

Grain Inspection Advisory Committee
Meeting Summary
April 7-8, 2015
Kansas City, MO

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 GIPSA to better meet the needs of its customers who operate in a dynamic and changing marketplace.

Welcome

Mr. Larry Mitchell, Administrator, GIPSA, welcomed everyone to the meeting. He discussed the retained earnings that were posted on line per an earlier Advisory Committee Resolution but were removed due to changes in reporting platform and reconciliation that is still being worked on and will remain off the web until completed. Mr. Mitchell also discussed the reauthorization of certain provisions of the USGSA that are set to expire on September 30, 2015.

Resolution Review/Program Overview

The six resolutions that the Advisory Committee passed in November 2014 were reviewed.

An overview of the programs was discussed which included; export grain inspections to meet if not surpass the 2008 record; U.S. corn exports inspections are 2 percent higher than this time last market year; China continues to be the driving force in soybean exports; currently wheat export inspection tonnage is down 28 percent compared to this time last market year; and sorghum export inspections are currently 154 percent higher than this time last market year.

Quality Program Updates

The Grain Inspection Advisory Committee passed a resolution in July 2014 recommending that “GIPSA review and update all the quality assurance tolerances utilized in the official inspection system. Specifically, the Advisory Committee recommends that the first to be reviewed reflect the Unified Grain Moisture Algorithm (UGMA) technology for moisture measurement.” GIPSA formed a team with representatives from TSD, FMD, and QACD to address the resolution. The team evaluated inspection, moisture calibration, check test, and cu-sum tolerance data; identified components of variability; defined evaluation priority, and is seeking additional information on current warning and action limit methodologies. Quality assurance tolerance vary by grain, factor, and level. For example, corn moisture warning and action limits are 0.4 percent and 0.7 percent, respectively for moisture values up to 17.1 percent; however, they start to widen for

higher moisture values. Warning limits are defined as 2 standard deviations from the mean level and represent 95 percent confidence level. Action limits are defined as 3 standard deviations from the mean level and represent a 99 percent confidence interval.

There are several components of variability that occur when comparing original to supervised inspection results including instrument repeatability, instrument reproducibility, and file sample variability. Instrument repeatability is the variability of a single instrument when a sample of known value is tested repeatedly on the same instrument. Instrument reproducibility is the variability in the alignment of multiple instruments when a sample of a known value is tested across multiple instruments. File sample variability is the variability of inherent file sample differences between an original and supervised file sample. Collectively, these three components of variability determine the variance between original and supervision results for non-subjective factors (e.g., moisture). The team analyzed supervision data prior to and following the implementation of the Unified Grain Moisture Algorithm (UGMA) technology to determine if there had been any significant variance in the results. Pre-UGMA data for corn moisture had a standard deviation of 0.276 percent for a calculated warning and action limit of 0.552 percent and 0.828 percent, respectively. Post-UGMA data for corn moisture had a standard deviation of 0.260 percent for a calculated warning and action limit of 0.520 percent and 0.780 percent, respectively. Both of the numbers are higher than the current warning and action limits; however, the post-UGMA numbers are slightly lower potentially suggesting that there have been variability improvements.

The team needs to explore additional moisture data for other grains and research warning/action limit methodologies in order to determine the components of variability for old and existing instrument technologies. In addition, the team will research the relationship between limits and cu-sum tolerances to determine if adjustments to limits are warranted. Following the moisture review, the team identified corn, soybeans, and wheat as top priorities for grain reviews and damage and foreign material as top priorities for factor reviews. In the interim, it is imperative that monitoring continues to be conducted at a national and agency level to proactively identify any large variances in factor levels between original and supervised results.

GIPSA initiated the inspection performance program in March 2014 to ensure that inspections are accurate and consistent and to proactively identify and correct any inspection variations in a timely manner. In addition, GIPSA utilizes the data to provide the grain industry with quality assurances. The quality dashboard provides a visual representation of the inspection performance of GIPSA's field offices. In Fiscal Year 2015 YTD, overall accuracy is 96.6 percent based on 1,936 samples and 3,686 factors. In February 2015, overall accuracy is 97.6 percent based on 388 samples and 712 factors.

GIPSA has a storied history of being the "Gold Standard" for inspection and weighing services. To that end, GIPSA has decided to recognize official agencies that contribute to that mission at the highest level. GIPSA is planning to present award certificates at the upcoming AAGIWA Annual Meeting in May 2015 to each official agency that has demonstrated outstanding performance during the year. Agencies will be selected for the award if they meet or exceed the outstanding benchmark based on their quality management program score and if they have had no adverse administrative actions in the prior year.

GIPSA currently has 49 official agencies that are designated and/or delegated. In January 2015, one agency purchased another agency. In March 2015, one agency's designation was revoked. A *Federal Register* publication is forthcoming (May-June 2015) to seek a designee in the previously designated area and the remainder of unassigned areas in Texas.

Service Delivery Updates

FGIS' Field Management Division (FMD) provided an update on service delivery related topics. FMD updated the Advisory Committee on the plan to revise AMA cooperator fees, which were implemented in January 2015. FMD also provided a regulatory and standards update, which included an update on the fees for graded commodities and other proposed rules and grain standards under review. FMD also discussed the Southwestern US wheat classing policy (which will remain unchanged at this time), and lastly provided an update on recent FMD initiatives including hiring, training, and other field office activities.

2015 Sorghum Project Update

For the second consecutive year, GIPSA continued a collaboration between the Board of Appeals and Review (BAR), Field Management Division, Official agencies, and industry in an effort to continue to strengthen alignment between origin and destination sorghum odor results. The project was originally instituted to facilitate China's entrance into the U.S. sorghum market in 2013. FGIS reviewed the processes employed to harmonize origin and destination inspectors with the BAR. The project has been able to produce an inspector alignment accuracy rate of 98 percent with the BAR. This project continues to receive support and positive feedback from industry.

Biotechnology

GIPSA provided a status update regarding its development of a quantitative biotechnology rapid test kit program and reviewed the challenges associated with developing such a program.

Near Infrared Transmittance (NIRT)

GIPSA provided an update on the Near Infrared Transmittance (NIRT) Equivalency Project, which addresses an Advisory Committee resolution to investigate the possibility of approving multiple NIRT instruments for official inspection without compromising accuracy and consistency in the measurement of wheat protein. GIPSA initiated a cooperative agreement with Iowa State University to evaluate wheat, barley, corn, and soybean samples on three different National Type Evaluation Program approved NIRT instruments. Initial results on the analysis of a set of 250 wheat samples were presented along with the additional steps needed to complete the project.

Moisture Meters

GIPSA reviewed the small number of appeals to date related to potential moisture results concerns since February 2015. Appeal results showed excellent alignment between meters

within the Official inspection system. GIPSA will continue to pursue education and outreach opportunities regarding performance expectations for moisture meters.

Methods Development Initiatives

GIPSA provided updates on projects resulting from four prior resolutions and one new project underway.

1. **USDA Rice Studio.** A Field Performance Study of the prototype USDA Rice Studio was conducted during the 2014 harvest. The study showed that the USDA Rice Studio results for the determination of percent total broken kernels in long grain milled rice is comparable to the current visual inspection determinations. The study also indicated that the sample presentation method needs further improvements. GIPSA is working on solutions. Implementation of a pilot test tentatively planned for 2015 will most likely be delayed for a year in order to improve the sample presentation method.
2. **LED Lighting.** GIPSA has obtained light emitting diode (LED) lights with a high color temperature and is in the process of designing the layout of the LED lights to achieve the current grading lighting requirements.
3. **Condensation Effects Study.** Grain movement from loading a barge upriver to unloading at an export elevator and then onto a ship was discussed along with where in the movement the potential for condensation could occur. GIPSA has hired a contractor to conduct a study focusing on the condensation effects for moisture and test weight determinations in the grain delivery system to the onsite export inspection lab that will compare the results for samples tested under both condensing and non-condensing conditions.
4. **Feasibility of Unified Grain Moisture Algorithm (UGMA) Test Weight Determinations.** Data collected by GIPSA for the 2012 – 2014 crop moisture calibration maintenance program that includes UGMA test weight and reference test weight apparatus determinations was discussed in a meeting with the UGMA manufacturers. Sorghum shows the most potential for developing procedures to align the UGMA models to each other and to the reference test weight apparatus.
5. **Quadcopter.** GIPSA has begun investigating the use of a quadcopter for stowage examinations. Using a quadcopter could alleviate any safety concerns, provide documentation of findings, and has the potential to add equipment for additional tests.

Mycotoxin Test Kit Program

GIPSA provided an update on approvals for water-based test kits and those for testing distillers dried grains with solubles (DDGS). GIPSA gave an update on improvements regarding provision of mycotoxin test kit instructions. GIPSA also provided recommended changes for expansion of concentration ranges used in test kit evaluations and establishment of performance criteria for supplemental analysis.

International Activities

An update was given on Phase II of the US/China Soybean Vessel Comparison Study. An FGIS inspector traveled to China to observe the discharge of the two ships that loaded in New Orleans and the preparation of a report on the study.

Information was provided on the status of the biotech corn event MIR 162 present in U.S. DDGs and corn exports to China. In December China approved MIR 162, but the Ukraine has since secured 90 percent of China's corn import market.

Discussion on FGIS' export wheat sample collection at the request of U.S. Wheat Associates and export corn sample collection at the request of U.S. Grains Council for their annual crop quality reports.

Information was provided on the current status of foreign complaints.

Next Meeting

The Advisory Committee recommends the next meeting be held October 27-28, 2015, at the National Grain Center in Kansas City, Missouri.

Advisory Committee Resolutions

The following resolutions were introduced and passed by the Committee:

1. The Advisory Committee commends FGIS for its work in implementing and testing of UGMA moisture meters; and recommends that for the Sample Information Monitoring System (SIMS) that FGIS provide on their website a listing by grains for the approved UGMA moisture meters the following information: the moisture standard deviation, \pm warning limit, and \pm action limit and the moisture range for which these limits are applicable.
2. The Advisory Committee recommends FGIS move forward with expanding the mycotoxin concentration ranges to the following:
Aflatoxin to 5 – 300 ppb
DON to 0.5 to 30 ppm
Fumonisin to 0.5 – 30 ppm

At the manufacturer's request FGIS will verify the supplemental analysis performance at the maximum range as established by the manufacturer.

3. The Advisory Committee recommends that FGIS develop reports based on Sample Information Monitoring System (SIMS) and Subjective Testing and Evaluation Process (STEP) data that reflects quality performance on a system-wide and official service provider level.