

**SUMMARY OF MEETING
GRAIN INSPECTION, PACKERS AND STOCKYARDS
ADMINISTRATION
GRAIN INSPECTION ADVISORY COMMITTEE**

*Iberville Suites
New Orleans, Louisiana
October 23-24, 2002*

OPENING REMARKS

Donna Reifschneider

Ms. Donna Reifschneider, Administrator, Grain Inspection, Packers and Stockyards Administration (GIPSA), opened the meeting stating that she was pleased to welcome the members, guests, and GIPSA staff; and having served as Administrator for 5 months, she is more knowledgeable about the Agency's issues and concerns.

MEETING ATTENDEES

Committee Members

Tim Adams, Memphis Grain Inspection Service
David Ayers, Champaign Danville Grain Inspection
Gillan Alexander, Producer in Bogue, Kansas
Rod Bradshaw, Producer in Jetmore, Kansas (absent)
Randy Cartmill, Columbia Grain, Inc. (absent)
Lynn Clarkson, Clarkson Grain Company (sitting in for Randy Cartmill)
Lisa Curran, General Mills, Inc. (absent)
Warren Duffy, Jr., ADM/Growmark
Dr. Lowell Hill, University of Illinois
Paul Lautenschlager, Hi-Line Grain Co. LLC
Tim Paurus, Chairperson, Cenex Harvest States
Mark Scholl, ExSeed Genetics, LLC
Mary Schuler, Schuler Lands, Inc.
Jon Setterdahl, Farmers Cooperative (sitting in for David Swinford)
Robert Smigelski, The Andersons, Inc.
Dennis Strayer, Private Consultant
David Swinford, Dumas Co-op Elevators (absent)
Ernest Potter, May, Cocagne & King, P.C. CPAs (sitting in for Rod Bradshaw)

GIPSA

John Giler, Policies & Procedures Branch, Field Management Division
Gregory Hawkins, Public & Congressional Relations Staff
Rosemary Mayne, Training Staff
David Orr, Field Management Division
Marianne Plaus, Market Analysis & Standards Branch, Field Management Division
Richard Pierce, Inspection Systems Engineering Branch, Technical Services Division
Neil Porter, Compliance Division
Donna Reifschneider, Administrator, GIPSA
John Sharpe, Data & Information Analysis Branch, Field Management Division
David Shipman, Office of the Deputy Administrator, FGIS
Steve Tanner, Technical Services Division
John Shropshire, New Orleans Field Office
Kerry Petit, New Orleans Field Office
Graig Watts, President, AFGE National Council of Federal Grain Inspection Locals
Sarah Welch-Hill, Secretary, AFGE National Council of Federal Grain Inspection Locals

Official Agencies

Leslie Adams, North Dakota Grain Inspection Service, Inc.
Steve Adams, North Dakota Grain Inspection Service, Inc.

ACCEPTANCE OF MEETING MINUTES FROM MAY 15-16, 2002

The Committee approved the meeting minutes from May 15-16, 2002, as written.

REVIEW AND ACCEPTANCE OF AGENDA

The Committee approved the agenda (attached) with one change: Richard Pierce would be presenting "Current Research" instead of Steven Tanner.

FINANCIAL REVIEW

David Shipman

Mr. David Shipman, Deputy Administrator, GIPSA, Federal Grain Inspection Service (FGIS) program, presented a current financial status review. The status of funds overall is better than the dire expectations last reported.

At present, USDA is operating under a Continuing Resolution. The FY 2003 budget will have an increase of funding for information technology (IT) security as FGIS looks to develop a web-based system. Also, Missouri, Illinois, and Iowa corn growers want to put a program together regarding value-enhanced products. Congress added \$500,000 to our appropriation bill but gave no language on the use of that money yet.

USER FEES

David Orr

Mr. David Orr, Director, FGIS Field Management Division (FMD), presented information on the proposed fee increase to the Official Inspection and Weighing account and the Rice account. This increase will cover the projected cost-of-living increase expected in January 2003. He also informed the committee that the cost allocation process discussed at previous meetings had been implemented for the 2003 fiscal year. Mr. Orr also informed the committee that the new fee schedule that covers the Official Inspection and Weighing account is now being compiled and should be in the proposal stage later this winter.

FGIS PROGRAM PLANS

David Shipman

Mr. Shipman briefed the Committee on FGIS' activities, including those related to the long-term plans presented in his May 2002 presentation, "A Look to the Future".

He outlined FGIS' core business practices as establishing grades and standards; developing analytical methods; and providing for the official inspection system, which is a network of Federal, State, and private laboratories that provides mandatory export and voluntary domestic inspection services.

Mr. Shipman reported on current activities in the areas of standards and methods to include:

- • the wheat standards review for measurement of end-use functionality and the structure of the grading standards,
- • the corn standards review with an eye on the impact of future intrinsic traits tailored for specific end uses,
- • the soybean standards review for foreign material and test weight, and
- • the 1-year pilot project to use Artificial Neural Network (ANN) technology to test barley protein.

Following up on his May 2002 presentation "A Look to the Future," Mr. Shipman reported on several key initiatives:

- FFIS (Foundation Financial Information System) came online October 1, 2002, after 18 months of planning and development.
- An agency team was established and has completed its initial evaluation of the Central Monitoring Laboratory concept.
- GIPSA is reviewing and is revising inspection policies and procedures with the goal of balancing flexibility and consistency.
- Digital imaging development continues.
- Concept development for contracting non-export activities at export locations is underway.
- A new equipment approval policy concept is under review.
- A new team is developing plans for moving the inspection system to a web-based environment. In addition, a contractor was hired to develop an Enterprise Architecture plan (January 2003) and an Application Development Plan (March 2003). FGIS anticipates deploying the initial phases of a web-based system in FY 2004. As currently envisioned, the web-based inspection system would be agxml compatible and would include policies and procedures, work records, certification, equipment testing, licensing, data transfer to customers, and QA/QC functions.

ARTIFICIAL NEURAL NETWORK PILOT PROGRAM

John Giler

Mr. John Giler, Chief, Policies and Procedures Branch, FMD, provided an update on the status of the study on the Artificial Neural Network (ANN) evaluation. ANN calibration for wheat protein analysis using NIR technology has been a topic of discussion for several years at the Grain Advisory Committee meetings. The Advisory Committee passed a resolution at the May 2002 meeting directing GIPSA to further evaluate the ANN calibration system to better understand the benefits and consequences of the change to the official inspection system and to the U.S. grain industry.

Information was presented regarding the sample collection process and the analysis that will be completed as part of the first stage of the project. Wheat protein result data from this sample collection process will be used later to assess the impact on the market value of wheat. The study will begin in November 2002 and the evaluation is scheduled for completion by August 2003. Results of this study will be reported to the Grain Inspection Advisory Committee for their input.

FUTURE INSPECTION EQUIPMENT ALTERNATIVES

Steven Tanner

Mr. Steven Tanner, Director, Technical Services Division, provided information about grain inspection equipment alternatives that could be implemented in the official inspection system. He presented the current policy of the Agency and the history of the U.S. Grain Standards Act as it relates to equipment approval and information on the current design requirements and calibrations.

Currently, GIPSA has several models of grain inspection equipment where multiple manufacturers have approval. For example, the official test weight device is manufactured by at least three different companies which all have been approved by GIPSA. In this same category are devices such as mycotoxin test kits, biotech test kits, sampling equipment, grading lights, scales, and others. Mr. Tanner explained that the rationale behind this policy is that multiple model approvals do not degrade the inherent variability associated with the analysis.

Single model approvals include moisture meters, near infrared transmittance equipment, and dockage testers. The rationale for this is that single model approvals do not degrade the inherent variability associated with the analysis, while multiple model approvals could establish more variability in analytical results for official inspection.

Mr. Tanner stated that in order to provide the grain industry with more flexibility in choosing instruments, in competitive prices, and in facilitating creativity in instrument design and features, that multiple model approval would be desirable over the current single model. He qualified this by stating that there would be more variability in official inspection, but the industry and GIPSA must decide whether it can live with the increased variability.

In offering alternatives to consider for a new policy, Mr. Tanner stated that GIPSA most likely would maintain its current policy for export inspection and would consider alternatives for the domestic inspection points. This would be more harmonized with the National Type Evaluation Program as administered by the National Conference on Weights and Measures with the various States.

PROCESS VERIFICATION

John Sharpe

Mr. John Sharpe, Chief, Data and Information Analysis Branch, FMD, outlined the proposed process verification program in light of GIPSA's mission—to facilitate the marketing of grains, oilseeds, and related agricultural commodities. Traditionally, GIPSA accomplished its mission by offering various grain inspection services and by establishing official grading standards. Today, these services and standards still play important roles in grain marketing but do not adequately address emerging practices used to market U.S. grain. In response to changing consumer demands, the market is adopting a variety of new marketing mechanisms, such as process verification, to augment traditional marketing approaches.

GIPSA is assessing how it can add value in this evolving marketplace by augmenting, not supplanting, existing market mechanisms. GIPSA published an Advance Notice of Proposed Rulemaking (ANPR) in the *Federal Register* on November 20, 2000, seeking public comment on the Agency's and the Department's roles in facilitating the marketing of grains, oilseeds, fruits, vegetables, and nuts. Respondents told us that the Government can best serve the market: (1) by continuing existing programs to standardize testing methodology and component testing; and (2) by building on the success of its process verification programs for fruits, vegetables, and livestock by developing similar programs for grains, oilseeds, and related agricultural commodities.

GIPSA is therefore developing a Process Verification Program to complement those programs currently administered by USDA's Agricultural Marketing Service. GIPSA's program will provide process verification services for all products assigned to the Agency for inspection. The program will be fee supported by those requesting it. Fees will be established to recover the costs of plan review and audits.

The program will be based on ISO 9001–2000, requirements, which provide an internationally recognized set of quality standards. These are quality management requirements—not product specifications. GIPSA's role in process verification will be that of a third-party auditor. Therefore, GIPSA will not assist in the development or refinement of processes to be verified. GIPSA will add integrity to the program by requiring that all lead auditors be certified as such by the American Society of Quality (ASQ). ASQ is a professional society devoted to all aspects of quality assurance, quality control, and management techniques and theory.

The program will not seek to compete with, or duplicate, programs already existing in the private sector. Rather, it is intended to complement those programs by offering an independent, internationally respected source of verification. It will be flexible enough to incorporate, where appropriate, already existing standards and procedures such as those developed by the private organizations. At the same time, the program will have sufficient safeguards to ensure the integrity of its results.

GIPSA's Process Verification Program will include the following components:

- Applicants for certification will provide GIPSA with a written plan addressing GIPSA's quality management requirements for the process to be verified and a copy of their most recent internal audit report.
- • GIPSA will approve the plan by reviewing the document and by conducting on-site process audits.
- • Applicants will be granted the ability to market the product with the USDA Process Verified designation.
- • GIPSA will perform unannounced surveillance audits to verify adherence to the plan.
- • GIPSA will post the applicants' names and processes on a public list of verified processes.

The initial response from the public has been favorable, as it was with the ANPR.

GIPSA plans to announce its intention to provide Process Verification Service in the *Federal Register* as a proposed rule. The Office of General Council is reviewing the proposed rule, and the work plan is awaiting Office of Management and Budget approval.

CENTRAL MONITORING LABORATORY

Neil Porter

Mr. Neil Porter, Director, Compliance Division, shared the recommendations of a team whose task was to identify the functions that could be performed by a Central Monitoring Laboratory. This team envisioned the components of the future quality system to include FMD's quality control staff, resident agents, official agencies, field offices, the customer, and the Central Monitoring Laboratory. Under this system, the Board of Appeals and Review would become a reference laboratory, and a web-based system would need to be functioning to support this system. The team also considered the potential workload of the laboratory and required staffing. The next step in the project analysis is the cost component. The integrity and quality of service plus efficiency must be realized.

LEGALITY OF ADDING MOISTURE TO GRAIN TO INCREASE WEIGHT

Neil Porter

Neil Porter, Director, Compliance Division, discussed the issue regarding adding moisture to grain to increase weight. Mr. Porter noted that this issue was added to the agenda at the request of Bob Smigelski. Bob was being asked if it was legal to add moisture to grain by using aeration and an automatic fan to recondition the grain. This was prompted by the recent publication of a study completed in 1997 by Purdue University. Bob wanted to determine what the Agency's position was on this issue. After much discussion, GIPSA determined that it was going to collect more information and enter into more discussion with FDA before we published our position on this issue.

WHEAT END-USE FUNCTIONALITY RESEARCH

Richard Pierce

Dr. Richard Pierce, Chief, Inspections Systems Engineering, TSD, provided an update on research investigating the use of NIR technology for rapid prediction of wheat end-use functional properties. Initial effort has been directed toward predicting Farinograph dough strength results for Hard Red Spring (HRS) wheat. Three HRS wheat sample sets have been analyzed—one representing export samples, one representing market samples with a wide range of protein levels, and one consisting of pure variety samples grown at seven Experiment Station locations in North Dakota. Test results were presented showing that calibrations can be developed for a specific sample set that provide R-squared values approaching 0.7 when predicting Farinograph tolerance. However, none of these models developed using a single sample set successfully predict Farinograph tolerance for either of the other two sample sets. This lack of model transferability appears to result partly from overfitting the data and partly from relying on secondary correlations that are probably sample-set specific. GIPSA plans to investigate sources of secondary correlation and to explore the development of NIR calibrations using only selected wavelengths.

Dr. Pierce also reported on a joint GIPSA/ARS research project to identify and to develop rapid tests to predict wheat end-use traits and functionality. Preliminary tests will be conducted on 100 HRS and 100 HRW wheat samples. Quality attributes will be measured using a wide variety of laboratory tests. Laboratory test data will be analyzed to identify the correlation between wheat attributes and end-use quality traits, to determine correlation between combinations of wheat attributes and end-use quality traits, and to develop NIR prediction calibrations. This project will provide a research base from which efforts can be expanded to include other wheat classes and additional rapid test technologies.

Marianne Plaus

Ms. Marianne Plaus, Chief, Market Analysis and Standards Branch (MASB), FMD, presented an approach that GIPSA is taking to further research on wheat end-use functionality. GIPSA will sponsor a meeting in late April 2003 in Kansas City, Missouri, devoted entirely to wheat quality. The meeting will be a professionally facilitated idea generation session attended by leading cereal chemists, other researchers, and key GIPSA staff. The ultimate goal of the meeting is to develop a prioritized list of research objectives that GIPSA or other entities could either pursue directly or through a process of awarding extramural funding to research entities at ARS laboratories; universities; or private, non-profit organizations. During the intensive 1.5 day session, the facilitator will lead the participants through the generation of responses to the following three questions:

1. 1. *Where are we currently?* What is the current state of predictive technology? What is currently in development?
2. 2. *Where do we want to go?* What technologies do we want to pursue?
3. 3. *How can we get there?* What will it take to get the research done, and who is capable of performing it?

Upon successfully answering these three questions, the facilitator will guide the group in generating a prioritized list of research objectives. Pat McCluskey, MASB-FMD, and Don Kendall, Biotechnology Branch, TSD, the co-coordinators of the meeting, would like to present the research objectives to, and explore potential next steps with, the Committee at its Spring 2003 meeting.

THE U.S. STANDARDS FOR GRAIN: A NEW FRAMEWORK FOR REVIEW

Marianne Plaus

Ms. Marianne Plaus, Chief, MASB, FMD, presented a new framework for reviewing the grain standards. The framework builds on the strengths of past approaches and is broad enough to apply to any grading standard. The six basic steps include:

1. In-house research
2. Seek outside expertise
3. Develop strategy based on identified market needs and gaps
4. Build consensus and announce strategy for meeting market needs and filling gaps
5. Analyze feedback and decide on actual revisions
6. Announce and implement revisions

MASB-FMD, will follow this approach in reviewing the corn, soybean, and wheat standards over the next 2 years. For both corn and soybeans, MASB is currently seeking outside expertise on the appropriateness of the current standards and ideas for changing the standards. In this regard, Ms. Plaus circulated a paper on the corn feed sector to the members of the Committee and is seeking feedback on the paper, and, perhaps more importantly, recommendations of industry representatives with whom MASB should speak. MASB will prepare a similar background paper on the soybean sector that it will circulate to Committee members prior to the Spring 2003 meeting. With regard to wheat, Pat McCluskey, MASB-FMD, and Don Kendall, Biotechnology Branch, TSD, will co-ordinate a meeting of wheat chemists and researchers to help develop a prioritized list of wheat research needs. The meeting will take place in late April 2003 in Kansas City, Missouri.

INSPECTION PROCEDURAL CHANGES

John Giler

John Giler, Chief, Policies and Procedures Branch, FMD, presented information to the Advisory Committee regarding recent and future procedural changes. Mr. Giler's presentation emphasized that changes are made to minimize costs to the official inspection system and our customers and to improve the efficiency of our services and add value to the market. Also, changes need to assure the integrity of the certificate. Recent changes discussed included:

- • the laboratory scale policy;
- • the rough rice identity-preserved (IP) program; and
- • the development of inspection procedures for cracked corn, crambe seed, and millet seed.

Planned changes included a discussion of:

- • the reinspection regulations proposal;
- • the development of an IP program for export grain;
- • evaluating how to empower inspectors to allow more flexibility in the inspection system;
- • a status report on the automated sampling and inspection system;
- • the development of shipping bin guidelines for domestic loading of unit trains; and
- • a regulatory change to permit the certification of grain origin, crop year, and variety.

BIOTECHNOLOGY PROGRAM UPDATE

Steven Tanner

Mr. Steven Tanner, Director, Technical Services Division, presented an update on GIPSA's biotechnology programs. He pointed out that this presentation covered areas of technical interest to its customers. Other policy, labeling, and related issues and concerns were not part of this discussion.

Mr. Tanner noted that most of the soybeans and cotton grown in the United States (over 70%) were biotechnology derived. Corn was a little more than 30% but had an upward trend.

Mr. Tanner followed with information updates on GIPSA's test kit verification program, the biotech proficiency program, and methods development activities. Test kit verifications have slowed. The majority of test kits approved were for the identification of StarLink corn. StarLink testing continues in the United States but has decreased significantly due to the lowering frequency of positive identifications.

The biotech proficiency program has increased activity significantly to well over 50 laboratories participating worldwide and had a significant impact on grain industry consultants and suppliers of analytical services. Most major grain testing laboratories throughout the United States submit to this proficiency program to establish their credibility as a provider of biotech analytical services. Information on the proficiency program, including information on the performance of individual laboratories, can be found on the GIPSA website.

Mr. Tanner stated that GIPSA was working collaboratively with the National Institute of Standards and Technology in evaluating DNA extraction techniques and optimization of real time PCR. Mr. Tanner also stated that GIPSA continues to have a good working relationship with the life science organizations that produce biotech plant materials. This relationship assists GIPSA in staying ahead of the curve to prepare for the release of new biotech grains into the commercial market.

APPRECIATION OF OUT-GOING MEMBERS

This was the final Advisory Committee Meeting for five members: Gillan Alexander, Randy Cartmill, Warren Duffy, Lowell Hill, and Paul Lautenschlager. Administrator Donna Reifschneider thanked the members for their contributions to the Committee and to GIPSA, and she presented those present with a certificate of appreciation.

OPEN DISCUSSION

General Comments. David Ayers stated that the efforts of GIPSA personnel are greatly appreciated; Lowell Hill seconded the appreciation. The group unanimously concurred. Dennis Strayer questioned how many committee members follow up on issues and provide input to GIPSA.

David Shipman recapped his understanding of Committee positions to be:

- a) a) GIPSA should continue to pursue corn standards and anticipate future market needs;
- b) b) A positive response to process verification as a tool to assist the market and potentially provide new business for GIPSA; and
- c) c) A positive response to a web-based system that better serves the customer. (A report from the contractor will be an item on the next Advisory Committee Meeting's agenda.)

Adding Moisture to Grain. The question of authority and responsibilities on the addition of moisture to grain was discussed. Neil Porter stated that GIPSA has the authority to provide exemptions when the grain is sent to a domestic end-user or processor.

Grain Standards. The committee members engaged in considerable discussion about the relevancy of the Official U.S. Standards for Grain in today's evolving market. While the standards continue to serve as the basis for transactions in the bulk commodity market, they may not suit the needs of the emerging value-enhanced commodity market or super commodity markets (e.g., poultry feed sector). Some of the ideas raised during the discussion were as follows:

- Contracts between buyers and sellers often require tests/factor information that are not currently provided for in the official standards/procedures. Committee members expressed uncertainty as to whether providing more information within the standards and procedures would provide greater transparency within the market or would somehow impose greater costs or restrictions on the grain market.
 - Jon Setterdahl said grain standards should not dictate trade standards, and grain standards should not be overhauled. Rather, GIPSA could better serve the market by identifying and standardizing testing for intrinsic characteristics (i.e., oil, protein, etc.).
 - Tim Paurus stated producers wish for traits to be graded in order to sell.
 - Ernest Potter asked what bottom line added value there is to adding traits to a standard?

- Dennis Strayer suggested that perhaps our No. 1 standard is not high enough and we need a premium grade above it to encourage quality improvement. He also indicated that adding special grades to provide more information for the poultry, swine, and beef sectors is not necessary because the contracts identify the desired traits.
- Lowell Hill questioned whether GIPSA, when reviewing the corn standards, would consider changes in current factors as well as new ideas for restructuring the standards to meet the future needs of the market. Marianne Plaus said her staff would review the current corn standards, in their entirety, and would also consider ideas for new factors as needed to facilitate marketing.
- Lowell Hill raised another area for GIPSA consideration. From Dr. Hill's perspective, if we start with the assumption that the primary objective of grades is to provide economically important information, then one might ask, "which attributes should be included in the standards, and should they be grade determining, non-grade determining, or official criteria?" Dr. Hill recommends that GIPSA, prior to amending any of the standards, develop and publish the criteria on which it will make this decision.

Equipment Policies. An equipment policy discussion resulted in determining that multiple-use equipment that maintains high quality should be the focus for the future. Tim Paurus said that a consistent grade between the producer and the elevator is most important, followed by cost and efficiency. He feels that the goal should be one instrument that can do multiple tasks quickly.

Warren Duffy said variability could allow someone to buy on a machine that reads high and sell on a machine that reads low. David Ayers said variability in machines (multiple models measuring the same attribute) should not be allowed because it would be too difficult to monitor, and the Official Commercial Inspection Service (OCIS) already allows the use of varied equipment. He supported one instrument for official inspection.

A discussion of the choice of the GAC 2100 followed. Steve Tanner noted that a benefit of equipment variability (multiple models measuring the same attribute) is the incentive for manufacturers to be creative. Bob Smigelski said he does not want to reduce accuracy and consistency to make options available. He suggested that FGIS review choices and automate the procedure for test weight to ensure high consistency. He said we should stay with one manufacturer until we can get two who produce the same result consistently. Tim Adams suggested that multiple models of equipment for use in the OCIS market be approved.

Warren Duffy said that information, not necessarily standards, is important. He said FGIS' future should be to offer quick, accurate field-testing with which the industry is comfortable. Steve Tanner replied that consistency is important and asked how much variability is acceptable. Warren Duffy responded that grain handlers always will mimic

the Government system. Tim Paurus said the variability question cannot be answered because the breakpoints for selling—for making an order—are important.

ISO and Process Verification. Steve Tanner said that five of GIPSA's reference laboratories are ISO certified. The initial cost was \$80,000 - \$120,000, followed by ongoing audit costs and staff time costs. He said that going through the process resulted in the laboratories to think about and document procedures and it resulted in some changes in practices. Dennis Strayer noted that recognition by outside entities is important to process verification and ISO can provide that. He also stated that the clause numbers in process verification material should match ISO 9001-2000. Tim Paurus noted his lone dissent to process verification as proposed by GIPSA.

RESOLUTIONS

The Advisory Committee made no resolutions.

NEXT MEETING

The Committee agreed to hold the next Grain Inspection Advisory Committee meeting in Portland, Oregon, in May 2003.