

Quality Program Updates



**Quality Assurance and Compliance Division
GIAC Meeting
April 7-8, 2015**



United States Department of Agriculture

Presentation Outline



- Quality Assurance Tolerances
- Quality Dashboard: Inspection Performance
- Quality Performance: Official Agencies
- Designation Update



Quality Assurance Tolerances



July 2014 Resolution

The Advisory Committee recommends 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.



Quality Assurance Tolerances

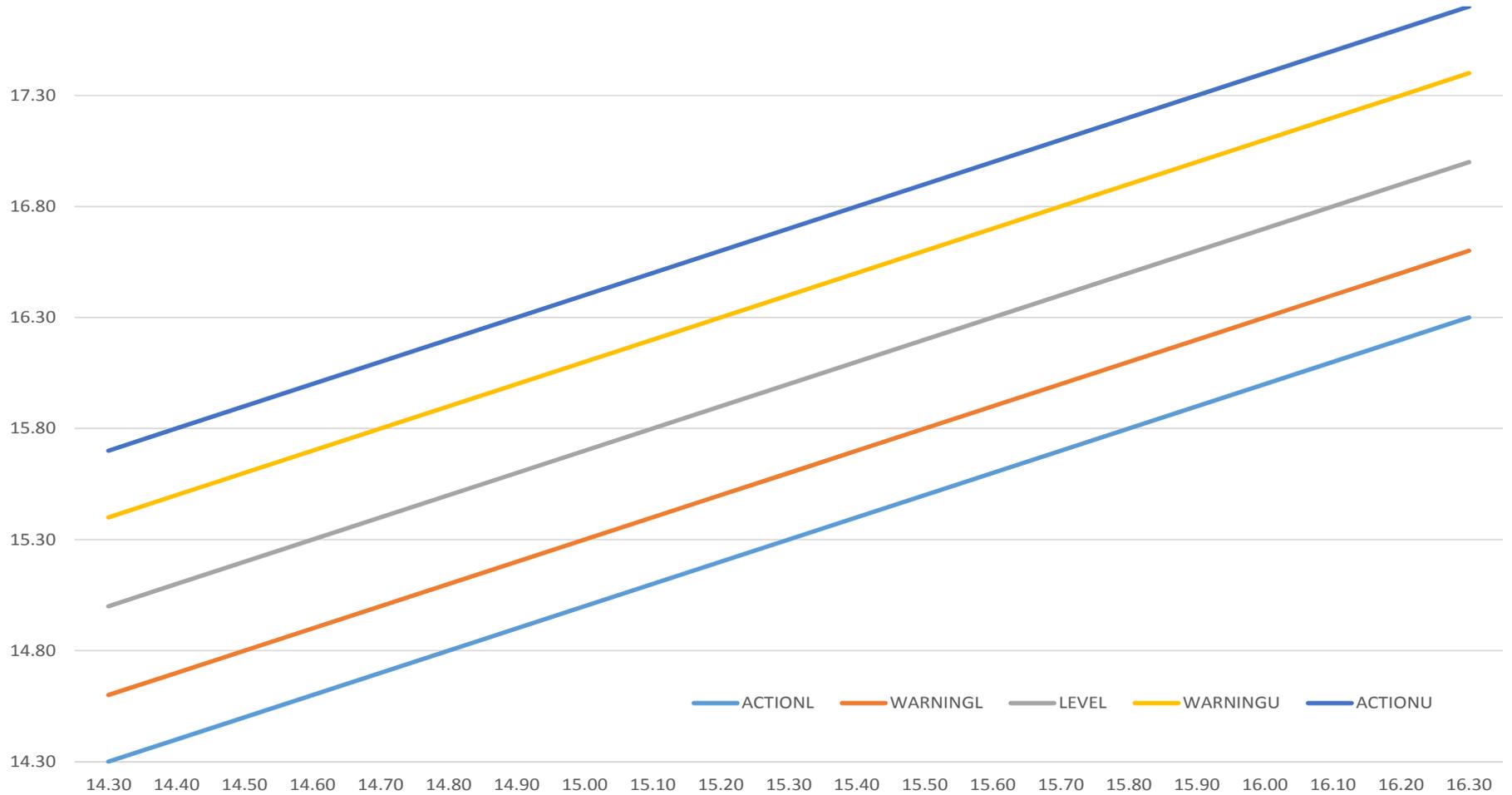


- GIPSA formed a committee with TSD, FMD, and QACD representatives
- Reviewed inspection, moisture calibration, check test, and cu-sum data
- Evaluated variability components
- Defined evaluation priority
- Seeking additional information on current warning and action limit methodologies



Quality Assurance Tolerances

Corn Moisture
Warning/Action Limits
15-17% Moisture Values



Quality Assurance Tolerances



- **Warning Limits**
 - 2 standard deviations from mean level (95% confidence)
 - Varies by factors and factor levels
 - Corn Moisture, $\leq -0.4\%$ or $\geq 0.4\%$
 - ✦ Example: Original result: 15.0%; LL: 14.6%; UL, 15.4%



Quality Assurance Tolerances



- **Action Limits**
 - 3 standard deviations from mean level (99% confidence)
 - Varies by factors and factor levels
 - Quality Assurance Report (QAR) issued to agency/field office
 - Corn Moisture, $\leq -0.7\%$ or $\geq 0.7\%$
 - ✦ Example: Original result: 15.0%; LL: 14.3%; UL, 15.7%



Quality Assurance Tolerances



- **Components of Variability**
 - Instrument Repeatability
 - ✦ Variability of a single instrument when a sample of known value is tested repeatedly on the same instrument.
 - Instrument Reproducibility
 - ✦ Variability in the alignment of multiple instruments when a sample of known value is tested across multiple instruments.
 - File Sample Variability
 - ✦ Variability of file sample differences that are inherent between an original inspection sample and a supervised file sample.



Quality Assurance Tolerances



- Data

- Pre-UGMA:

- ✦ 9/10/2010 to 9/9/2012: Corn, Soy, Soybeans, and Sunflowers
- ✦ 5/1/2011 to 4/30/2013: Remaining grains
- ✦ Example: Standard deviation for corn moisture is 0.276%
- ✦ Calculated WL is +/- 0.552%; AL is +/- 0.828%



Quality Assurance Tolerances



- Post-UGMA:
 - ✦ 9/10/2012-Present: Corn, Soy, Soybeans, and Sunflowers
 - ✦ 5/2013-Present: Remaining grains
 - ✦ Example: Standard deviation for corn moisture is 0.260%
 - ✦ Calculated WL is +/- 0.520%; AL is +/- 0.780%



Quality Assurance Tolerances

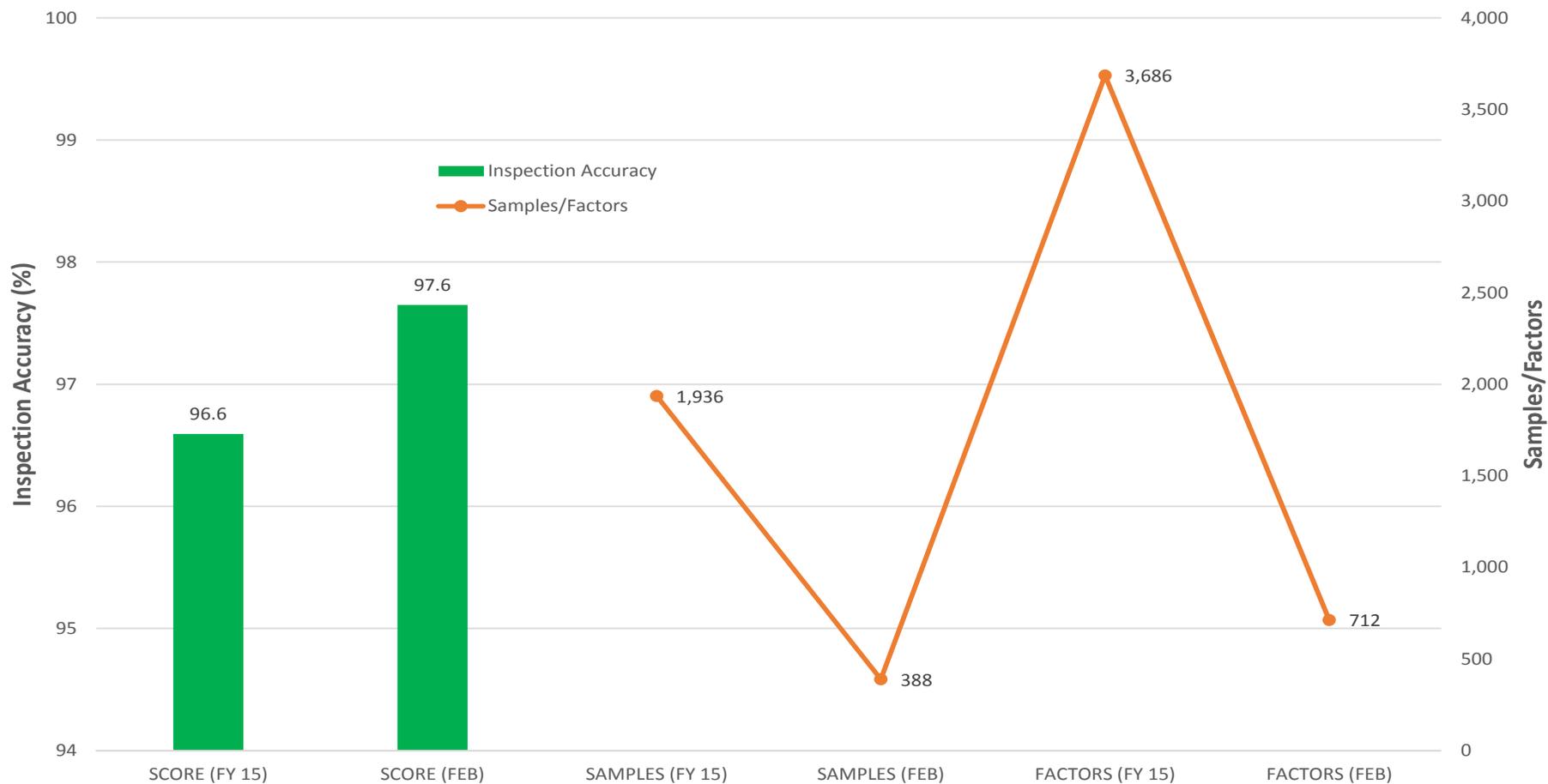


- Next Steps
 - Research warning/action limit methodologies
 - Determine variability components for old/new instrumentation
 - Evaluate relationship with cu-sum tolerances
 - ✦ (Starting Values/Breakpoints)
 - Determine if adjustments to limits are warranted
 - Monitor data at federal and agency levels
 - Evaluate additional tolerances
 - ✦ Grain priority is corn, soybeans, and wheat
 - ✦ Factor priority is damage and foreign material



Quality Dashboard: Inspection Performance

Inspection Accuracy and Samples/Factors
All Grains/Commodities
FY 2015/February 2015



Quality Performance: Official Agencies



- Recognition program for outstanding performance with no adverse administrative actions
- Present awards at AAGIWA Annual Meeting in May
- Data Period: Agencies reviewed annually from April 1-March 30
- Performance Rating: Based on Quality Management Program scores

Designation Update



FY 2015 YTD

- 49 designated agencies/states
- 1 agency sale to an existing agency in January 2015
- 1 agency's designation revoked in March 2015
 - A *Federal Register* designation opportunity is forthcoming for the previously designated area and unassigned areas in Texas.

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