in obtaining their input and recommendations in assessing whether we continue the sorghum odor project. Obtaining a cross section of industry representatives by sorghum usage will assist GIPSA in making a final determination.

Thomas C. O'Connor

Director

Quality Assurance and Compliance Division

Centralized Quality Assurance Activities

Overview

- FGIS QA\QC program is a proactive system:
 - Monitoring grading accuracy;
 - Ensuring consistent inspection results, both on a national and a local basis;
 - Provide official agencies and FGIS field offices with information and analytical tools to enhance their ability to prevent quality problems and address quality concerns.

(FGIS Quality Handbook)

Essential Elements

- Statistically-sound.
- Field-based and field-owned.
- Flexible
- Proactive
- Encourage teamwork and lateral communication.
- Provide performance measurements
- Customer directed

(FGIS Quality Handbook)

QAQC

- Roles and responsibilities
 - Develop, monitor, audit and report QAQC data
 - Maintain QAQC data bases, AMA databases and domestic complaint database
 - Analyze data and report on system performance
 - Determine need for additional databases and reports as needed

FMD

- Coordinate supervision and informal visits to official agencies
- Provide supervision and address questions regarding inspection and weighing
 - Domestic Inspection and Operation Office will provide assistance with grain issues
 - Grand Forks F/O will provide assistance with pulses
 - Stuttgart F/O will provide assistance with rice
- Assist QACD with FGIS online applications

TSD -- Grading Services Laboratory

- Domestic inspection supervision monitoring
 - Analyze un-worked sample portions to generate comparison data for inspections performed by domestic inspection agencies to assess individual inspectors' performance.
 - Flag inspection discrepancies for follow-up by Agency Quality Assurance Specialists.
- Conduct appeal inspections
- Assists BAR with licensing new inspectors for domestic Official Agencies.

TSD -- Board of Appeals and Review

- Inspector training for Quality Assurance Specialists
- Licensing for new inspectors
- Evaluate accuracy of inspectors' separations
- Prepare/distribute referee, survey, and "early alert" samples to promote inspector uniformity nationwide.
- Evaluate all "opinion" samples.
- Perform Board Appeals—final level of appeals.
- Perform internal training of Board Members.
- Evaluate file samples re: foreign complaints.
- Perform on-site reviews of inspector accuracy

TSD -- Inspection Instrumentation Branch

- NIRT (wheat, soybeans, barley, corn; protein, oil)
 - Centralized monitoring of all NIRT units used for official inspection.
 - Establish control charts and limits.
 - Evaluate results, deliver reports, and investigate discrepancies.
 - Evaluate calibration performance relative to the basic reference methods and create new calibrations when needed.
 - Provide Standard Reference Samples for routine checking and adjustment of NIRT instruments.
 - Perform some appeals and all Board appeals.

TSD --Inspection Instrumentation Branch

- NMR (sunflower oil)
 - Provide Standard Reference Samples for standardizing official NMR instruments.
 - Analyze monitoring samples submitted by Official Agencies.
 - Perform appeals and Board appeals.
 - Evaluate accuracy of NMR results relative reference methods and update methods as needed.

TSD -- Inspection Instrumentation Branch

- Moisture Meters
 - Conduct centralized check testing for all officially used moisture meters.
 - Conduct Annual Moisture Calibration Survey to evaluate accuracy of moisture measurements relative to Air Oven results and create improved calibrations when needed.

TSD -- Inspection Instrumentation Branch

- Equipment Check Testing (not all locations)
 - Dockage Testers
 - Test Weight
 - Barley Pearlors
 - Sieves
 - Rice Equipment
- Initial Equipment Verification
 - Sieves
 - Rice Equipment

Looking Forward

- Quality Roundtable – quality is the “guiding principle” for FGIS
 - Suggested a number of areas for evaluation; e.g., training, staffing, division of duties, communication
 - Implemented new organizational structure
 - FMD/TSD/QACD will collaborate in a comprehensive review with the overarching goal of further enhancing and strengthening “quality” within the official system

Review of Export Tonnage Fee

Grain Inspection Advisory Committee
June 21, 2011
Eric Jobs



United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Presentation Outline

- ▶ Advisory Committee Resolutions
- ▶ Export Fee Revisions
- ▶ Financials
- ▶ Rulemaking Process

Advisory Committee Resolutions

▶ Resolution #5

- That GIPSA review its allocation of export oversight fees. GIPSA currently is assigning revenue derived from supervision of export loadings by delegated states and designated agencies to the Domestic Service Official Agency account #530. The Advisory Committee resolves that oversight fees charged for export supervision be applied to the export inspection and weighing account #520.

▶ Resolution #6

- That the GIPSA staff do a formal review of the current GIPSA headquarters tonnage assessment. The review would establish an equitable headquarters tonnage oversight fee for all export tonnage loaded utilizing the official system.



Export Fee Revisions

- 1) Revise national and local field office administrative tonnage fees in FY 2013.
- 2) Levy national administrative tonnage fee on export inspections by designated agencies and delegated states in FY 2013.
- 3) Implement annual fee increases in FY 2014–17.

Revise National and Local Tonnage Fees

- ▶ Updated field office costs and tonnages.
- ▶ Reallocation of workers compensation from the national to local level.

Entity	Current (\$/MT)	FY 2013 Proposed	Change (\$/MT)
National	\$0.052	\$0.047	-\$0.005
Local: League City	\$0.115	\$0.109	-\$0.006
Local: New Orleans	\$0.015	\$0.035	\$0.020
Local: Portland	\$0.084	\$0.111	\$0.027
Local: Toledo	\$0.132	\$0.174	\$0.042
Total: League City	\$0.167	\$0.156	-\$0.011
Total: New Orleans	\$0.067	\$0.082	\$0.015
Total: Portland	\$0.136	\$0.158	\$0.022
Total: Toledo	\$0.184	\$0.221	\$0.037

Levy National Administrative Tonnage Fee

- ▶ Export inspections by designated agencies and delegated states will be assessed \$0.047/MT under the Grain Inspection and Weighing (520) Program.
 - Excludes rail/truck shipments to Canada and Mexico.
 - Replaces the current \$0.011/MT collected under the Supervision of Official Inspection and Weighing Services (530) Program.
 - Fees are collected under the 520 versus 530 program (Resolution #5).
 - Ensures that fees are equitable for all export tonnage utilizing the official system (Resolution #6).
- ▶ Domestic inspections by designated agencies and delegated states will continue to be assessed \$0.011/MT.



Implement Annual Fee Increases

- ▶ Designed to build and maintain retained earnings to required levels.
- ▶ Approximately 1% annual increases for all grain inspection and weighing fees in FY 2014–17.
- ▶ Five year fee schedule (FY 2013–17) provides transparency for planning purposes.
- ▶ Goal is to mitigate large future fee increases.

Financials

\$ Millions	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Revenue	\$38.7	\$37.9	\$41.8	\$42.7	\$44.1	\$45.4	\$46.9
Expenditures	\$36.7	\$37.3	\$38.7	\$39.8	\$41.1	\$42.4	\$43.8
Margin*	\$1.9	\$0.6	\$3.1	\$2.9	\$3.0	\$3.0	\$3.1
Retained Earnings*	\$8.5	\$9.1	\$12.2	\$15.1	\$18.1	\$21.2	\$24.3
FGIS Tonnage (MMT)	83.3	75.0	79.0	78.2	79.2	79.9	81.1
Agency/State Tonnage (MMT)	34.4	31.1	33.7	33.3	33.9	34.3	35.0
Canada Tonnage (MMT)	1.2	1.1	1.2	1.1	1.2	1.2	1.2

*May not sum due to rounding



Rulemaking Process

- ▶ 520 work plan has cleared USDA–Office of Budget and Program Analysis and has been submitted to Office of Management and Budget for designation.
- ▶ Proposed rule forthcoming.
- ▶ FY 2013 (October 1, 2012) targeted implementation date.

Summary

- ▶ National tonnage fees
 - Reduced from \$0.052/MT to \$0.047/MT (reallocation of workers compensation)
 - New levy on delegated state and designated agency export inspections.
 - Increase from \$0.011/MT to \$0.047/MT.
 - Domestic inspection fees unchanged.
- ▶ Local tonnage fees
 - Modified based on updated field office costs, tonnages, and a reallocation of workers compensation.
- ▶ Annual fee increases
 - Approximately 1% per year for all grain inspection and weighing fees in FY 2014–17.

