Federal Grain Inspection Service

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Facilitating the marketing of U.S. grain for the benefit of American agriculture.

- *Harnessing Technology*
- *Promoting Standardization*
- *Providing Official Inspection and Weighing Services*
- *Protecting Integrity*

FY 2001 Highlights

USDA's Role in an Evolving Market in

During FY 2001, GIPSA solicited comments on USDA's role in facilitating the marketing of grains, oilseeds, fruits, vegetables, and nuts

today's marketplace. GIPSA coordinated the Department's effort to explore how it can continue to foster the marketing of agricultural products in an evolving marketplace characterized by biotech and non-biotech crops, as well as by an increasing number of crops with specific end-use quality attributes. GIPSA published the advance notice of proposed rulemaking (ANPR) in the November 30, 2000, *Federal Register*.

The ANPR sought comment in two broad areas: (1) current market needs and practices, and the costs and benefits associated with those practices; and (2) the proper role for USDA in light of changes in the evolving marketplace. During the 135-day comment period, USDA received 2,984 comments. Of those who commented about market facilitation, there was broad consensus for USDA to act in two areas: (1) continuing and expanding existing programs to standardize testing methodology, and
(2) building on the success of its process verification programs for fruits, vegetables, and livestock by developing similar programs for grains, oilseeds, and related agricultural products.

Harnessing Technology

Digital Imaging

Digital imaging has great potential for improving the accuracy, consistency, objectivity, and speed of grain inspection and grading. Digital imaging is a process of recording images, for example, of grain, in electronic digital format and then transferring the image to a computer for review and analysis.

Rice Inspection. In FY 2001, GIPSA developed and approved GrainCheck 2312 Total Broken Kernels (TBK) calibrations for official inspection of long-grain milled, long-grain parboiled, and short-grain milled rice. GIPSA-authorized or -licensed inspectors used these calibrations for official services on three instruments in California and one instrument used in Louisiana and Arkansas to improve the consistency and accuracy of inspection results. We will refine a quality control system for this new technology and expand its use for official rice inspection in FY 2002.

Wheat Inspection. GIPSA and the Agricultural Research Service (ARS) jointly researched the use of GrainCheck technology for measuring percent vitreous kernels in Durum and Hard Red Spring wheat samples. ARS developed a Durum wheat calibration that provides results equal to or better than those achieved through visual determinations by official inspectors. In FY 2002, GIPSA, North Dakota State University, and ARS plan to evaluate the GrainCheck Durum wheat calibration subclass determinations for a set of approximately 120 samples. GIPSA also plans to initiate a joint program with the Canadian Grain Commission (CGC) to investigate the use of flatbed scanner technology for imaging and differentiating white and red wheat kernels.

GIPSA will continue to explore opportunities for applying remote digital imaging to enhance visual grading services. Remote digital imaging will provide faster turnaround of results on difficult and unusual characteristics encountered in grain and graded commodities.

Functional Quality (NIRT) Assessment

In FY 2001, GIPSA investigated use of near-infrared transmittance measurements on whole wheat kernels to provide a rapid means of predicting dough strength and other characteristics for flour made from that wheat. Data were obtained from export shipments representing the 1998-2000 harvests. Preliminary results with 1998-crop Hard Red Spring wheat looked promising, but prediction ability was much reduced for 1999- and 2000-crop samples. In FY 2002, GIPSA will collect data on samples representing a wider protein range to better understand the relationship between protein levels and end-use characteristics. GIPSA also will collect data on a near-infrared reflectance research instrument to help identify kernel characteristics affecting NIRT predictions.

Grain Inspection Automation At Export Elevators

A GIPSA team of automation and grain inspection experts, working with the North American Export Grain Association (NAEGA), developed a prototype automated grain inspection system. The system provides updated grain inspection information five times faster than present manual methods. The automated system has the potential to reduce costs to the industry and enhance GIPSA's efficiency. GIPSA will operate the prototype system in FY 2002 to gather performance data and identify required enhancements.

Mycotoxins Methods Development and Test Kit Approvals

In FY 2001, GIPSA developed and validated a zearalenone reference method. This enables GIPSA to initiate the evaluation of commercial zearalenone test kits for use in the official inspection system. GIPSA also evaluated and approved two deoxynivalenol (DON) and two fumonisin test kits, evaluated and rejected two fumonisin test kits, and initiated the evaluation of one additional fumonisin and two aflatoxin test kits. In FY 2002, GIPSA will request the submission of zearalenone test kits and continue to evaluate all submitted mycotoxin test kits for the official inspection system.

Pesticide Residue Method Development and Testing

In FY 2001, GIPSA continued to participate in the Pesticide Data Program, a cooperative effort of the USDA, U.S. Environmental Protection Agency, and 10 participating States to monitor pesticide residue levels in fruits, vegetables, grain, and milk. GIPSA tests all grain and grain-related products, and develops new methods of analysis when necessary. In FY 2001, GIPSA developed and validated 2 new methods for rice and analyzed about 740 rice samples and 328 peanut butter samples. In FY 2002, GIPSA will develop and validate two new methods for barley and analyze about 740 barley and 740 rice samples.

Promoting Standardization

Visual Reference Material

In FY 2001, GIPSA acquired the necessary equipment to produce the next generation visual reference aids. In FY 2002, GIPSA will begin converting from 35mm slides to digital color prints. This shift will reduce the cost and improve the application and use of visual aids.

Biotechnology

GIPSA continues to work with a number of public and private sector organizations on developments associated with biotechnology-derived grains, and their potential impact on grain quality testing and assurance needs in the U.S. grain industry. GIPSA remains abreast of current international quality concerns and disputes, and maintains strong ties with industry participants and official testing agencies. Further, GIPSA is a member of the USDA Biotechnology Coordinating Committee, an internal USDA forum for intensive and regular dialogue on issues related to the expanding use of biotechnology for agriculture.

In FY 2001, GIPSA completed and fully staffed its Biotechnology Reference Laboratory. Completing this laboratory enabled GIPSA to move forward in a number of areas, including the Rapid Test Performance Evaluation Program and the DNA-Based Proficiency Testing Program.

In response to the concerns stemming from identification of StarLink™ corn in human food, in FY 2001, GIPSA introduced a program to verify the performance of rapid tests to detect the presence of StarLink™ corn. GIPSA issued Certificates of Performance for three Lateral Flow Strip (LFS) and four Enzyme-Linked Immunosorbent Assay (ELISA) tests for the Cry9C protein produced in StarLink™ corn. GIPSA's verification that these tests performed in accordance with the manufacturer's claims enabled the grain industry to quickly and accurately assess the presence or absence of StarLink™ corn and channel the corn appropriately.

In FY 2001, GIPSA, in concert with Japanese officials, developed a Protocol for Food Corn Exported to Japan. This protocol was adopted by the grain industry, and enabled the United States to continue exporting corn to Japan by providing assurance that exported corn did not contain significant levels of StarLink™ corn. This protocol has been considered a model for other countries to which the U.S. exports corn.

In FY 2001, GIPSA established Confidentiality and Material Transfer Agreements with all of the Life Science Organizations that have registrations for biotechnology-derived corn and soybeans. These agreements enable GIPSA to obtain proprietary information and materials needed for the development of reference methods and implementation of GIPSA programs. GIPSA now has the capability to conduct DNA-based qualitative testing procedures for all commercial

biotechnology events, and is developing quantitative procedures for all biotechnology events. Through agreements with life science organizations, GIPSA will have access to information and materials that will enable GIPSA to have reference methods established as new biotechnology events are introduced.

In FY 2002, GIPSA will expand the Rapid Test Performance Verification Program to assess the performance of rapid tests for additional biotechnology events. GIPSA will work with the Life Science Organizations to enhance the availability of detection methods for future biotechnology events introduced into the commercial market.

In FY 2001, GIPSA conducted a Proficiency Study to assess the capability of the testing industry to detect biotechnology-derived grains. The study involved government and private laboratories in the United States and government laboratories in Europe. Thirteen laboratories participated in the Proficiency Study, and the results showed that analytical capabilities vary widely.

In FY 2002, GIPSA also will continue to work with the National Institute of Standards and Technology (NIST), and standards organizations in the United States and other countries to establish internationally recognized standard reference materials and standard methodologies for agricultural biotechnology events.

Educational Materials

In FY 2001, GIPSA acquired the hardware and software necessary to produce multimedia content for training official personnel and educating the grain industry. GIPSA produced six CD titles (Wheat, Corn, and Soybean Grading; Grain Grading Overview; Rough Rice Milling Yield, and Testing Corn for StarLink™) and made them available to the public. GIPSA distributed over 2,000 new CDs and 5,000 revised brochures to official inspection offices, grain handling and processing firms, producers, foreign grain buyers, government agencies, and educational institutions, and posted the brochures in electronic format on the Internet. These materials have become extremely popular with the industry, domestic and international, and the numbers of requests have steadily increased. In FY 2002, GIPSA plans to produce CDs on grain sampling methods and sample variability, container stowage exams, and rail sampling safety.

ISO Certification

The International Standards Organization (ISO) represents the national standards institutes and organizations of 97 countries, including the American National Standards Institute (ANSI). The American Society of Quality, the European Standards Institute, and the Japanese Industrial Standards Committee have endorsed ISO standards, which are becoming the *de facto* standard across industries throughout the world. GIPSA has successfully met ISO 9002 standards and received registration for its moisture and protein reference laboratories. In FY 2001, GIPSA expanded its ISO program by adding the oil extraction reference, mycotoxin reference, mycotoxin test kit evaluation, and pesticide data program laboratories. In FY 2002, GIPSA will update its ISO program to the newest ISO 9001:2000 standard and seek to add the pesticide

analysis service, heavy metals, and equipment checktesting laboratories.

Pulsed NMR for Sunflower Oil Measurements

In FY 2001, GIPSA developed a new procedure for use with the MQA 6005 pulsed-NMR that allows the measurement of sunflower seed oil without first having to oven-dry the sample. The new method is applicable to samples with moisture contents between 4.5 and 10.5 percent, and greatly reduces analysis time for samples in that moisture range. GIPSA initiated a pilot study to evaluate the new procedure under field conditions. Research conducted in FY 2001 indicates that an alternate measurement procedure based upon the ISO 10565 standard also provides accurate results for samples with moisture contents of 10 percent or less. In FY 2002, GIPSA will evaluate both measurement procedures in an attempt to extend the use of the pulsed-NMR to sunflower seed samples with moisture contents as high as 16 percent.

NIRT Standardization

In FY 2001, GIPSA continued cooperative efforts with groups from Canada, Australia, and several European countries to develop and evaluate a global artificial neural network (ANN) near-infrared transmittance (NIRT) calibration for wheat and barley protein. GIPSA conducted field testing to compare wheat protein values obtained using current, individual wheat class calibrations and the global all-class ANN calibration. Average differences in wheat protein determinations varied depending upon the wheat class being examined. In FY 2002, GIPSA plans to modify standardization of field instruments to reduce average differences between the two calibration approaches, and conduct a second field study to investigate sample-by-sample differences between the calibrations and better assess regional market impact of implementing the new calibration.

In FY 2001, GIPSA implemented new NIRT calibrations for corn protein and oil, and soybean protein and oil to improve agreement with chemical reference methods and better represent new corn and soybean varieties.

Standardizing Commercial Grain Inspection Equipment

In FY 2001, GIPSA participated in an on-going cooperative effort among GIPSA, NCWM Inc., and NIST to standardize commercial inspection equipment. GIPSA served as the sole evaluation laboratory for grain inspection equipment under the NCWM Inc.'s National Type Evaluation Program (NTEP). GIPSA collected grain moisture meter calibration data for six instrument models, and evaluated NTEP data using new calibration coefficients for one commercial meter to extend allowed operating temperature ranges.

In FY 2002, GIPSA will continue NTEP testing activities in support of the commercial grain moisture meter program. GIPSA will continue to provide technical support in the development of NTEP programs for near-infrared analyzers used to determine constituents other than moisture content and for commercial test weight equipment.

Moisture Measurement Methods

In FY 2001, GIPSA conducted basic grain moisture research to measure and characterize dielectric response over a 1 to 501 MHz frequency

range

for 15 major U.S. cereal grains and oilseeds. In fiscal years 1999 and 2000, GIPSA collected similar data that were used to develop a Unified

Moisture Algorithm, a single calibration that can be used for all grain types, that provides prediction accuracy equal to or better than that of individual grain calibrations available on current moisture meter designs. GIPSA collected additional data on very-low-moisture grain samples and on samples conditioned to hot and cold temperature extremes to further refine the algorithm. Moisture is used to determine the market value of every bushel of grain marketed. Improving the accuracy and consistency of moisture measures benefits all market participants. GIPSA shared results of this research with grain moisture meter manufacturers in the hopes that they may serve as the basis for a new generation of grain moisture meters. In FY 2002, GIPSA will continue to collect dielectric data and refine the Unified Moisture Algorithm, and plans to work with manufacturers to support and encourage the development of prototype meter designs that will use the new moisture algorithm.

Quality Assurance/ Quality Control and Oversight Study

At the direction of GIPSA's Grain Inspection Advisory Committee, the Agency initiated a study to assess the performance of its internal quality assurance and control processes to determine whether organizational or technological changes could improve the efficiency and cost effectiveness of the process. The study includes a thorough review of current practices, organizational structure, and technology used to ensure inspection uniformity nationwide. Dr. John Surak, Clemson University, an authority in quality systems, is conducting the study.

U.S. Standards for Sorghum

GIPSA plans to prepare a proposal to solicit comments on amending the sorghum standards to redefine damage to measure only damaged sorghum and not include other damaged grains which are considered foreign material. The proposed action would simplify the sorghum classification scheme and facilitate the marketing of U.S. sorghum.

U.S. Standards for Wheat

GIPSA is taking several actions related to the wheat standards. First, GIPSA plans to prepare an advance notice of proposed rulemaking to solicit comments and ideas on how the wheat standards could be changed to encourage the production and delivery of cleaner (lower dockage) wheat. GIPSA also plans to propose limits for garlic in wheat and changes to promote the production of Hard White wheat.

International Briefings

GIPSA personnel frequently meet with delegations visiting from other countries to brief them on the U.S. grain marketing system, our national inspection and weighing system, U.S. grain standards, and GIPSA's mission. Many of these delegations are sponsored by USDA Cooperator organizations like U.S. Wheat Associates and U.S. Grains Council, which arrange visits to grain production areas, GIPSA field offices, onsite laboratories at export grain elevators, and the Agency's Technical Center in Kansas City, Missouri. At the Technical Center, delegations sometimes receive technical training on analytical testing procedures and grain inspection methods and procedures.

Briefings are tailored to address each group's interests and concerns. Presentations include explanations of the various services available from GIPSA, the Agency's use of the latest technology to provide grain traders with accurate and reliable inspection and weighing information,

and, for importers or potential importers new to the U.S. grain market, information on contracting for the quality they desire.

These briefings foster a better understanding of the U.S. grain marketing system and the official U.S. grain standards and the national inspection system, and enhance purchasers' confidence in U.S. grain.

In FY 2001, GIPSA representatives met with 75 teams from 32 countries, as shown below. Some countries were represented on several different teams.

Summary of Briefings with Visiting Trade and Governmental Teams in Fiscal Year 2001

Algeria	Netherlands
Bosnia	New Zealand
Brazil	Nigeria
Bulgaria	Peru
China	Poland
Colombia	Russia
Egypt	Saudi Arabia
European Union	South Africa
Georgia	South Korea
Guatemala	Taiwan
Honduras	Tunisia
Indonesia	Ukraine
Italy	United Arab Emirates
Japan	United Kingdom
Madagascar	Venezuela
Mexico	Vietnam

Outreach

In FY 2001, GIPSA continued to respond to customers' needs for technical assistance overseas. Exporters, importers, and end users of U.S. grains and oilseeds, as well as other USDA agencies, USDA Cooperator organizations, and other governments, frequently ask GIPSA personnel to travel overseas to represent the Agency at grain marketing and grain grading seminars, meet with foreign governments and grain industry representatives to resolve grain quality and weight discrepancies, help other countries develop domestic grain and commodity standards and marketing infrastructures, assist importers with quality specifications, and train local inspectors in U.S. inspection methods and procedures. This year, GIPSA received 10 requests for technical assistance overseas.

Such activities typically have been funded through various programs administered by the Foreign Agricultural Service (FAS), Farm Service Agency (FSA), directly by USDA Cooperators, or by GIPSA's Office of

International Affairs. The 1995 amendment to the U.S. Grain Standards Act extended the authority to GIPSA to charge and be reimbursed for travel, salary, and related expenses when a customer requests that we provide consultative expertise. Our authority to recover costs for providing consultative services has enhanced our ability to facilitate marketing of U.S. grains, oilseeds, and related commodities.

During fiscal year 2001, we provided technical assistance to Zambia, Kenya, Tanzania, and Uganda to develop grain standards and inspection methods; conducted a weight review on a U.S. wheat shipment to the Philippines; met several times with Japanese officials to address their concerns over StarLink™ corn; participated in several international biotech conferences; and assisted USDA cooperators with rice grading seminars in Nicaragua, Costa Rica, and Guatemala, and grain quality seminars in several other countries.

Summary of Activities Involving International Travel in Fiscal Year 2001

Purpose	*Number of Travelers*	*Country Visited*	*Dates of Visit*
1. To participate in the North American Export Grain Association (NAEGA)/ APPAMEX Annual Trade Forum.	1	Mexico	10/19 - 10/22/00
2. To continue with phase II of the Joint U.S./Philippine Association of Flour Millers study to address alleged short weights.	2	Philippines	10/20 – 11/02/00
3. To represent GIPSA in intergovernmental/industry discussions to address Japan's concerns over StarLink™ corn.	1	Japan	10/24 – 10/31/00
4. To participate in a U.S. Wheat Associates trade seminar.	1	Morocco	11/08 – 11/12/00
5. To participate in the Seventh Association of Southeast Asian Nations (ASEAN) Committee on Science and Technology.	1	Philippines	11/17 – 11/22/00

Continued

Purpose	*Number of Travelers*	*Country Visited*	*Dates of Visit*
6. To participate in the European Grain Network Annual Conference.	1	Austria	12/02 – 12/06/00
7. To participate in a technical meeting on sampling strategies for detection of genetically modified material.	2	Italy	12/02 – 12/11/00
8. To meet with rice importers and participate in USA Rice Federation grading seminars.	1	Nicaragua, Costa Rica, Guatemala	12/03 – 12/09/00
9. To participate in the United States-European Union Transatlantic Economic Partnership Biotech Group meeting.	1	Belgium	12/05 – 12/08/00
10. To participate in the European Union Joint Research Centre joint workshop on methods development for detection of biotech components of food.	1	Belgium	12/09 – 12/14/00
11. To participate in intergovernmental meetings with Japanese officials to address concerns over StarLink™ corn.	2	Japan	1/23 – 1/27/01
12. To meet with Algerian authorities to discuss quality issues and inspection procedures.	1	Algeria	1/28 – 2/01/01
13. To participate in one of a series of USAID-funded international grain standards harmonization and traffic management projects.	2	Kenya, Uganda, Tanzania	2/08 – 2/24/01

Continued

Purpose	*Number of Travelers*	*Country Visited*	*Dates of Visit*
14. To participate in a team to assess grades and standards systems for various commodities at the request of Michigan State University.	1	Zambia	2/16 – 3/08/01
15. To meet with Japanese Government officials regarding StarLink™ corn, and to participate in a U.S. Grains Council marketing seminar in Korea.	1	Japan, Korea	3/13 – 3/24/01
16. To meet with rice importers to discuss quality concerns on milling degree at the request of USA Rice Federation.	1	Philippines	4/17 – 4/21/01
17. To participate in a Mexican Country Elevator Workshop at the request of U.S. Wheat Associates.	1	Mexico	4/23 - 4/25/01
18. To participate in another phase of a series of USAID-funded international grain standards harmonization and traffic management projects.	1	Kenya, Uganda, Tanzania	5/10 – 5/26/01
19. To participate in the Livestock Marketing Information Center 2001 Technical Advisory Committee Meeting.	1	Mexico	5/15 – 5/18/01
20. To participate in the U.S. Wheat Associates' South Asian Technical Conference and Buyer's Conference.	1	Thailand	6/18 – 6/29/01

Continued

Purpose	*Number of Travelers*	*Country Visited*	*Dates of Visit*
21. To give a presentation on GIPSA quality control at the request of American Soybean Association.	1	Mexico	6/18 – 6/24/01
22. To participate in the International Organization of Legal Metrology working group on international moisture meter specifications at the request of the National Institute of Standards and Technology.	1	Germany	6/19 – 6/24/01
23. To represent GIPSA as a participant in a Biotechnology Grain Trade Strategy Session.	1	Canada	6/24/ - 6/27/01
24. To participate in the Asian-Pacific Economic Cooperation – Japan International Research Center for Agricultural Science Joint Symposium and Workshop on Agricultural Biotechnology.	1	Thailand	9/02 – 9/07/01
25. To participate in a biotechnology workshop for Asian importers sponsored by U.S. Grains Council.	1	Singapore	9/02 – 9/08/01
26. To participate in the next phase of a series of USAID-funded international grain standards harmonization and traffic management projects.	1	Tanzania	9/04 – 9/14/01

Providing Official Inspection and Weighing Services

Hard White Wheat

Hard White wheat produced during the 2001 crop year in Kansas was darker in color than normally expected. The wheat exhibited the typical milling and baking traits and characteristics of Hard White wheat except for color, which was affected by the growing environment. The Hard White wheat market accepted darker-colored Hard White wheat varieties and segregated it from Hard Red Winter wheat. To facilitate the marketing of Hard White wheat, GIPSA amended the official wheat classification policy to ensure that all Hard White wheat varieties are considered Hard White wheat regardless of color. Purity of class is determined by visual analysis of individual kernels.

Promoting Efficiency

GIPSA assisted a grain firm in approving a shipping bin procedure for loading unit trains at an interior grain elevator. The shipping bin procedure for loading unit trains will permit the grain company to preinspect grain prior to the train's arrival and speed the loading of unit trains by nearly 25 percent. This will enable the shipper to better realize the financial incentives offered by the railroad for quick turnaround on unit trains. GIPSA will make this inspection option available to other rail shippers.

GIPSA initiated a study to assess the impact of bulk handling on rough rice quality. This study will enable GIPSA to design an inspection program whereby bulk rice inspected at an interior location can be identity preserved during shipment to export, reducing the amount of export inspections needed. This action will improve the efficiency of rice marketing.

Promoting Efficient Review Inspections

GIPSA plans to propose revisions to the regulations under the U.S. Grain Standards Act regarding reinspections and appeal inspections. Currently, reinspections and appeal inspections for grade must include a review of all official factors that: (1) may determine the grade; (2) are reported on the original certificate, or (3) are required to be shown. In today's market, GIPSA considers this regulatory requirement inefficient, costly, and unnecessary. GIPSA will propose allowing interested parties to specify which official factor(s) should be redetermined during the reinspection or appeal inspection service. However, to safeguard against inadvertent misgrading, official personnel may determine other factors, when deemed necessary. The proposal will be published in the *Federal Register* in FY 2002.

Railroad Track Scale Testing Program

GIPSA's railroad track scale testing program, which was implemented in 1978 as part of the USGSA-mandated equipment testing requirements, continues to grow. While our first priority remains testing grain industry railroad track scales, GIPSA also provides service to the Association of American Railroads (AAR), NIST, and railroad companies on a time-available/cost-recovery basis. The testing program now has five railroad

track scale test cars and may be expanded with an additional two cars.

Number of Certified Scales in Service at Export Elevators				
1997	1998	1999	2000	2001
253	256	258	258	250

Number of Railroad Track Scales Tested				
1997	1998	1999	2000	2001
136	155	204	186	250

StarLink™Test Services

GIPSA implemented StarLink™ test services for corn on November 15, 2000, to help the U.S. corn market properly segregate and use StarLink™ corn. Using the lateral-flow testing method, a reliable and rapid test for the presence of StarLink™, GIPSA implemented flexible testing and certification procedures allowing applicants to direct the level of detection, which GIPSA identified on the certification statement. Concurrent with the implementation of the testing procedures, GIPSA developed a protocol to facilitate the shipment of food corn to Japan to provide a practical quality assurance process to meet the Government of Japan Ministry of Health and Welfare food regulatory requirements for StarLink™ corn. The protocol provides for corn exported to Japan for food purposes to be tested for the presence of StarLink™at interior locations and its identity preserved to the export vessel.

Supporting USDA Programs and Producers Income

USDA farm programs for deficiency payments and crop insurance typically rely on the U.S. standards to determine eligibility and payment. GIPSA acted on two commodities this year--Pinkeye beans and hulless oats--to assist farmers in their eligibility requirements. GIPSA also helped develop a warehouse fumigation protocol for processed products.

GIPSA received inquiries from the industry and Risk Management Agency about the eligibility of Pinkeye beans for crop insurance. GIPSA evaluated Pinkeye bean type samples and discussed the functionality of the commodity with experts in the cowpea industry. Based on a review of this matter, GIPSA determined that Pinkeye beans are a “violeteye cowpea” which conforms to the Blackeye bean standards. As a result of this determination, producers of Pinkeye beans

are eligible for crop insurance under the USDA program.

USDA's crop insurance program does not cover hulless oats. Producers indicate crop insurance is not available because the official U.S. grain standards do not include hulless oats in the definition for oats. GIPSA prepared a proposal to amend the oat standards to address hulless oats. Until the standards are changed, GIPSA implemented inspection procedures for hulless oats so official inspections could be performed to facilitate the eligibility of hulless oats for crop insurance.

GIPSA cooperated with USDA's Farm Service Agency (FSA) to develop and implement a warehouse fumigation protocol for bagged commodities moving to export. This action was precipitated by reported live infestation of cargo at certain destinations. The protocol emphasizes preventative rather than remedial actions. Every commodity, as specified by FSA, must receive at least one treatment with a phosphine fumigant between the commodity mill and the foreign receiver. GIPSA will verify the fumigator's readings for temperature, exposure hours, and fumigant concentration level.

Wheat Protein Certification

A number of importers of U.S. wheat have requested that GIPSA optionally certify wheat protein content results on any specified moisture basis requested by applicants, in addition to certifying results on the current 12.0 percent moisture basis. In response to this request, GIPSA published a notice in the October 1, 1998, *Federal Register,* soliciting comments on a proposal to introduce flexible certification of our protein testing program, in addition to maintaining the standardization of results. GIPSA evaluated the comments and published a final notice in the November 3, 2000, *Federal Register,* to begin certifying protein content in wheat using the current 12.0 percent moisture basis and any other moisture basis requested by an applicant. This action, implemented on May 1, 2001, allows GIPSA to meet importers' needs for additional quality information.

Inspection Program Data
Fiscal Years 1999-2001

Item	Fiscal Years		
	1999	**2000**	**2001**
Quantity of Grain Produced[1] (Mmt)[2]	423.8	406.6	418.0
Quantity of Grain Officially Inspected (Mmt)			
Domestic	127.3	128.3	128.6
Export by GIPSA	85.3	84.3	78.8
by Delegated States/Official	26.1	26.1	27.2
Total	238.7	238.7	234.6
Delegated States/Official Agencies			
Delegated and Designated States	8	8	8
Designated States	7	7	7
Private Agencies	44	44	44
Total	59	59	59
State AMA Agreements	15	15	14
Number of Official Original Inspections and Reinspections			
GIPSA	126,753	119,409	111,802
Delegated States/Official Agencies	1,852,033	1,824,222	1,910,750
Total	1,978,786	1,943,161	2,022,552

(continued)

[1] Source: USDA Crop Production Reports.

[2] Million metric tons.

Item	Fiscal Years		
	1999	2000	2001
Number of Grain Inspection Appeals			
Field Offices	3,103	3,103	3,105
Board of Appeals and Review	373	254	431
Number of Commercial Inspections			
GIPSA	0	9	0
Delegated States/Official Agencies	457,288	532,232	629,802
Total	457,288	532,241	629,802
Number of Wheat Protein Inspections			
GIPSA	43,642	37,971	33,046
Delegated States/Official Agencies	460,661	462,239	436,161
Total	504,303	500,210	469,207
Number of Soybean Protein and Oil Inspections			
GIPSA	16,880	17,977	17,320
Delegated States/Official Agencies	5,723	4,023	8,706
Total	22,603	22,000	26,026
Number of Aflatoxin Inspections	62,875	62,701	61,234
Number of DON Inspections	30,855	37,865	41,134
Quantity of Rice Inspected (Mmt) (milled basis)	3.5	3.4	3.1

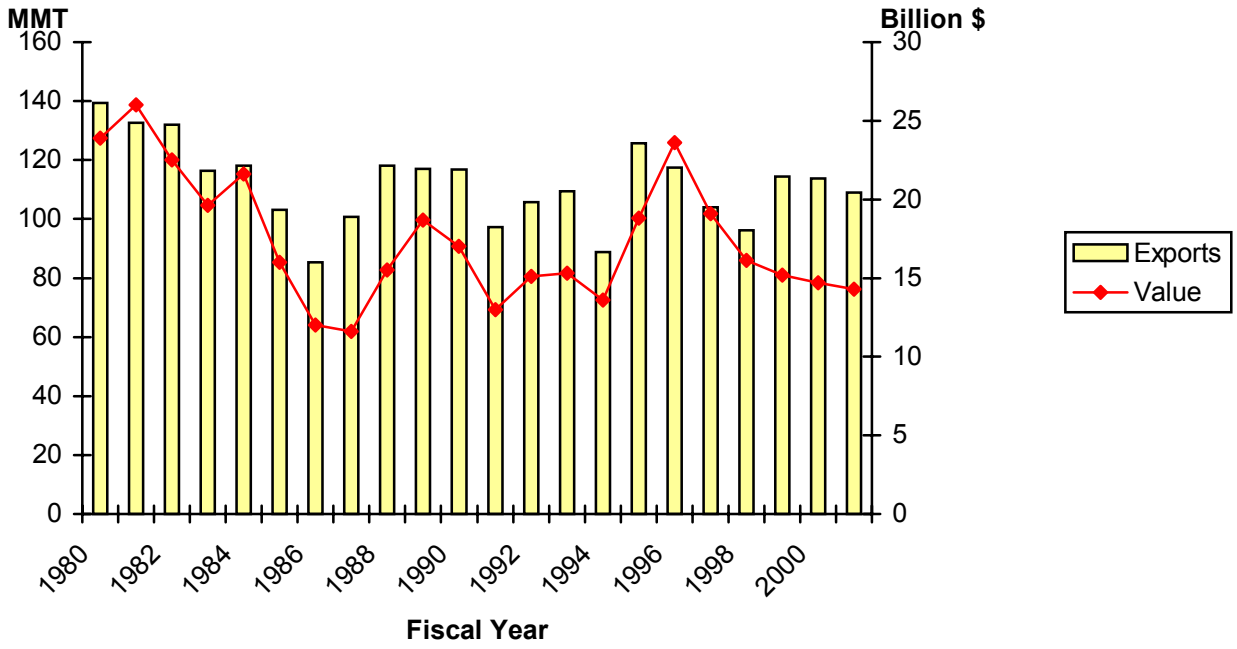
Weighing Program Data
Fiscal Years 1999-2001

Item	Fiscal Years		
	1999	2000	2001
Official Weight Certificates Issued			
GIPSA			
Class X[1]	79,967	76,689	73,420
Class Y[2]	10,612	12,666	15,916
Total	90,579	89,355	89,336
Delegated States/Official Agencies			
Class X[1]	28,032	18,973	30,971
Class Y[2]	116,130	105,353	108,794
Total	144,184	124,326	139,765
Exported Grain Weighed (Mmt)			
GIPSA	85.3	84.3	78.8
Delegated States	21.3	21.1	21.7
Total	106.5	105.4	100.5
Number of Certified Scales in Service			
Export Elevators	258	258	250
Number of Railroad Track Scales Tested	204	186	250

[1] Class X weighing involves 100 percent supervision.

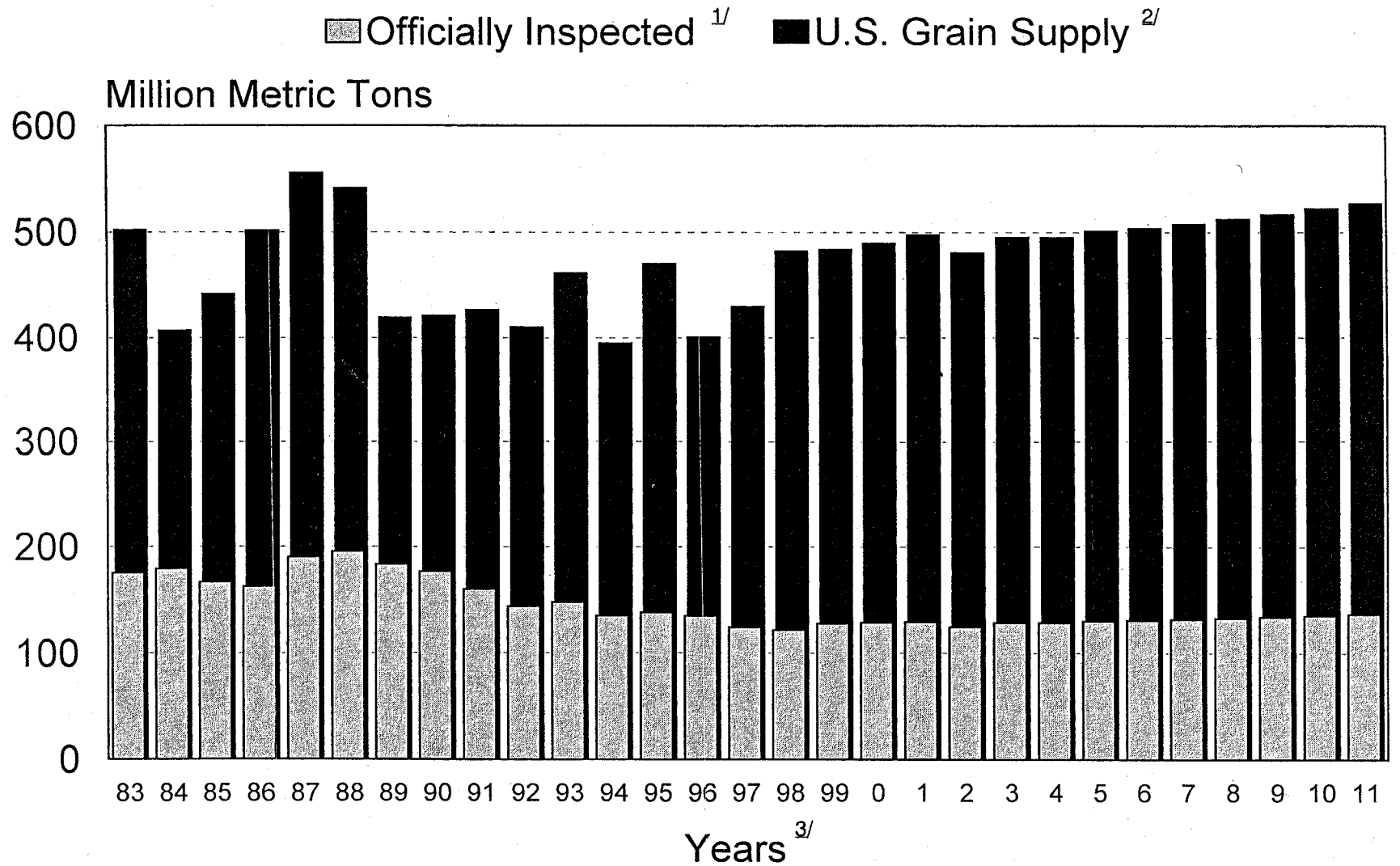
[2] Class Y weighing involves a minimum of 25 percent supervision.

U.S. Grain, Oilseed, and Rice Exports: Volume and Value



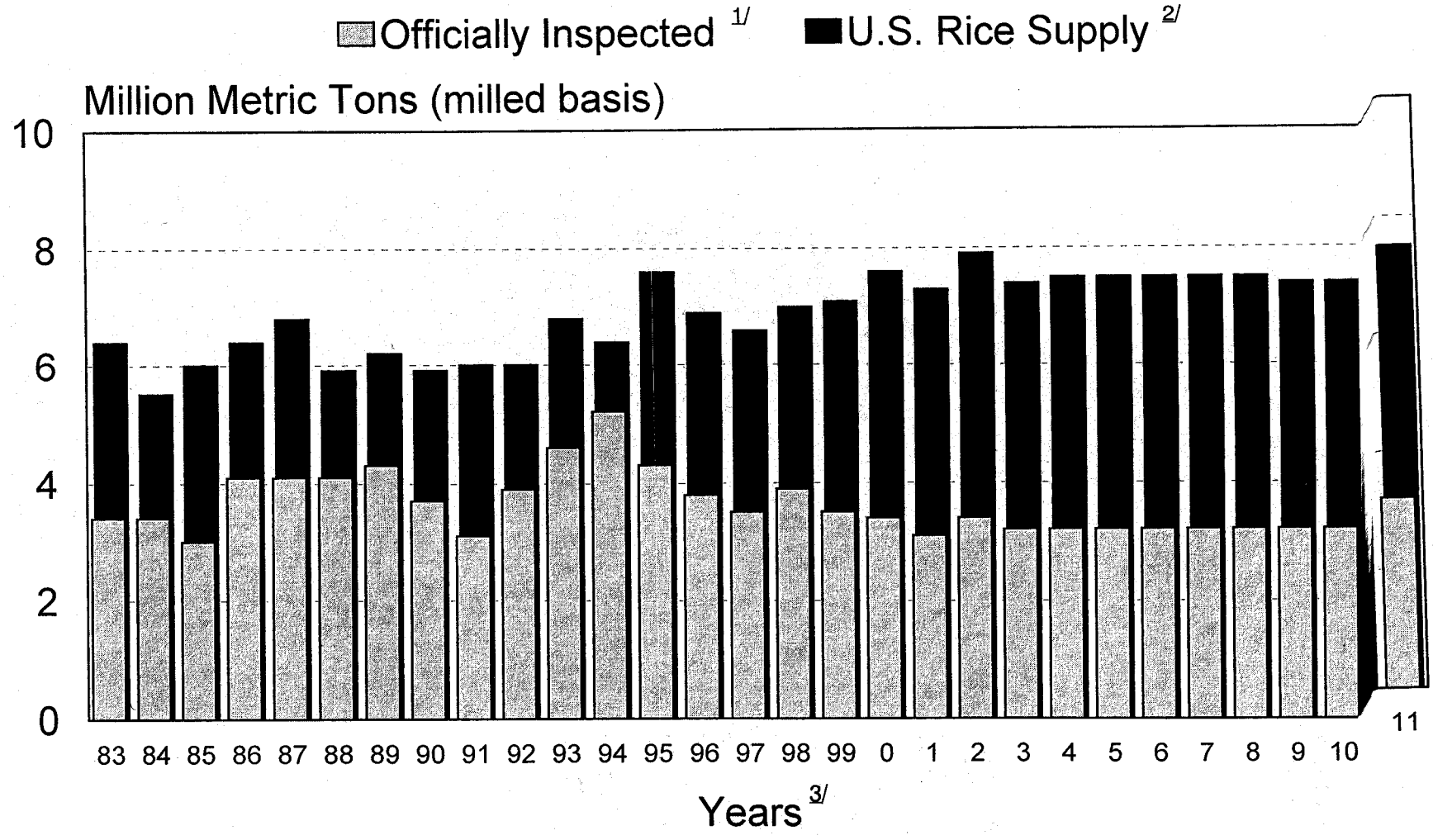
Sources: FGIS Export Grain Inspection System and the USDA Economic Research Service

U.S. DOMESTIC GRAIN INSPECTIONS



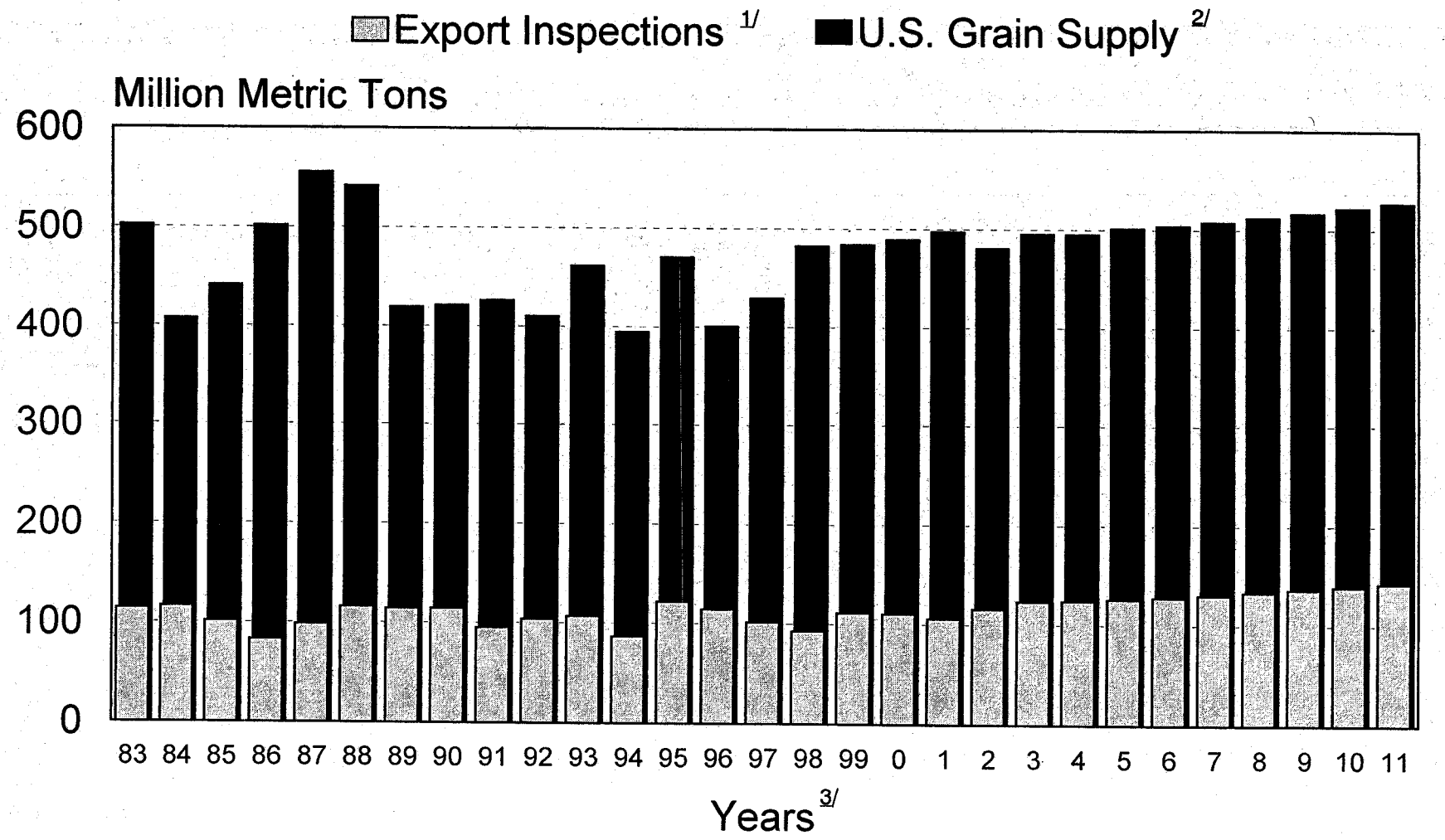
Source:
1/ FGIS, GIWIS for 1983 - 01 and 2001 inpection rate (25.9%) applied to estimated supplies for 2002 - 2011.
2/ USDA, ERS market year figures for 1983 - 99, WASDE (Oct. 12, 2001) for 2000-2002 and WAOB baseline projections for 2003 - 2011.
3/ Domestic inspections are reported by fiscal years and U.S. grain supplies are by marketing years.

U.S. RICE INSPECTIONS



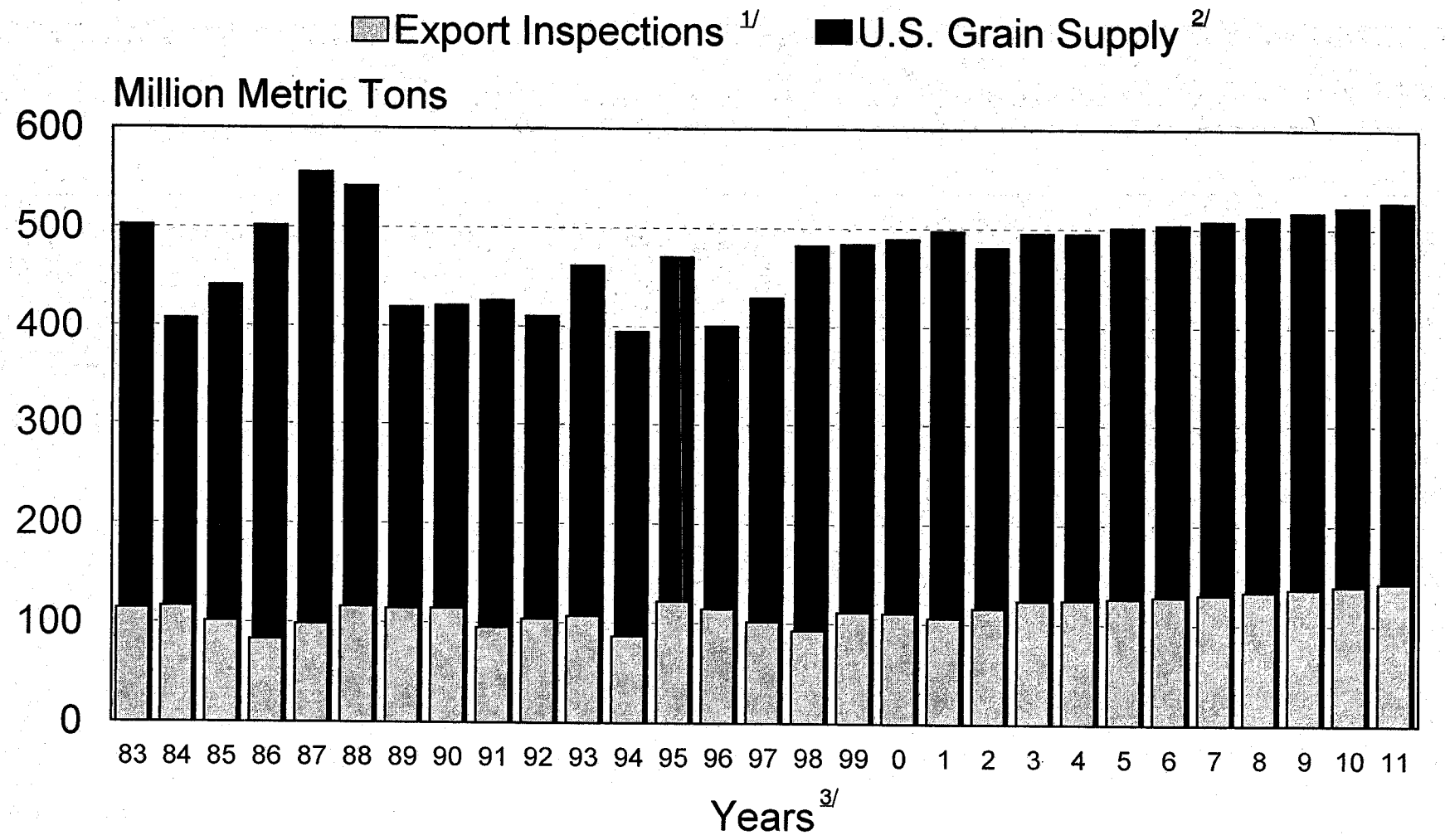
Source:
1/ FGIS, AMA Output Reports for 1983 - 01 and 2001 inspection rate (42.57%) applied to estimated supplies for 2002-2011.
2/ USDA, ERS market year figures for 1993 - 99, WASDE (Oct. 12, 2001) for 2000 - 2002, and WAOB baseline projections for 2003-2011.
3/ Inspections are reported by fiscal years and U.S. rice supplies are by marketing years.

U.S. EXPORT GRAIN INSPECTIONS



Source:
1/ FGIS, EGIS for 1983 - 01, WASDE (Oct 12, 2001) for 2002, and WAOB baseline projections for 2003- 2011.
2/ USDA, ERS market year figures for 1983 - 99, WASDE (Oct. 12, 2001) for 2000-2002, and WAOB baseline projections for 2003- 2011.
3/ Export inspections are reported by fiscal years and U.S. grain supplies are by marketing years.

U.S. EXPORT GRAIN INSPECTIONS



Source:
1/ FGIS, EGIS for 1983 - 01, WASDE (Oct 12, 2001) for 2002, and WAOB baseline projections for 2003- 2011.
2/ USDA, ERS market year figures for 1983 - 99, WASDE (Oct. 12, 2001) for 2000-2002, and WAOB baseline projections for 2003- 2011.
3/ Export inspections are reported by fiscal years and U.S. grain supplies are by marketing years.

Protecting Integrity

Compliance Reviews

Compliance reviews are independent third-party reviews of GIPSA's grain inspection field operations, which includes grain inspection field offices and suboffices, and States and private agencies (official agencies). During FY 2001, GIPSA conducted compliance reviews of 3 GIPSA field offices and 4 suboffices, as well as 21 official agencies. Teams of reviewers evaluated customer satisfaction (including potential service delivery discrimination), management effectiveness and efficiency, and procedural compliance. During the reviews, GIPSA found no instances of service delivery discrimination. All of the noncompliance items identified within the national inspection and weighing system were subsequently corrected. None of the findings appear to have affected the overall integrity of GIPSA's mission or programs, or the national inspection system. Overall, field offices, suboffices, and official agencies are performing satisfactorily.

Delegation and Designation Programs

There are 59 official agencies designated under the U.S. Grain Standards Act, as amended, to provide permissive official inspection and/or weighing

services at domestic locations. Of these, eight are States that also are delegated to provide mandatory official inspection and weighing services at export locations. Delegations are permanent unless GIPSA or the State decides to terminate the agreement.

Under the triennial renewal process, 20 official agency designations automatically terminated in FY 2001. GIPSA renewed all 20 for full 3-year terms after reviewing their performance.

Conflicts of Interest

No official agency designations were cancelled this year. At the beginning

of FY 2001, three designated official agencies were operating with discretionary conflict-of-interest waivers. All three agencies remain designated with conflict waivers.

Drug-Free Workplace

As each designated official agency becomes eligible for designation renewal, it must certify to GIPSA that it provides a drug-free workplace. Each of the 20 agencies renewed in FY 2001 provided this certification.

Pilot/Exception Programs

At the beginning of FY 2001, GIPSA continued operation of three pilot programs to provide the Agency with information on the effect of allowing more than one designated official agency to inspect or weigh grain in a single geographic area. On November 9, 2000, these programs were incorporated into the U.S. Grain Standards Act as exceptions. GIPSA is in the process of proposing a rule to amend the regulations under the Act to include these exceptions.

The first exception program addresses improving timeliness of service provided by official agencies to applicants for official services. The

program allows official agencies to provide service to facilities located outside of their assigned geographic area on a case-by-case basis when official service cannot be provided within established timeframes. During FY 2001, there were no reports of the timely service exception being used.

The second exception program allows an "open season" during which official agencies can offer their services to facilities outside their assigned area if no official service has been provided to those facilities during the previous 3 months. During FY 2001, 92 facilities received 29,705 inspections under this program. This included 570 for barges, 29,083 for railcars, and 52 other inspections (trucks, containers, etc.).

The third exception program allows customers shipping grain in barges to select any official agency to probe-sample and inspect the grain. During FY 2001, 3 facilities received 32 barge inspections under this program.

Alleged Violations

At the beginning of FY 2001, 15 cases involving alleged violations of the USGSA and the AMA were pending further action. During FY 2001, GIPSA opened 6 cases involving the following alleged violations: false weighing, deceptive loading and grain handling practices, exporting without official inspection and weights, issuing false official certificates, performing official duties improperly, and employee misconduct. The Agency closed 15 cases during FY 2001, leaving 6 cases pending.

GIPSA took administrative action in 10 of the 15 cases closed during FY 2001. These included informational letters to 3 firms and 1 official agency, warning letters to 4 firms, and civil monetary penalties against 2 firms. The other 5 cases were closed due to insufficient evidence to prove a violation occurred.

Also during FY 2001, USDA's Office of the Inspector General and the Justice Department continued to pursue criminal action in an investigation involving false certification and weights of grain. The Grand Jury issued indictments to several individuals involved in this matter on various felony counts. In addition, one other subject entered a Pretrial Diversion Agreement with the U.S. attorney. The case remains open in the courts.

Registration

During calendar year 2001, GIPSA issued 76 certificates of registration to

individuals and firms involved in foreign commerce grain business.

Improved Licensing Program

GIPSA revised procedures to improve the processes for licensing official inspectors while maintaining the integrity of the inspection and weighing programs. The revised procedures streamline the licensing process; add flexibility in the use of official agency staff; and implement a testing program to better evaluate the knowledge, skills, and abilities of licensed personnel. The revised procedures were developed with input and feedback both from field office and official agency managers.

Complaints

USDA administers a formal grain quality and weight discrepancy process under the regulations of the Foreign Agricultural Service (FAS). If an importer of U.S. grains files a complaint under this process, GIPSA analyzes samples retained on file from the original inspection and samples submitted from destination (if the buyer chooses to submit them) to evaluate whether the discrepancy was due to differences in samples, procedures, or an actual change in quality from the time of the original inspection.

The process verifies whether the original inspection and weighing service provided at the time of loading was correct, based on all available information. Once GIPSA identifies the source of the discrepancy, the Agency issues a report outlining its findings and providing suggestions to avoid similar discrepancies in the future.

Occasionally, a particular buyer or importing country reports repeated discrepancies which cannot be resolved by a shipment-by-shipment review under this process. In such cases, GIPSA may conduct collaborative sample studies or joint monitoring activities to address the discrepancy in a more comprehensive manner.

In FY 2001, GIPSA received 15 quality and no quantity complaints from importers on grains inspected under the U.S. Grain Standards Act. These complaints involved 494,267 metric tons, or about 0.5 percent by weight, of the total amount of grain exported during the year. This compares to 13 quality and 0 quantity complaints received in FY 2000, representing about 0.3 percent of grain exports by weight.

Summary of Complaints Reported by Importers on Inspection and Weighing Fiscal Year 2001

Complainant	*Grain*	*Number of Complaints*	*Nature of Complaint*
Africa and Middle East			
Egypt	Soybeans	1	Foreign material, damaged kernels
	Wheat	1	Infestation
Mozambique	Wheat	1	Wheat of other classes
	Wheat	1	Heat-damaged kernels
Nigeria	Wheat	1	Foreign material, dockage, shrunken and broken kernels, total defects
	Wheat	1	Wheat of other classes, contrasting classes, protein
Asia			
China	Soybeans	1	Wet
	Wheat	1	Protein
Indonesia	Corn	1	Broken corn and foreign material
Philippines	Wheat	1	Infestation
Sri Lanka	Wheat	1	Dockage
	Wheat	1	Infestation
Europe			
Italy	Wheat	1	Short weight
Latin America			
Ecuador	Wheat	1	Total defects
Mexico	Soybeans	1	Heat-damaged kernels
	Wheat	1	Infestation
Nicaragua	Wheat	1	Dockage, foreign material, protein
Peru	Corn	1	Previous cargo
Venezuela	Corn	1	Heat-damaged kernels, damaged kernels, broken corn and foreign material
TOTAL		**19**	