



United States
Department of
Agriculture

Marketing and
Regulatory
Programs

Grain Inspection,
Packers and Stockyards
Administration

Meeting Minutes Grain Inspection Advisory Committee

October 19-20, 2016
Portland, OR

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BACKGROUND INFORMATION

The Grain Inspection Advisory Committee (Advisory Committee), appointed by the Secretary of Agriculture, is comprised of 15 members who represent all segments of the grain industry. They include grain producers, processors, merchandisers, handlers, exporters, consumers, grain inspection agencies, and scientists. In past years, the Advisory Committee met twice annually to advise the Grain Inspection, Packers and Stockyards Administration (GIPSA) on the programs and services it delivers under the U.S. Grain Standards Act (USGSA) and the Agricultural Marketing Act of 1946, as amended. Recommendations by the Advisory Committee help the Grain Inspection, Packers and Stockyards Administration (GIPSA) to better meet the needs of its customers who operate in a dynamic and changing marketplace.

WELCOME

Mr. Larry Mitchell, Administrator, Grain Inspection, Packers and Stockyards Administration (GIPSA), welcomed everyone to the Grain Inspection Advisory Committee (Advisory Committee) meeting. Mr. Mitchell discussed the Reauthorization of the USGSA and the positive changes Congress has made, reorganization- USDA exploration of combining trade programs into one mission area, record exports-a news release on the GIPSA website, and reboot-Department transitional planning.

Mr. Steven Wirsching, Chairperson, Advisory Committee, welcomed everyone and allowed the members and attendees to introduce themselves.

Mr. Elvis Cordova, Acting Under Secretary, Marketing and Regulatory Programs, welcomed everyone to the Advisory Committee meeting and thanked the Advisory Committee members for their help as FGIS continues to set the gold standard for grain inspection. Mr. Cordova played the video "A Message from Agriculture Secretary Tom Vilsack" in celebration of the 100th Anniversary of the USGSA.

ACCEPTANCE OF MAY 17-18, 2016, MEETING MINUTES

The Advisory Committee approved the minutes of the May 17-18, 2016, meeting as presented.

REVIEW AND ACCEPTANCE OF OCTOBER 19-20, 2016, AGENDA

The Advisory Committee approved the October 19-20, 2016, agenda as presented.

MEETING ATTENDEES

Advisory Committee Members

Scott E. Averhoff, Owner/Operator, Scott Averhoff dba SARA Farms
Janice Cooper, Managing Director, Wheat Marketing Center Inc.
Rigoberto Delgado, Senior Partner, Delgado Farms LCC
Nick Friant, Cargill Inc.
Omar Garza, Special Project Coordinator, University of Texas, Pan American
Arvid Hawk, President, Global Agricultural Consulting, LCC
Kia Mikesch, American Association of Grain Inspection and Weighing Agencies
Marvin Paulsen, Professor Emeritus, University of Illinois
Timothy Paurus, Vice President Terminal Operations, CHS Inc.
Cesar Ramirez, Location Manager, Lansing Trade Group, LLC
Todd E. Russom, Manager, Anheuser-Busch InBev
Jessica Wilcox, Farmer/Crop Insurance Agent, Wilcox Farms
Jimmy Williams, Missouri Department of Agriculture
Steven Wirsching, Vice President and Director, U.S. Wheat Associates

GIPSA

Brian Adam, Chair, Board of Appeals, Technology and Science Division (TSD), Federal Grain Inspection Service (FGIS)
Robert Arnold, Assistant Field Office Manager, FGIS, Portland
Cathy Brenner, Chief, Inspection Instrumentation Branch, TSD, FGIS
Mary Coffey Alonzo, Director, TSD, FGIS
Scott Cooley, Assistant Federal Manager, FGIS, Washington State
Elvis Cordova, Acting Under Secretary, Marketing and Regulatory Programs
Randy Deike, Federal Manager, FGIS, Washington State
Tony Goodeman, Deputy Director, Field Management Division (FMD), FGIS
Karen Guagliardo, Director, Quality Assurance and Compliance Division (QACD), FGIS
Randall Jones, Deputy Administrator, FGIS
Kendra Kline, Assistant to the Deputy Administrator, FGIS
Larry Mitchell, Administrator, GIPSA
Andy Ping, Field Office Manager, FGIS, Portland
Byron Reilly, Director, Departmental Initiatives and International Affairs, FGIS
Denise Ruggles, Executive Program Analyst, FGIS
Samantha Simon, Director, FMD, FGIS

Other Attendees

Todd Canatella, Len-Noh Grain
Tom Dahl, WSDA
Randy Dennis, Canadian Grain Commission
Brandon Eskew, D.R. Schaal Agency-Georgia
Jason Ferrante, WSDA

Mark Fulmer, Eastern Iowa Grain Inspection
Phillip Garcia, Washington Department of Agriculture
Nathan Gerelus, Canadian Grain Commission
Jory Harris, Perten Instruments
Chad Huebner, Jamestown Grain Inspection
Charles Hurburgh, Iowa State University
Michael Landry, ADM
John Lindgren, United Grain Corporation
Murdoch MacKay, Canadian Grain Commission
Tom Meyer, Kansas Grain Inspection Service
Linsey Moffit-Tobin, Eastern Iowa Grain Inspection
Steve Nenonen, FOSS
Taylor Peck, D.R. Schaal Agency-New Jersey/New York
Darrin Rayl, TEMCO
John Sharpe, AAGIWA
Greg Stordahl, Montana Departmental of Ag/State Grain Lab
Roger Vanderkolk, Dickey-John
Joey Vanneste, Canadian Grain Commission
Erica Venancio, AAGIWA

FIELD MANAGEMENT INITIATIVES

Mr. Goodeman provided overview of the export inspections and tonnage, which most notably showed that a modern-day record amount of grain was exported from the U.S. in 2016. He also provided an update on corn, soybean, wheat, and sorghum movements and the market forces that are driving the increase or decline for each.

Mr. Goodeman provided a detailed update of the Reauthorization Final Rule, which was published in July 2016.

Mr. Goodeman discussed initiatives for Fiscal Year 2017, which will include a new training program for graders and technicians; continued implementation of GIPSA's Signature Process Improvement Project to improve the issuance of official inspection instructions; succession planning and knowledge management; a review of the licensing program; services in South Texas; and continuing to facilitate marketing so that the record levels of grain exports can continue.

For additional details, please see the presentation, **Field Management Initiatives**.

FINANCIAL REVIEW

Ms. Ruggles, by teleconference, provided updates on the User Fee Programs: (Inspection and Weighing (520) Program, Supervision of Official Agencies (530) Program, Rice Inspection (570) Program, and Commodity Inspection (580) Program). Updates were also provided on the Grain Regulatory Programs (Appropriated) for: GSA Compliance, Methods Development, and Standardization activities.

For additional details, please see the presentation, **GIPSA Financial Update**.

FGISONLINE

Ms. Guagliardo, by teleconference, provided information on the current projects for FGISonline for FY 16. A discussion on the current status of FGISonline and the future plans for development of FGISonline.

The benefits were also discussed which are improve mission performance, increase customer and employee satisfactory, enhance information available to customers, increase amount of quality assurance data available, improve quality assurance, and improve FGIS service delivery efficiency.

For additional details, please see the presentation, **FGISonline**.

INTERNATIONAL ACTIVITIES

Mr. Reilly provided updates on several international trade and outreach initiatives.

Asia Outreach

In an effort to revive the Asia CDO program, DIIA developed and executed a 1-month outreach in S.E. Asia in September. We hope to have sufficient funds to continue the outreach in 2017 and hope to include China, in addition to other countries, such as Vietnam and Korea.

Cuba Visit

DIIA worked with the Foreign Agricultural Service (FAS), FAS' Office of General Council and the U.S. State Department to obtain special permission for a group of three Cuban flour millers and a Cuban Embassy official to visit FGIS' National Grain Center for an hour and half. The Kansas Wheat Commission arranged and funded the Cuban flour millers' visit to the Kansas State University's International Grains Program (IGP) in Manhattan, Kansas. Part of the IGP includes a visit/tour of the FGIS National Grain Center (NGC). The millers were very impressed with the tour of FGIS' moisture, protein, wheat functionality, and grain analysis labs. After the tour, both sides engaged in a very good information exchange session. FGIS explained our role as an impartial third party to provide sampling, inspection and official weights and quality control programs for U.S. grain exports.

The Embassy official stated Cuba would much rather buy their corn, wheat, soybeans, sorghum, and rice from the United States if they are able to buy on credit terms.

International Trade Issues

Egypt has repeatedly changed its' limits on ergot from 0.05 percent to zero and back to 0.05 percent after not receiving any offers for their wheat tenders. Last year China proposed an import/export grain law affecting the U.S. and other major grain exporting countries. The new regulations would require farmers, grain handlers, and exporters to register to be allowed to export grain to China. FAS, FGIS, APHIS, Farm Service

Agency's Warehouse Division formed a working group with North American Export Grain Association, National Grain and Feed Association, USDA Cooperator groups to discuss next steps to respond to China's new law. The working group decided to submit FGIS' export facility registration list to China. The list was submitted last week.

The next step is for a USDA agency/industry delegation to travel to China to meet with Chinese officials to discuss the plans for implementation.

Sampling Methods of Importers and Exporters

Mr. Reilly provided the different sampling methods used for importers and exporters.

Importers:

Egypt - depending upon which Ministry is taking samples will vary in their methods.

China - depending upon which port, may use a probe, small hand scoop on grain surface of each hold sectioned off in square meters. They have D/T samplers at two port locations to the North in Dalian.

Mexico - depending upon location will use a probe, belt sampling, or by D/T samplers.
Korea - will use a probe or a "sling cup".

Japan - uses a probe and D/T samplers.

Belgium - they sample incoming grain on a belt once it has come to a stop and measure off 1 meter and scoop off all the grain in that 1 meter.

Exporters:

Argentina - uses a compartmented pneumatic probe to sample trucks at several points in the load. At export elevators a cone-shaped device on a pole is used to perform belt sampling at set intervals during the loading of a ship. The shape of this device causes non-representative samples.

Brazil - uses pneumatic open throat vacuum probes to sample trucks which sucks up more finer, lighter grain particles and thus is not representative of the lot. At export loading of a ship, they use a cylinder-shaped device, similar to a can on a pole to take grain samples on a moving belt. The sampling equipment and methods used in Brazil and Argentina for export shipments are subject to considerable variability and have a high probability of under representing quality factors such as foreign material and broken grains. The particle size and density of material in grain results in segregation of material during transfer on conveyor belts.

Canada - uses D/T samplers, as does France and FGIS at export terminals.

Some countries like South Africa have three different standards; one for domestic production which changes yearly according to the quality of the crop, a second set of standards for exporting grain, and a third set of standards, the most strict, for importing grain.

Many countries have quality standards that change from year-to-year, based on the quality of the current crop. Some countries have different standards depending on the region of the country where the crop is grown and marketed. Some countries have one set of standards for human consumption and another for use in animal feed.

Most importing countries use U.S. grain standards for grain from the United States.

China - has their own standard for each grain. When they import grain, they will grade it according to the standards of the exporting country. But, may decide to enforce China's maximum limit of 1.0 percent foreign material (FM) when they choose.

China has a maximum FM limit of 1.0 percent for all their grains. The tight limit is used as a means to control the amount of weed seed contamination. They have a zero tolerance on quarantine weed seeds.

Mexico - has their own official quality standards, which mirror those of the U.S., but the factor determination method varies by company and location. The inspection methods and grading accuracy are sometimes questionable.

Importer Complaints

In FY 2016, we received eight quality complaints. Two complaints involved the presence of metal fragments in wheat shipments to the Philippines. The eight complaints accounted for about 0.1 percent by weight of all the grain exported from the U.S. for FY 2016.

For additional details, please see the presentation, **International Activities**.

NIR EQUIVALENCE

Dr. Hurburgh, Iowa State University (ISU), and Ms. Brenner, both by teleconference, reviewed work performed under a Cooperative Agreement between GIPSA and ISU regarding the potential for multiple official near infrared transmittance instruments (NIR). The study defined 'reproducible' as no significant increase the variability across multiple models. The study initially found that the three National Type Evaluation Program (NTEP) approved NIR instruments are of suitable design and precision, calibrations are accurate but could be improved with newer varieties, and instruments reproducible by NTEP, but not GIPSA standards at 0.14. A second phase initiated in 2015 determined that use of a common core sample set to determine calibrations improved the equivalency to 0.11.

Study data was also used for a competition within an international NIR conference. Participants developed a single calibration accurate to the reference method with greater reproducibility, 0.10, than currently achieved. However the mathematical options used may not be practical to implement on the instruments. Participants noted that the biggest challenge for equivalence is the difference in the wavelength accuracy. GIPSA is exploring the possibility of identifying a material to align the wavelength axis with the National Institute of Standards and Technology.

GIPSA's benchmark for of all Official NIRs for wheat protein is 0.11, twice the reproducibility, 0.05, achieved on the same NIR model under controlled conditions at ISU. Field performance with additional models included may also be twice the current benchmark, but the actual performance is unknown.

For additional details, please see the presentation, **NIR Equivalency Project**.

ANNUAL MOISTURE METER CALIBRATION REVIEW

Ms. Coffey Alonzo and Ms. Brenner reviewed GIPSA's moisture calibration maintenance program, accomplished through an annual survey of the major grains and a periodic survey of the remaining grains and commodities. Moisture calibrations are updated as necessary on May 1 for the spring and summer harvest grains and August 1 for the fall harvest grains. Prior to implementation of any new calibrations, GIPSA posts a comparison of the performance of the master Unified Grain Moisture Algorithm (UGMA) to GIPSA's Air Oven reference method for up to 5 years on GIPSA's public website. GIPSA also posts the anticipated changes for grains that will result from new calibrations implemented on the approved UGMA meters.

For additional details, please see the presentation, **Annual Moisture Meter Calibration Review**.

UGMA MOISTURE METER TEST WEIGHT DETERMINATION

Ms. Coffey Alonzo updated the committee on its resolution to investigate the feasibility of using the approved UGMA meters for official test weight determinations. Performance data for the UGMA moisture meters was presented using clean samples for all grains collected for GIPSA's annual moisture calibration maintenance program. Sample Inspection Management System (SIMS) data was used to show kettle to kettle performance information. The performance data showed that clean grain provides more reproducible test weight determinations than grain with dockage left in. The clean grain data indicates the meter provides as good as or better performance that the quart kettle.

For additional details, please see the attached presentation, **UGMA Moisture Meter Test Weight Determinations**.

CONDENSATION STUDY

Ms. Coffey Alonzo provided an update of the previous studies as well as grain temperature data from the New Orleans Field Office circuit recently requested by the committee. While the average grain temperatures are greater than the dew point, individual samples can be below the dew point in all months but September and October. When the grain temperature is at or below dew point condensation can occur in the sample delivery system, however there remain too many variables to predict the effect on moisture and temperature. It is possible to mitigate, but not completely remove, the effects of condensation by waiting 30 minutes before making the moisture and test weight measurements.

For additional details, please see the presentation, **Condensation Study**.

MOISTURE SAMPLE INFORMATION MANAGEMENT SYSTEM (SIMS)

Ms. Coffey Alonzo summarized GIPSA's review of SIMS moisture tolerances. Data for local and national SIMS was presented from before and after implementation of the UGMA moisture meters that showed no changes required for the current tolerances in place. Data collected since UGMA implementation shows fewer results exceeded the warning limit but more exceeded the action limit. GIPSA will be reviewing the items that exceeded the action limit to see if these are valid concerns, or if they reflect the larger variance expected at high moisture levels. GIPSA will also be reviewing tolerances for other monitored programs.

DEOXYNIVALENOL INSPECTION PROGRAM

FGIS presented information from the deoxynivalenol (DON) inspection monitoring program. In this program, samples certified by official service providers are sent to the Technology and Science Division for testing by the reference method for evaluation of accuracy. Observations regarding measurement uncertainty and performance of official service providers and test kits were presented along with recommendations for improving performance.

For additional details, please see the presentation, **Deoxynivalenol and Falling Number Inspection Program**.

FALLING NUMBER INSPECTION PROGRAM

FGIS presented information gathered through the National Falling Number Quality Assurance Program. This program is comprised of the Falling Number (FN) check sample and inspection monitoring programs. Data was presented on FN measurement uncertainty, and recommendations were given for reducing measurement uncertainty. Information on other tests for sprout damage was also presented.

PESTICIDE RESIDUES

FGIS explained the pesticide residue services offered by FGIS, including export surveys for wheat and soybeans. Future plans were also presented, including survey work for corn and expansion of the number of pesticide residues included in surveys

QUALITY PROGRAM UPDATES

Ms. Simon provided updates as it relates to the Quality Assurance and Compliance Division (QACD).

The QACD is responsible for protecting the integrity of the national grain inspection and weighing system and for monitoring the performance of those providing official services for domestic and export grain shipments. To that end, QACD issues four quality assurance reports: SIMS & STEP Performance Report, Quality Assurance Specialist Performance Report, Inspection Accuracy Report, and Certificate Accuracy Report. These reports provide important information about the performance of the official system to the Federal Grain Inspection Service (FGIS) and Official Agencies who are designated and/or delegated to provide official services on behalf of FGIS.

FGIS utilizes the Sample Inspection and Monitoring System (SIMS) to record the results of monitored inspections and are used to identify real or potential grading problems. Local SIMS samples are monitored by the quality assurance specialist in the Field Office or Official Agency. National SIMS samples apply only to Official Agencies and are monitored by the supervising Field Office. SIMS performance is measured using an agreement quotient. The agreement quotient measures the degree of agreement found in factor comparison data and equals the number of factor results within the specified tolerance limits divided by the total number of factors analyzed. During the first 11 months of Fiscal Year 2016, the agreement quotient for local SIMS was 95.69%; and the agreement quotient for national SIMS was 91.18%.

FGIS utilizes the Subjective Testing and Evaluation Process (STEP) to control and minimize interpretive variability encountered with subjective factor determinations in all graded commodities. STEP samples are monitored by the FGIS Board of Appeals and Review. STEP performance is measured using accuracy and is calculated as $(\text{SIMS avg} - \text{Minus avg}) / (\text{SIMS avg} + \text{Plus avg})$. During Fiscal Year 2016, the STEP accuracy was 94.94%.

QACD further analyzes STEP data to determine the performance of individual quality assurance specialists (QAS). The QAS's performance is based on the overall STEP factor score and the STEP compliance rate. The overall STEP factor score is the sum of all STEP factor scores divided by the total number of STEP factors. QACD has seen improvement each Quarter through Quarter 3 in both the overall STEP factor score and the STEP compliance rate.

QACD monitors inspection accuracy of all FGIS field offices. Inspection accuracy is based on inspector accuracy and determined by the weekly separation proficiency evaluated by the QAS. During the first 11 months of Fiscal Year 2016, the overall inspection accuracy was at 97.2% based on 3,731 samples which involved 7,936 factors.

Official inspections result in the issuance of official certificates. Certificates report the grade of the grain inspected based on characteristics such as test weight, moisture, cleanliness, and damage. The requirements for an official certificate are outlined within the FGIS Grain Inspection Handbook – Book IV, Forms and Certificates. As a result, certificates need to be accurate and comply with stated requirements. QACD has identified two types of errors: accuracy and quality. Accuracy errors are those that may affect the final grade of the grain and are used to determine overall certificate accuracy. Quality errors are those that do not affect the final grade of the grain, but do not comply with stated requirements. Quality errors plus accuracy errors determine certificate compliance. For Fiscal year 2015, certificate accuracy was 98.63%; while certificate compliance was 96.27%.

Important Division initiatives for Fiscal Year 2017 include the issuance of several revised directives and the Quality Handbook; and an update to the requirements of the Quality Management Program.

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

NEXT MEETING

The Advisory Committee members will be contacted at a later date to discuss the spring meeting location and timeframe.

ADVISORY COMMITTEE RESOLUTIONS

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

1. The Advisory Committee recommends that FGIS continue expanding its testing capability of pesticides in U.S. grain crops. The committee requests the information be posted on its website, and include information on Limit of Detectability (LOD) and a link to Maximum Residue Limits (MRL).
2. FGIS should be commended for providing consistent and unbiased grain inspection results. However, excellent inspection results assume a representative sample was available for inspection. In some countries non-representative sampling methods may create non-valid comparisons to U. S. grain if non-representative samples were obtained. The Advisory Committee encourages FGIS to develop information regarding the diverter samplers and other sampling devices currently in use at port elevators in the major exporting and importing countries for corn, wheat, and soybeans. This information may prove useful for explaining possible complaints concerning U.S. grains and encourage port elevators to install diverter samplers when possible in the future.

3. The Advisory Committee recommends that new equipment must be equal to or better than the old equipment in precision and repeatability in order to be approved as official. Performance of equivalent instruments should match or exceed that of the existing approved instrument in the same field environment. The Advisory Committee recommends GIPSA continue work with NIR Equivalence by continuing focus on improving performance in test instrument field studies. GIPSA should also consider including all NTEP approved instruments in the field studies to determine equivalency.
4. The Advisory Committee recommends that FGIS continue to research ways to reduce the variance of the Falling Number Test. The Advisory Committee encourages FGIS to continue its efforts to narrow the variance of the test; provide greater oversight and training for official service providers; and to actively support the development of new testing methods. Specific areas of research and possible procedural changes may include adjustments for altitude, the use of mechanical shakers and increased operator training on how the test tubes should be cleaned. The Advisory Committee also recommends that FGIS continue to monitor new testing methodologies to identify improved methods.
5. The Advisory Committee commends FGIS on its work on the FGIS Online system to improve service delivery efficiency. The Advisory Committee recommends the Agency continue its work on the system, and continue to engage stakeholders, most notably industry, to provide input on what services and options are needed to deliver relevant information, in a user-friendly way. The Advisory Committee further recommends that the Agency continues to ensure that the data is kept secure.
6. The Advisory Committee recommends GIPSA continue evaluation of Test Weight Determinations using UGMA moisture instruments. The Advisory Committee supports the efforts of FGIS to automate data collection functions in the grain grading process.
7. The Advisory Committee recommends GIPSA/ FGIS consider posting, with the exception of privately funded work, technical summaries of research it conducts. This would be a way for GIPSA/ FGIS staff to be recognized for the technical studies they conduct while also benefiting the industry by being able to review this information to assist in technical decision making and provide technical documents for support of instrument validation.
8. The Advisory Committee commends the quick response by FGIS to arrange international training in Southeast Asian milling customers in cooperation with US Wheat Associates and other cooperators. The Advisory Committee encourages FGIS to expand this outreach to cover additional countries and regions, including Latin America. The Advisory Committee also encourages FGIS to provide similar information and training available to elevator operators and mills in the domestic market.
9. The Advisory Committee would like to commend FGIS on monitoring official mycotoxin testing results. The Advisory Committee recommends looking into and addressing what could be the root cause of variances in testing results i.e., particle size, test kit performance, sample splitting, etc.