Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE

Federal Grain Inspection Service Annual Report to Congress

December 2025

About This Report

Each year, pursuant to the U.S. Grain Standards Act (USGSA), section 17B (7 U.S.C. § 87f-2), the USDA, Agricultural Marketing Service, Federal Grain Inspection Service (FGIS) respectfully submits an annual report to the U.S. Congress. Activities described in this report cover Fiscal Year (FY) 25 (Oct. 1, 2024, through Sept. 30, 2025).

Any mention of firm names or trade products does not imply that USDA endorses or recommends them directly or indirectly.

FY 25 inspection and weighing program data and financial information are available at: http://www.ams.usda.gov/reports/fgis-annual-reports.

This report is available on our website at: http://www.ams.usda.gov/reports/fgis-annual-reports.

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Section I: Overview

The Federal Grain Inspection Service

The Federal Grain Inspection Service (FGIS) supports the marketing of grains, oilseeds and related products by creating quality standards and offering impartial inspection and weighing services. This is accomplished through a network that includes federal, state, and private entities, all operating under the USGSA. FGIS administers uniform national grain inspection and weighing programs, providing services for both export and domestic shipments on a fee basis. The USGSA mandates inspection and weighing of export grain, prohibits deceptive practices, and enforces penalties for violations. In addition, all exported U.S. corn must be tested for aflatoxin unless the contract states otherwise.

Program Mission

FGIS's core mission is to:

- Support the marketing of U.S. grain, both domestically and internationally
- Maintain objective standards to certify grain quality

These standards provide uniform terminology, facilitate trade, help determine storability and inform end-product yield and quality. They offer market incentives, reflect economic value for end users, and adapt to scientific advancements in testing.

Key Activities

FGIS administers and enforces the USGSA by:

- Setting and maintaining official U.S. grain standards for various crops.
- Promoting consistent application of standards by inspection personnel.
- Establishing methods and procedures for approving equipment for inspections and weighing.
- Providing inspection and weighing at key U.S. export locations.
- Delegating qualified state agencies for export inspections and weighing.
- Licensing state and private agencies to inspect and weigh grain and perform other official services.
- Overseeing delegated and designated official services.
- Monitoring grain quality and weight at destination ports and investigating discrepancies.
- Collaborating with the USDA Office of Inspector General to address violations.
- Assisting U.S. trading partners in enhancing their inspection programs through outreach.

Employees and Locations

FGIS has 340 permanent, intermittent and temporary employees. FGIS is headquartered in Washington, DC, with the bulk of employees located in the field offices or at the National Grain Center in Kansas City, MO. There are six field offices located strategically near service locations: League City, TX; New Orleans, LA; Stuttgart, AR; Toledo, OH; Vancouver, WA; and the Domestic Inspection Operations Office (DIOO), Kansas City, MO.

Section II: Operational Highlights

Reauthorization of the U.S. Grain Standards Act

The U.S. Grain Standards Act (USGSA) is the main statute governing FGIS. While most of the act is permanently authorized, some provisions were set to sunset on Sept. 30, 2025, requiring congressional renewal. These include:

- Authority of appropriations
- Authority to adjust and collect supervision fees
- The 30 percent administrative supervisory cost cap
- Authority for the Advisory Committee

Congress renewed these provisions through the Continuing Appropriations, Agriculture, Legislative Branch, Military Construction and Veterans Affairs, and Extensions Act, 2026. Congress extended provisions related to fees and the advisory committee through Jan. 30, 2026. Congress extended provisions related to appropriations authority and the administrative cost cap through fiscal year 2026.

Operational Improvement

FGIS's Field Management Division (FMD) implemented changes this year to streamline service to customers and reduce costs by specializing in mandatory export vessel inspection. Recognizing that domestic inspections experience more seasonality compared to export port locations, the division transferred domestic grain responsibilities from the field offices in Toledo, OH, and League City, TX, to official agencies. These agencies, being private companies licensed and monitored to perform official inspections, are better suited to meet fluctuations in service demand. As a result, staffing in both locations were reassigned to other locations with higher export-service needs.

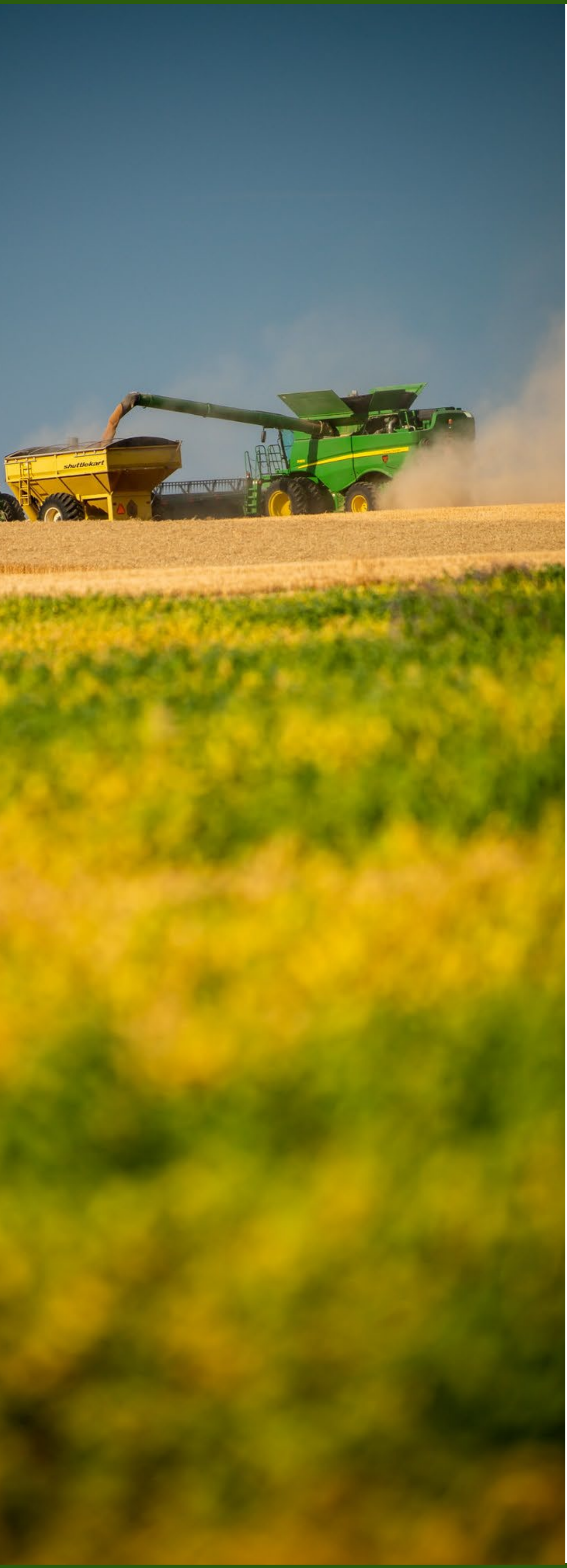
FGIS also launched a major modernization effort by developing and deploying improved financial monitoring and reporting tools. These tools were created to strengthen financial transparency, enhance operational agility, and equip field office managers with actionable, data-driven insights. Instead of relying on static reports, which hindered timely and informed decision-making, FGIS's new financial reporting system consolidates essential fiscal data into a centralized platform, enabling managers to drill down into specific cost and revenue streams. This functionality has significantly reduced the need for manual data requests and allowed managers to independently track and manage their financial performance. The rollout of these tools marks a significant advancement in modernizing FGIS's financial management infrastructure.

National Grain Center (NGC) Trade Delegations

In FY 25, FGIS hosted trade and governmental delegations at its National Grain Center (NGC) in Kansas City including a flour milling team from Africa and the Ministry of Agriculture, Forestry, and Fisheries from Japan. In addition, FGIS presented information to a grain procurement team from Guatemala. As part of these delegations, FGIS also welcomed domestic trade sponsors including Kansas State University's International Grains Program, U.S. Wheat Associates and the Kansas Wheat Commission. Following the meetings, FGIS conducted building tours to showcase FGIS's analytical methods, testing, grading, and reference and standardization activities. The NGC has also participated and/or hosted groups from the National Type Evaluation Program, Federal Crop Insurance Corporation, Collegiate Crop Tour and other USDA agencies.

Members of FGIS, multiple African flour milling companies, U.S. Wheat Associates, International Grains Program and the Kansas Wheat Commission pictured in front of the National Grain Center in Kansas City, Missouri. The group met to discuss FGIS grading procedures and wheat functionality testing.

Members of FGIS, MAFF and U.S. Wheat Associates pictured in front of the National Grain Center in Kansas City, Missouri. The group met to discuss FGIS testing procedures for ochratoxin A in wheat in preparation for Japan's establishment of a regulatory limit for this mycotoxin.



CODEX Committee on Cereals, Pulses and Legumes

FGIS participates on two Codex Alimentarius Committees that pertain to the grading and testing of FGIS commodities. Participation in the Codex standards is optional; it offers an opportunity for FGIS to provide technical advice to inform any U.S. positions. While the U.S. grading standards are internationally recognized, exporters and importers sometimes use the Codex standards to facilitate trade, and they can be useful in advocating for a science-based approach to quality and safety issues that arise.

FGIS has served as the Alternate Delegate for the Codex Committee on Methods of Analysis and Sampling for many years. In FY 25, FGIS continued in this role and provided scientific guidance on issues related to grain trade, including the standardization of protein determination in soybeans and sampling plans for ochratoxin A in wheat.

FGIS also serves on the Codex Committee on Cereals, Pulses and Legumes. FGIS serves as Alternate Delegate, with the delegation led by a representative from the U.S. Food and Drug Administration. This committee had been adjourned since 2020 after the publication of a quinoa standard. The committee was reactivated in 2025 to consider a group standard for millet grains. A standard exists already for pearl millet; however, some countries are advocating a proposal to broaden the standard to include different types of millet grains. While the U.S. is not a major producer nor exporter of millet, the process is important to the upcoming work of the committee and to advocate for any U.S. interests.

FY 25 Quality Assurance Specialist (QAS) Seminars

The Board of Appeals and Review (BAR) is responsible for ensuring alignment of sensory inspections throughout the entire official inspection system. This is accomplished through a network of Quality Assurance Specialists (QASs) at both federal and official agency inspection points. To maintain inspection alignment, the BAR holds annual QAS seminars for federal and official agency QASs at the National Grain Center in Kansas City, Missouri. In FY 25, the BAR held four seminars that were attended by over 40 QASs.

The BAR also created training samples, referred to as referees, for corn, soybeans and wheat. The samples were created with common damage typically found in corn, soybeans and wheat, and were sent to all federal and agency QASs. A total of 317 referees were issued to over 90 QASs. The data collected from the referees are used to determine the QASs' ability to identify damage to these grains and recognize opportunities for improvement to ensure alignment across the country.

Quality assurance specialist carefully reviewing wheat samples as part of the inspections process.

Export Growth

Technician overseeing mechanical grain sampling with lamp-assisted condition inspection.

The FGIS New Orleans Field Office cemented its status as the nation's most crucial hub for grain export operations, handling over 68 million metric tons of corn, soybeans and wheat.

The estimated export value of these commodities surpassed $15 billion in FY 25.

This inspection work is completed by a highly skilled workforce of 129 front-line graders and technicians. Together, this team ensured the integrity, accuracy and efficiency of inspection and weighing services.

Operationally, the New Orleans office demonstrated exceptional capacity and responsiveness. In 2025, staff conducted 38,209 inspections to support vessel loading operations, ensuring compliance with the USGSA and contractual specifications. Additionally, the office performed 7,996 submitted inspections, reflecting its role in quality verification and customer-requested assessments.

A key logistical function of the office was the weighing of 36,950 barges, most of which were inbound shipments of grain destined for export via ocean-going vessels. This barge traffic underscores New Orleans' strategic importance as a convergence point for inland grain flows and international trade routes.

The commodity mix inspected under the USGSA by the office further illustrates its central role in U.S. agricultural exports.

Of the total FY 25 volume, approximately **35.2 million metric tons were corn, 29.8 million metric tons were soybeans, and 3.9 million metric tons were wheat.**

Inspector evaluating a corn sample for grade-determining factors.

The remaining inspection field offices collectively handled over 10 million metric tons of corn, soybeans and wheat. The estimated export value of these commodities totaled over $2.4 billion.

These offices were supported by a combined workforce **of 54 front-line graders and technicians,** who ensured the continued delivery of high-quality inspection and weighing services across their respective regions.

Together, these three offices conducted 9,216 inspections in support of vessel-loading operations and performed 4,640 submitted inspections, including:

383 barge inspections

6,589 truck inspections

832 container inspections

They also provided weights for

23,463 railcars.

These activities reflect the diverse logistical environments in which these offices operate and their essential role in maintaining the integrity of the U.S. grain export system.

Commodity Performance U.S. Grain Exports

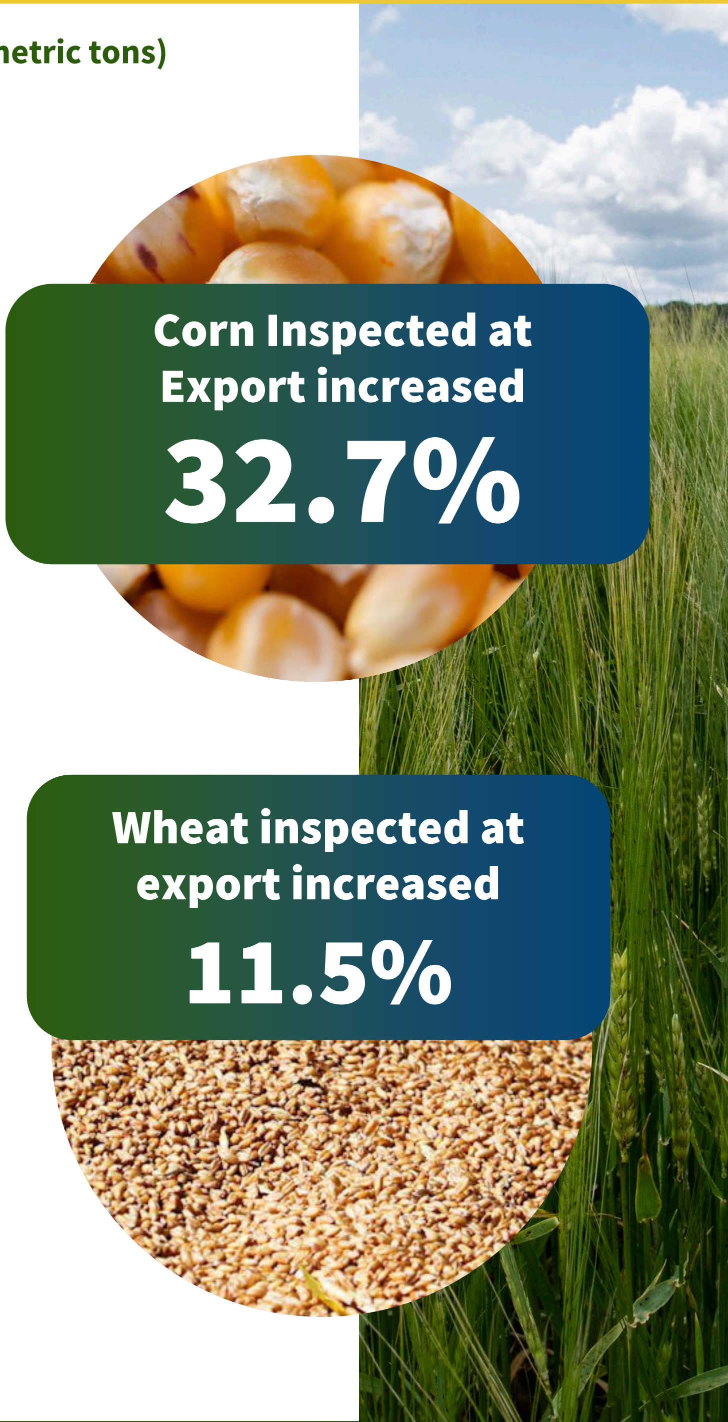
(as of September 30, 2025)

FY 2025 saw 146.3 million metric tons in total inspected grain exports—a 16.3% increase over FY 2024.

2025 total: 146,259,727 million metric tons. **2024 total:** 125,810,771 million metric tons.

Notable Commodity Increases (measured in million metric tons)

Commodity	2025	2024	% Change
Barley	10,247	7,531	+36.1%
Canola	214,778	70,239	+205.8%
Corn	70,545,227	53,163,887	+32.7%
Flaxseed	528	264	+100.0%
Mixed Grains	1,120	572	+95.8%
Oats	3,890	1,047	+271.5%
Soybeans	49,977,155	45,404,656	+10.1%
Wheat	23,515,162	21,090,878	+11.5%



Notable Commodity Decreases (measured in million metric tons)

Commodity	2025	2024	% Change
Sorghum	1,991,620	6,066,261	- 67.2%
Sunflower	0	5,168	-100.0%
Triticale	0	196	-100.0%
Rye	0	72	-100.0%

Export Grain Inspection Tonnage

In FY 25 FGIS saw a **14 percent year-over-year increase** and was 9 percent above the 5-year average.

Colombia, Italy and Guatemala imported a record amount of U.S. grain.

Mexico is on track to import a record amount of corn from the U.S.

- Wheat export inspection tonnage was **up 6 percent** year-over-year and 2 percent above the 5-year average. Corn export inspection tonnage was up 30 percent year-over-year and **21 percent above the 5-year average**.

Total corn export inspection tonnage set an **all-time high record for a single fiscal year.**

FGIS Inspection & Oversight Metrics

As a core function reflecting its direct role in export certification, FGIS performed

73,288

original official inspections.

- **2,397 reinspections** conducted.
- **755 grain appeals** completed, including 91 board appeals, supporting transparency and dispute resolution.

Executed targeted contaminant testing: 26,232 aflatoxin tests, **8,539** deoxynivalenol (DON) tests and 18 fumonisin tests.

FGIS conducted grading demonstrations and overviews, both foreign and domestic:

Foreign delegations:

- Korean Crop Survey
- Philippines Trade Team
- Southeast Asia Trade Team
- Korea Contracting Wheat Value
- Hosted Japanese MAFF and facilitated discussion of new ochratoxin A requirements

Domestic groups:

- Oregon Wheat
- Washington Wheat
- Idaho Wheat
- Idaho FFA
- Montana FFA
- Idaho Ag Business
- Agribusiness Associates of Iowa
- Grain and Feed Association of Illinois
- Texas A&M University

FGIS saw an **increase of 48 percent** in licensing exams for official agency partners compared to FY 24 (181 vs. 122), more than doubled in-person testing at the National Grain Center (47 vs. 22), and expanded video-proctored exams (134 vs. 100).

Grain Inspection Advisory Committee

Summary of 2025 Meeting

The Grain Inspection Advisory Committee is authorized by the USGSA to provide recommendations on official inspection and weighing services to the secretary of agriculture. The committee comprises 15 members who serve a three-year term and represent a wide range of segments throughout the grain industry, including grain producers, processors, merchandisers, handlers, exporters, consumers, grain inspection agencies and scientists. In FY 25, six new members were appointed to the committee. The committee meets twice a year and welcomes public participation.

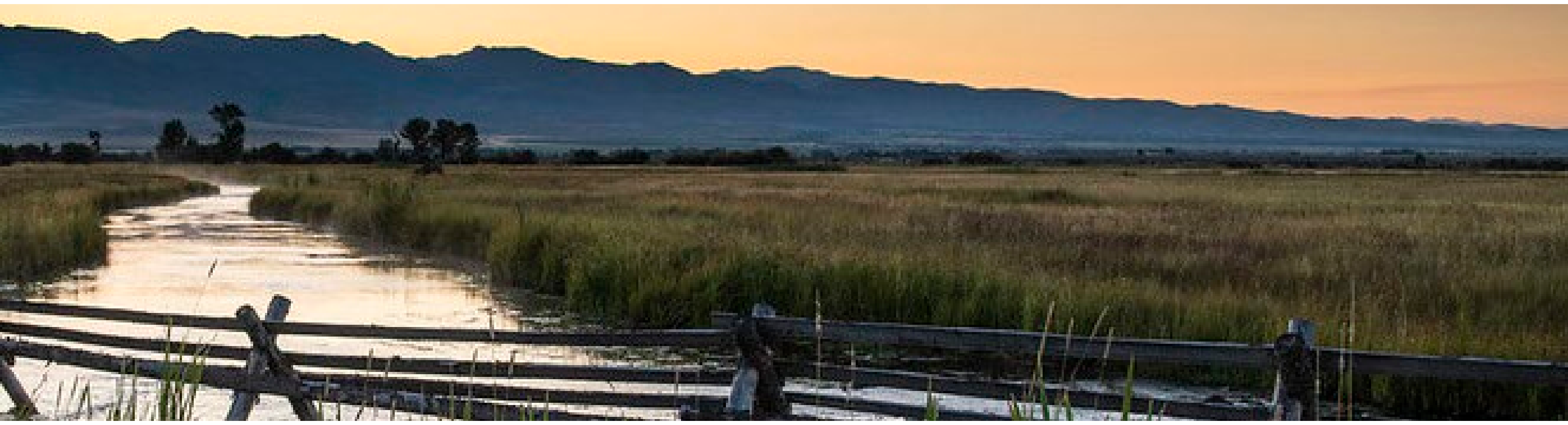
On Oct. 29-30, 2024, the committee held a meeting at FGIS's National Grain Center in Kansas City, Missouri. During the meeting, FGIS provided updates concerning the budget and fees, upcoming audits scheduled, an equipment evaluation project, the committee's nomination process and charter, and the FGIS/Food and Drug Administration memorandum of understanding (MOU). The committee heard presentations about cybersecurity from the USDA Chief Deputy Information Security Officer for Operations, Cybersecurity and Privacy Operations Center, and the Federal Bureau of Investigation regarding domestic and international agriculture threats. The committee submitted recommendations from all five discussion topics, which included, the container handbook, updating the FGIS/Animal and Plant Health Inspection Service (APHIS)/Plant Protection and Quarantine (PPQ) MOU, equipment equivalency, laboratory scales, and periodic updates for FGIS inspection instructions. Other topics discussed by the committee included technology and grain inspection and emerging export issues.

The committee met again on June 11, 2025. Members heard export updates from USDA Chief Economist Dr. Seth Meyer and discussed future planning, including the formation of a technology working group to support the implementation and certification of new inspection systems.

Meeting materials are available on the committee's website.

Rulemaking Activities

Geographic Areas Boundary Update for Official Grain Inspection Services



The Federal Grain Inspection Service published a Federal Register Notice, (90 FR 2664) on Jan. 13, 2025, seeking comments on a proposed update to the boundaries of the geographic areas for official inspection and weighing services under a United States Grain Standards Act designation or delegation, and for cooperative service agreements under the Agricultural Marketing Act of 1946.

The updates were necessary due to changes in natural and man-made landmarks, railroad lines, roads, and signs that were used in historical boundary descriptions. Numbers were assigned to the areas in alphabetical order, replacing the formerly known names. No one lost or gained facilities. Any exclusions, exceptions, or other type of agreement are still in place.

After no comments, FGIS announced the implementation of the updated boundaries through another Federal Register Notice (90 FR 29520) on July 3, 2025. FGIS's Quality Assurance and Compliance Division will update designation and delegation documents for all official service providers (OSPs) in FGISOnline, and OSPs will issue documents confirming the update. Any future changes will be announced in a notice through the Federal Register.

Fee Rulemaking

In 2025, FGIS took action to improve its fiscal stability. This was achieved by revising regulations to ensure transparency, moderating swings in annual fee adjustments, and ensuring uninterrupted delivery of mandatory inspection and weighing services.

The U.S. Grain Standards Act requires FGIS to recover costs of services, adjust fees annually and maintain a three- to six-month operating reserve. In FY 24, the operating reserve was below the three-to six-month target, and FGIS initiated rulemaking to adjust fees and annual fee formulas to recover costs and rebuild the operating reserve. In FY 25, FGIS closed out those rulemaking actions with two final rules and implemented revised fees using a new formula.

In June 2024, FGIS issued an interim final rule with immediate effect on fees to ensure cost recovery and rebuild the operating reserve. In January 2025, FGIS adopted a rule to revise the process to adjust fees annually based on the actual costs of providing service. In August 2025, FGIS used those improved formulas to make the USGSA-required annual adjustment. The new fees went into effect on Oct. 1, 2025.

International Outreach Activities

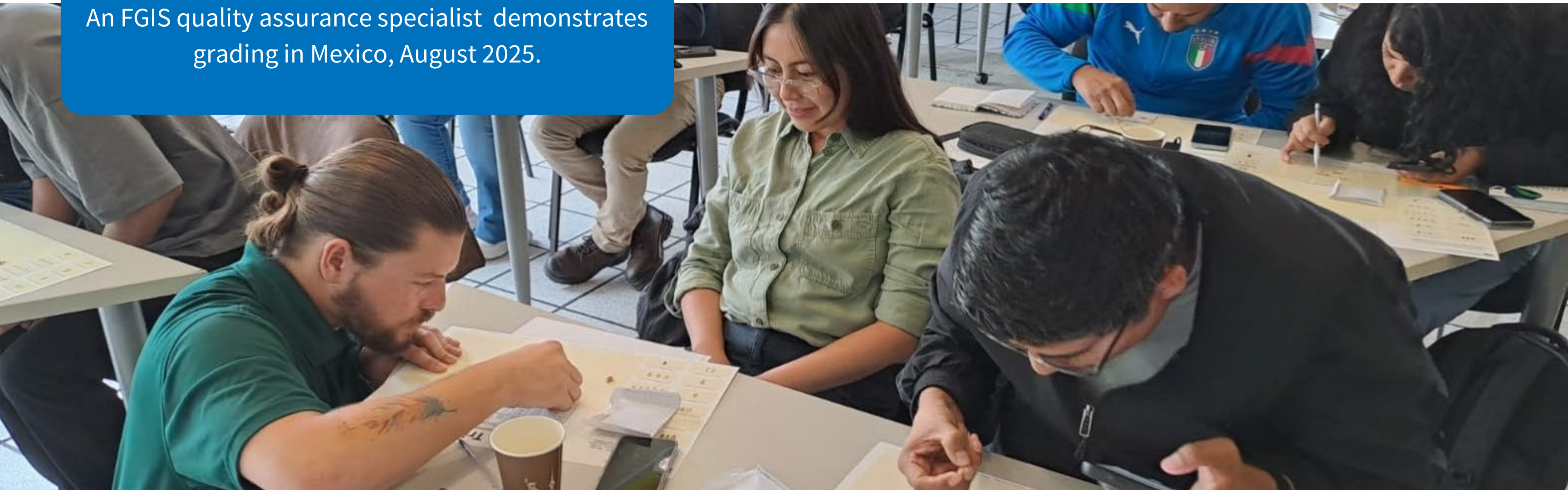
Exports and our international buyers are central to FGIS's mission. Exports depend on FGIS inspection and weighing services, which provided buyers with confidence in the quality of U.S. grain, oilseeds, rice and pulses, helping to maintain the United States as a trusted global supplier.

As a percentage of domestic production in the U.S. during the 2024-2025 market year, the U.S. exported **19% of all corn, 41% of rice, 28% of sorghum, 43% of soybeans and 42% of wheat.**

In support of these export markets, FGIS frequently collaborates with the USDA Foreign Agricultural Service (FAS) and cooperator groups like the U.S. Grains Council, USA Rice Federation, U.S. Soybean Export Council, U.S. Wheat Associates and many others. In 2025, FGIS collaborated with several groups to host foreign delegations or present on FGIS standards abroad.

FGIS conducted technical training for millers in the Dominican Republic and Mexico in July and August 2025, promoting U.S. wheat exports to the region. Mexico is the number-one export market for U.S. wheat, and the Dominican Republic is number 15 and is forecasted to purchase more U.S. exports in the year ahead. These sessions are designed to promote U.S. wheat exports through education about the standards, to improve purchase decisions, and emphasize the quality and inspection of U.S. wheat. These sessions, delivered in Spanish by an FGIS quality assurance specialist, showcased U.S. wheat as a consistent option in competitive markets.

An FGIS quality assurance specialist demonstrates grading in Mexico, August 2025.



FGIS also provided seminars in Jordan and Turkey to promote U.S. rice exports to those regions. FGIS showcased the reliability of the U.S. supply, also making the case that the quality backed by the FGIS inspection system can help differentiate purchase decisions, as evidenced by the U.S.'s strong market share in Jordan despite cheaper sources in nearby countries.

FGIS provides ongoing training presentations to the USDA FAS Junior Professionals Advisory Committee for recently hired employees to learn about how FGIS's international affairs functions work together with USDA cooperators and other USDA agencies, particularly with FAS on addressing and resolving grain trade issues. These seminars are shared with FAS's overseas posts to enhance new officers with better understanding about FGIS.

In April 2025, FGIS presented to the **first ever Sub-Saharan Buyers Conference** presented by U.S. Wheat Associates. The event connected buyers from over 20 different countries with suppliers and experts (including FGIS grain inspectors) to help promote purchases of U.S. wheat. The presentation focused on the U.S. wheat standards and specific subjective grading factors important to the market. When trade teams visit the U.S., FGIS is often asked to speak to the group or provide a grading lab tour. In FY 25, FGIS presented to over 200 buyers representing over 20 U.S. grain/rice/oilseed-buying countries.

Section III: Quality Assurance and Compliance Activities

Enforcement and Investigative Activities

In FY 25, FGIS received 16 potential violations within the official grain inspection and weighing operations under its oversight. Of the 16 complaints received, 13 were determined to fall outside the jurisdiction of the USGSA. These 13 cases were directed to the appropriate divisions or other agencies for further action or assistance.

Those three cases that fell within the USGSA jurisdiction involved a range of allegations to include the following: falsification of work records, intimidation and harassment, improper standards of conduct, attempting to cause the issuance of false or incorrect certificates, and instances of allegedly accepting bribes from grain elevators. Two cases have been closed out, and one investigation is ongoing. FGIS remains committed to upholding the integrity of the official system through rigorous enforcement, ongoing education, and stringent adherence to established standards and regulations.

Opportunities/New areas

FY 25 Audits, Reviews and Awards

20 audits and reviews of official service providers were conducted by FGIS in FY 25.

2 Hops Reviews

- Idaho State Department of Agriculture
- Oregon Department of Agriculture

2 Field Office Reviews

- Pacific Northwest Field Office
- Stuttgart Field Office

16 Designation Audits

- Amarillo Grain Exchange, Inc.
- Cairo Grain Inspection Agency, Inc.
- Champaign-Danville Grain Inspection Departments, Inc.
- D.R. Schaal Agency, Inc.
- Eastern Iowa Grain Inspection and Weighing Service, Inc.
- Enid Grain Inspection Company, Inc.
- Fremont Grain Inspection Department, Inc.
- Grain Inspection Services of Texas (spot check, not audit)
- Louisiana Department of Agriculture and Forestry
- Maryland Department of Agriculture
- North Carolina Department of Agriculture
- North Dakota Grain Inspection Service, Inc.
- Ohio Valley Grain Inspection, Inc.
- Omaha Grain Inspection Services, Inc.
- State Grain Inspection, Inc.
- Utah Department of Agriculture and Food

For FY 25, FGIS recertified one delegation, renewed four designations, and awarded designations for two new geographic areas.

1 Delegation Recertified

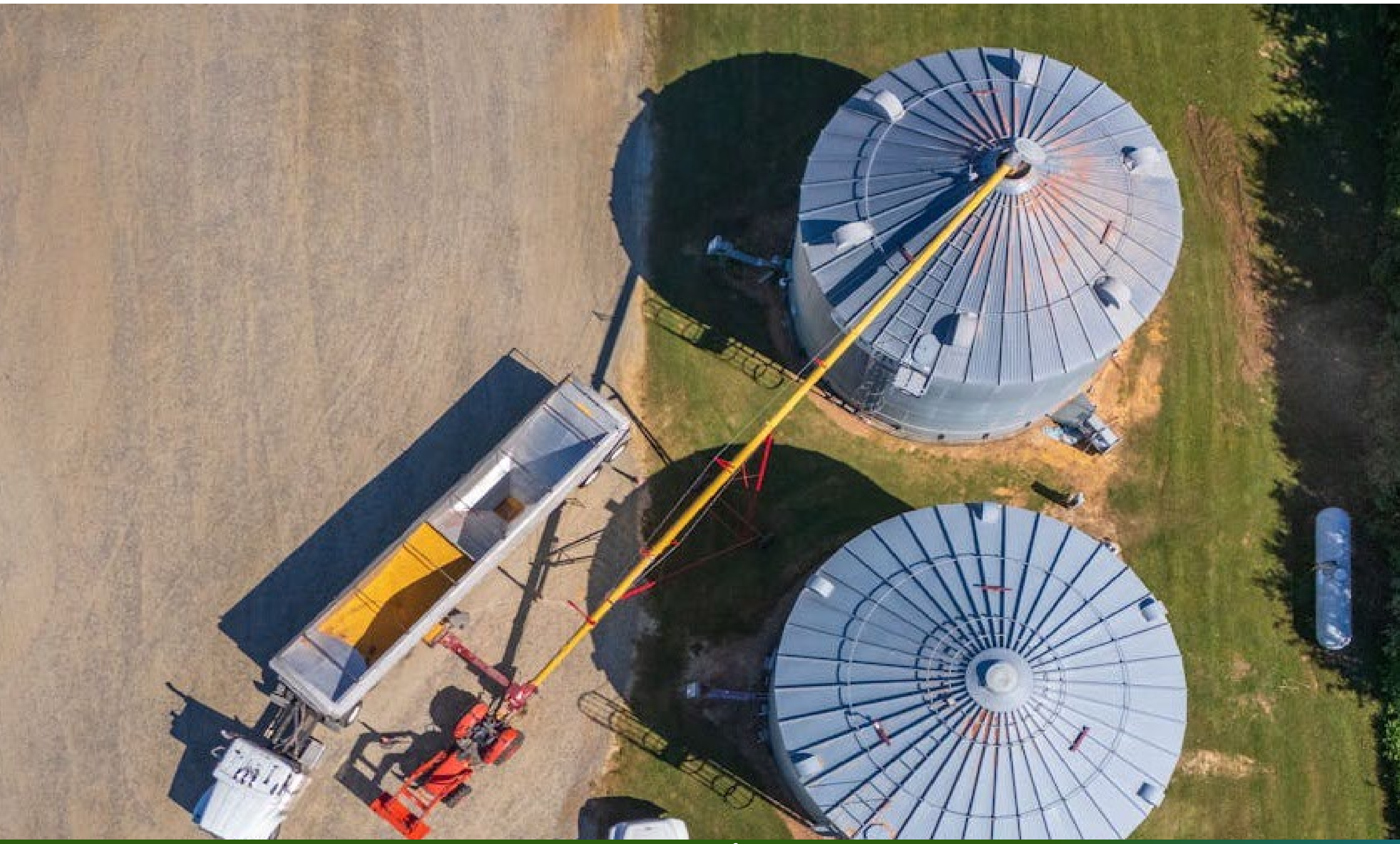
- Wisconsin Department of Agriculture, Trade and Consumer Protection

4 Designations Renewed

- Ohio Valley Grain Inspection, Inc
- Keokuk Grain Inspection Service
- Plainview Grain Inspection and Weighing Services
- Midsouth Grain Inspection Service

2 New Geographic Areas Awarded

- Southeast Texas Area (Midsouth Grain Inspection Service)
- Lower Northwest Texas Area (Plainview Grain Inspection and Weighing Service, Inc



Section IV: Standardization and Reference Efforts

Mycotoxin Rapid Test Evaluations

The grain industry needs fast, reliable tests to detect and quantify the incidence of mycotoxins in grain. To ensure that commercially available tests provide reliable results, FGIS offers a performance evaluation and certification program. In FY 25, 16 rapid test kits were evaluated for the analysis of mycotoxins (aflatoxins, deoxynivalenol, fumonisins, ochratoxin A and zearalenone). Of the 16 test kits evaluated, 12 met the FGIS performance criteria and were approved for use in official FGIS inspections. Specifically, five test kits for aflatoxins, four for deoxynivalenol, and one each for fumonisins, ochratoxin A and zearalenone met the required criteria and received certification.

Board of Appeals and Review

The Board of Appeals and Review (BAR) is a team of six senior-level grain inspectors, led by a Chairman and an Assistant Chairman. The BAR is the final adjudication body for all disputes regarding subjective grain quality issues presented by any interested party in a grain transaction. The BAR performs board appeal inspections after the issue has been considered by other FGIS field offices. The BAR rendered decisions on 51 grain appeals. In FY 25, the BAR reviewed 1,690 grain and 406 rice monitoring samples and issued 150 opinions on difficult grain factors.

Equipment Checktesting

In addition to sensory oversight, the BAR manages a national equipment checktesting program. FGIS's equipment checktesting program is mandated by the USGSA to ensure that equipment such as dockage machines, rice millers, hand sieves and barley pearlers are within specified tolerances. The BAR accomplishes this requirement by creating and distributing checktest samples to FGIS and official agencies with the purpose of detecting if any differences exist between field equipment and the “standard” equipment maintained by the BAR. In FY 25, the BAR checktested over 1,420 unique pieces of equipment.

Near Infrared Transmittance (NIRT) Program

The NIRT program is responsible for standardizing the national official NIRT inspection system, providing quality assurance of official NIRT results, and conducting a yearly review of NIRT calibrations, including updating calibrations as necessary. NIRT instruments are used in the official inspection system for rapid measurements of wheat protein; wet gluten; barley protein; soybean protein and oil; and corn protein, oil, and starch that may be used in determining the purchase price for these grains. There are approximately 185 instruments at official export and domestic inspection offices, representing federal, state and private inspection agencies. The NIRT lab supported this mission by analyzing 11,745 grain samples to monitor the performance of field instruments over time, supplied 3,315 standard reference samples to ensure that all NIRT instruments are aligned to the master instruments maintained by IIB, 754 calibration samples to reference labs for verification of FGIS calibrations, and analyzed 3 appeals. These activities ensure that the field instruments operate within the tolerances established in the regulations and NIRT Handbook.

Moisture Meter Program

The Moisture Program conducts a semiannual check of the approximately 1,020 moisture meters used to provide official moisture determination. This moisture check test ensures that field moisture meters are aligned with the master meters located at the TSD operating within the tolerances established in the regulations. The moisture lab supported this mission by sending out 2,040 check test samples to ensure that only meters within tolerance are used to certify the moisture content of the grain and commodities assigned to FGIS. FGIS' Moisture Program verifies semiannually that TSD master meters and annually that Canadian Grain Commission master meters are aligned with the approved manufacturer's master meters to ensure that all designated master meters are operating within the tolerances established in the regulations for the headquarters meters. The moisture lab supported this mission by testing 40 samples on 14 meters, ensuring that the master meters used to set the calibrations for all Unified Grain Moisture Algorithm (UGMA) approved models, and used to determine if an individual UGMA is operating within tolerance, do not introduce a systematic error into the system that could potentially disrupt trade.

Nuclear Magnetic Resonance (NMR)

The NMR program is responsible for standardizing the national official NMR inspection system; providing quality assurance of official NMR results; and conducting a yearly review of NMR calibrations, including updating calibrations as necessary. NMR instruments are used in the official inspection system for rapid measurements of sunflower oil. The NMR tests must be written into the contract for official certification. The NMR results provide a determination of the end use functionality of the sunflower seed being inspected. The program also supports the Board of Appeals and Review on sunflower seed oil appeals. There are three instruments at official domestic inspection offices, representing private inspection agencies.

Standardizing Commercial Grain Inspection Equipment

In FY 25, FGIS continued the cooperative effort with the National Conference on Weights and Measures (NCWM) and the National Institute for Standards and Technology (NIST) to standardize commercial inspection equipment. The commercial inspection equipment includes moisture meters; any test weight modules contained within moisture meters; and near-infrared analyzers for protein, oil and starch. FGIS served as the sole evaluation laboratory for grain inspection equipment under the NCWM National Type Evaluation Program (NTEP) to determine if the equipment meets the requirements as legal for trade for states that regulate commercial grain transactions.

FGIS collected grain moisture meter calibration data for eight instrument models as part of the NTEP ongoing calibration program. Calibrations developed in this program provide traceability throughout the official FGIS moisture program, including the air oven reference method, and they are used in most moisture meters used for commercial grain transactions throughout the United States. The NTEP ongoing calibration program certified moisture calibrations for hard red winter wheat, hard red spring wheat, hard white wheat, soft red winter wheat, soft white wheat, durum wheat, corn, soybeans, six-row barley, two-row barley, long grain rough rice, medium grain rough rice, oats, sorghum and sunflower seeds (oil-type) grain types. Over the past 10 years, NTEP has maintained an accuracy level among all participating instrument models that deviates from the USDA air-oven method (American Association of Cereal Chemists (AACC) standard reference method) by no more than 0.4 percent moisture (on average) over all grain types covering the primary market moisture ranges. In FY 25, FGIS will collect grain moisture meter calibration data for eight NTEP models and will conduct NTEP testing for new grain inspection equipment models upon request.

In FY 25, FGIS's NTEP laboratory coordinated its issuance of certificates of conformance with FGIS'S implementation of calibrations for the official moisture meter models for use with the major grains. This close coordination ensured that state-regulated commercial moisture meter users could use the same meters and calibrations as those used in official inspection.

In FY 23, FGIS began analyzing samples from the 2023 crop to initiate the NTEP ongoing NIRT calibration program. After sample analysis from the 2025 crop is completed, FGIS will be able to provide reports based on data of three crop years for the NTEP ongoing calibration program to certify near-infrared transmittance (NIRT) protein calibration for various classes of wheat and barley as well as certifying NIRT protein and oil calibrations for soybeans and corn. This program will reduce the variability among NTEP-approved instruments used for state-regulated inspections.

Training Videos

In FY 25, FGIS released a training video for corn damage. The video gives detailed instruction on determining all damage types and will help inspectors make informed decisions on what constitutes damaged kernels. It will also serve to facilitate the training and licensing of new inspectors in the official inspection system.

Detail of corn damage video showing different damage types.

Cooperative Research & Development Agreements

In FY 24, FGIS identified and began evaluating two instruments (Cgrain and Videometer) with promising technology that could support grain inspection. During FY 25, FGIS continued testing and verification efforts to refine performance for corn and wheat beta prediction models and updated calibrations for the rice milling yield model.

Wheat inspection with Cgrain

FGIS established a cooperative research development agreement (CRADA) with Cgrain, a company from Sweden, to begin developing a prediction model to identify various inspection factors in wheat. FGIS entered this collaboration based on the past success of Cgrain where they developed a calibration for milling yield in medium grain rice to support the California rice industry. In FY 25, FGIS and Cgrain developed a beta prediction model for wheat damage and is continuing to refine the performance in FY 26.

Cgrain Value Pro grain analyzer.

Corn inspection with Videometer

FGIS also entered a CRADA in FY 24 with Videometer, a company from Denmark, to develop a prediction model that can identify various inspection factors in corn. FGIS entered this collaboration with Videometer due to the company's success with applying multi-spectral imaging technology to the seed industry as well as the Brazilian corn industry. In FY 25, FGIS and Videometer developed a beta prediction model for corn damage and is continuing to refine the performance in FY 26.

Beta corn inspection prediction model.

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