

# Grain Inspection Advisory Committee November 4-5, 2003

## **SUMMARY OF MEETING Embassy Suites Kansas City, Missouri**

### Contents

WELCOME .....	2
ACCEPTANCE OF MEETING MINUTES FROM JUNE 3-4, 2003 .....	2
REVIEW AND ACCEPTANCE OF AGENDA FOR NOVEMBER 4-5, 2003, MEETING .....	2
OPENING REMARKS .....	2
MEETING ATTENDEES .....	3
GIPSA FINANCIAL REPORT .....	4
GRAIN END-USE FUNCTIONALITY .....	6
QUANTITATIVE BIOTECH TESTING .....	8
GENERAL UPDATES.....	9
STANDARDS UPDATE .....	11
INSPECTION PROCEDURES UPDATE .....	12
ARTIFICIAL NEURAL NETWORK (ANN) UPDATE .....	13
WEB-INSPECTION SYSTEM PROJECT.....	14
OPEN DISCUSSION.....	15
RESOLUTIONS.....	18
NEXT MEETING.....	19
OUTGOING MEMBERS.....	19

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternate means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint, write to the USDA, Office of Civil Rights, Room 326-W, 1400 Independence Avenue, SW, Washington, DC 20250-9410, or call (202) 720-5964 (voice and TDD). USDA is an equal employment opportunity employer.

## **WELCOME**

Mr. Bob Smigelski, Chairperson, welcomed everyone to the meeting. Mr. Smigelski advised the Committee to consider potential nominations for electing a new Chairperson at the end of the meeting.

### **ACCEPTANCE OF MEETING MINUTES FROM JUNE 3-4, 2003**

The Committee approved the minutes from June 3-4, 2003, meeting as written.

### **REVIEW AND ACCEPTANCE OF AGENDA FOR NOVEMBER 4-5, 2003, MEETING**

The Committee approved the agenda after amending the order of presentations for the Tuesday morning presentations (attached).

Mr. Smigelski introduced David Shipman, Deputy Administrator, Federal Grain Inspection Service, Grain Inspection, Packers and Stockyards Administration (GIPSA).

### **OPENING REMARKS**

Mr. David Shipman opened the meeting, thanking the Committee members for the guidance they provide the agency. Shipman stated that Donna Reifschneider, GIPSA's Administrator sent her regrets that she could not attend the meeting because of pressing issues in Washington, DC.

Mr. Shipman added that the Committee should see in the upcoming presentations evidence of their earlier recommendations.

## MEETING ATTENDEES

### Committee Members

Tim Adams, Memphis Grain Inspection Service  
David Ayers, Champaign Danville Grain Inspection  
Thomas Bressner, Assumption Cooperative Grain Company  
Angela Dee, Dee Farm Partnership/Dee River Ranch, Inc.  
John Oades, U.S. Wheat Associates  
Tim Paurus, Cenex Harvest States  
Jon Setterdahl, Farmers Cooperative Company  
Mark Scholl, ExSeed Genetics, LLC  
Mary Schuler, Schuler Lands, Inc  
Robert Smigelski, The Andersons, Inc.  
Dennis Strayer, Consultant  
Committee Alternates  
Lynn Clarkson, Clarkson Grain Co., Inc.  
Paul Coppin, Reynolds United Co-op  
Ernest G. Potter, May, Cocagne & King, P.C., CPAs

### GIPSA

David Shipman, Deputy Administrator, Federal Grain Inspection Service  
John Giler, Policies and Procedures Branch, Field Management Division (FMD)  
Marianne Plaus, Market Analysis and Standards Branch, (FMD)  
Terri Henry, Public and Congressional Relations Staff  
Steven Tanner, Technical Services Division (TSD)  
Sharon Lathrop, Office of Director (TSD)  
Richard Pierce, Inspection Systems Engineering Branch, TSD  
Timothy Norden, Analytical and Reference Testing Services Branch, TSD  
Eurvin Williams, Board of Appeals and Review, TSD  
Donald Kendall, Biotechnology Branch, TSD  
Michael Eustrom, Board of Appeals and Review, TSD  
Bob Krause, Compliance Division  
Diane Palecek, Kansas City Field Office, FMD  
Chuck Smith, Office of the Administrator

### Other Attendees

Karl Hacker, AMS  
A representative from FOSS  
Tom Meyer, Kansas Grain Inspection

## GIPSA FINANCIAL REPORT

Mr. Shipman presented a financial status update.

Shipman stated that GIPSA's finances were very tight last year. To address the deficit, the Agency froze all spending in June, reprogrammed some appropriated money to the trust fund, and requested supplemental appropriations. The supplemental funding request did not succeed.

In Fiscal Year 2003, the specific budget adjustments to reprogram appropriated funds to trust accounts were:

Program	Initial Appropriated	Reprogrammed	Final Appropriated
Compliance	\$5,582,000	\$200,000	\$5,382,000
Methods Development	\$6,814,000	\$1,500,000	\$5,314,000
Standardization	\$4,140,000	\$200,000	\$3,940,000
Packers and Stockyards		\$100,000	

GIPSA's Fiscal Year 2004 appropriated budget request includes increases in all three areas as outlined below. Congress is currently addressing this request and may finish by Friday, November 7, 2003. Until the budget is approved by Congress, GIPSA is operating under a continuing resolution.

Program	Requested Appropriation	Increase
Compliance	\$5,655,000	\$73,000
Methods Development	\$6,869,000	\$55,000
Standardization	\$4,238,000	\$98,000

Shipman stated that in Fiscal Year 2003, GIPSA's trust fund lost \$2 million. To offset the loss, GIPSA reprogrammed \$2 million from appropriated funds to trust funds as outlined above. The main losses were in the Inspection and Weighing Program and the Official Agencies Program. Part of the losses is due to GIPSA's altered distribution of overhead costs. This distribution is now based on system usage instead of on dollars per program. Actual field offices expenses have been static since 2001, but the overhead for the Administrator's Office has increased from \$6,000 in 2001 to \$36,000 in 2003. In addition, overhead in the Deputy Administrator's office has increased from \$10,000 in 2001 to \$80,000 in 2003.

Losses during Fiscal Year 2003 are due to flaws in the 1996 fee structure and rates, the delay in implementing the new fee structure, decreased work volume, and increased operating costs. Essentially, GIPSA loses money for every hour worked under the current fee structure. In addition, the USDA Departmental administrative charges have increased 54 percent over the last 4 years.

GIPSA has frozen all non-essential travel and spending across the board while seeking financial efficiencies. This freeze does adversely impact some research and investments.

Cost containment efforts will continue but are insufficient to prevent a significant fee increase.

To increase 2003 fees collection, GIPSA implemented a 4.1 percent increase for cost of living in July and increased rice fees in June. The Agency is currently working on a fee increase for processed commodities and inspection and weighing. The inspection and weighing program (520) fee increase has been designated as significant by the Office of Management and Budget which lengthens the time required for process completion. March or April is the earliest expected date for implementing a new fee schedule. Shipman then detailed the Fiscal Year 2004 fee proposal for the 520 program. Export fee increases are expected to vary from 21 percent for the basic contract hourly rate to 85 percent for the administrative ton rate at one location. GIPSA's revenues are expected to increase an average of 26 percent under the proposed rates compared to the current fee rates. This increase is to eliminate the deficit and rebuild the trust fund reserve. Shipman compared the proposed GIPSA fees with other governmental and private entities to show the fees are similar. The objectives of the proposed fee are to cover current operating expenses, minimize the impact of market shifts, reflect regional costs in fees, recover the current deficit by mid-2005, create a 1.5 month reserve by 2007, and avoid additional fee adjustments until 2007.

The fee proposal eliminates the 3- and 6-month contracts, increases contract and noncontract fees, eliminates the 12-month contract for collecting administrative fees, establishes regional administrative fees, increases supervision fees for vessels inspected by delegated States, increases unit fees, establishes per facility fee for GIPSA track scale testing, and increases fees for scale testing.

Shipman presented how the administrative ton fee would change at four export locations under the proposed fee increases. The proposed distribution includes a national component to cover GIPSA Headquarters' overhead cost and a local component to cover the regional overhead costs. This two-tiered approach prevents one market, such as New Orleans, from supplementing all other markets.

The above does not address the fee structure for the Official Agencies account (530). GIPSA has started examining this to determine how best to cover losses in this account.

Shipman stated that GIPSA must take a practical approach to setting fees, considering the options available and the possible impact. For instance, the potential for a reduction in the official system usage due to fee increases has to be considered in domestic markets. An additional area to be examined is Official Commercial Inspections. Approximately 25 percent of all official inspections are Official Commercial, for which GIPSA does not collect user fees at this time. GIPSA needs to examine this system to determine if user fees are appropriate.

Shipman concluded by stating the reprogramming of appropriated funds to the trust fund could accelerate the time frame for recovering the deficit, could help rebuild the reserve faster, and may further delay the need for future fee increases.

## GRAIN END-USE FUNCTIONALITY

Mr. Steven Tanner, Director, Technical Services Division (TSD), updated the Committee on Agency efforts to provide grain end-use functionality testing. He focused primarily on GIPSA's direction with regards to wheat, noting that the Agency's financial containment and reprogramming activities has hampered progress due to delays in obtaining necessary equipment and recruiting skilled staff.

The grain market varies from the commodity market to the value-added identity preservation system. Between these two extremes lies an evolving market of greater product differentiation driven by technology, consumer demands, and global competition. The World Agricultural Outlook Board predicts the U.S. trade share to remain static for wheat and corn and decrease for soybeans over the next several years. To maintain, and potentially increase, this market, the U.S. needs to capitalize on the intrinsic value of grain.

End-use functionality tests are designed to give information on how to best use the grain. For instance, protein and variety give some indication of the end-use potential for the grain. The need for end-use functionality tests to allow users to better predict the intrinsic value of the commodity has been discussed as far back as the 1930s and 1940s. However, to date, progress in this area has been limited. The search for end-use functionality testing is a world-wide quest. The current factors available give some indications about end-use but more specific information is needed to determine if the commodity is appropriate for the intended use. GIPSA's strategy is to provide inexpensive and rapid testing methods to differentiate functional qualities that meet specific end-use needs. To accomplish this, GIPSA is working with ARS and CSREES to funnel research funds to universities. GIPSA is also working to educate key sectors of the industry about the importance of end-use testing.

Currently, GIPSA and ARS are conducting a baseline research project to help define correlations between grain physical properties, rapid test methods, and laboratory wheat functionality tests. A sample set, initially Hard Red Winter and Hard Red Spring wheat, has been established with all standard wheat class tests and a wide range of additional tests (i.e., Mixograph, Farinograph, Baking tests). The Alveograph is not currently on the list of tests to perform, mainly because neither GIPSA nor ARS have access to one of these expensive instruments at this time. Mr. John Oades requested that this research project include the Alveograph instrument in that several countries who import wheat consider it important in determining quality.

The data will be analyzed using statistical tools to look for correlations to end-use quality traits. This information will help in determining the best approach for quality measurements using current technology.

Ms. Marianne Plaus, Chief, Market Analysis and Standards Branch (MASB), Field Management Division, stated the process of determining and establishing end-use functionality test is a collaborative effort, with MASB looking at the options available to GIPSA for bringing the rapid tests into the system. Once agreement is reached on what factors should be measured, how should those factors be included in the inspection frame to best facilitate grain marketing? Ms. Plaus suggested the following options:

- 1. Official Criteria Tests.** Offer the additional factors under the U.S. Grain Standards Act (USGSA) as official criteria upon request. These tests would supplement the official grades and standards similarly to protein testing, falling number, etc. With this approach, it is feasible that GIPSA would offer a long list of official criteria factors available upon request of the applicant.
- 2. Replace Official Factors.** As a factor that becomes available to directly address the end-use value, replace the official factor that indirectly addressed that end-use value. For instance, Falling Number and sprout damage are proxies that give some indication on flour milling yield. If a new factor(s) that tested for milling yield was available, it could replace the currently used proxies.
- 3. Add Subclasses or Special Grades.** As rapid end-use functionality tests become available, review subclass definitions to consider specialty grades or subclasses.
- 4. Ensure tests are available without offering in the official system.** Use alternatives such as rapid test evaluation programs or proficiency testing programs to ensure that reliable, standardized rapid tests are available to the user without providing the testing within the official system. Precedent for this approach in GIPSA is the Biotechnology and Mycotoxin test kit evaluation programs and the Biotechnology Proficiency Test program.

Plaus concluded by asking the Committee's advice on the best approach to take in incorporating the new tests, when available, into the inspection system. Committee members responded by encouraging the use of public and private collaboration in developing the tests and using pilot tests before fully implementing. They also suggested GIPSA encourage private industry to develop the tests, limiting GIPSA's role to standardizing and adopting tests for the official system since industry has more assets to devote to the project. Some members indicated the classes and subclasses will be less important than having the specific tests available and that the reliability of testing is what is important.

## QUANTITATIVE BIOTECH TESTING

Mr. Donald Kendall, Chief, Biotechnology Branch, Technical Services Division, provided the Committee with information regarding GIPSA's Biotechnology Proficiency Program and quantitative testing for biotechnology events.

GIPSA's Biotechnology Proficiency Program (BPP) was initiated about 2 years ago to improve the reliability of testing for biotechnology events worldwide. When it began, only qualitative testing was addressed. There are seven events included in the BPP. It is a unique program worldwide in that GIPSA offers events that no other entity offers. European testing facilities like the BPP as it helps them meet a requirement of the ISO 17025 standard. There were 22 participants, mostly from the U.S., in the first BPP. There are now 86 participants, most of which are not from the United States.

Participation in the BPP is voluntary, and anonymity is guaranteed for all participants who want it. GIPSA does not charge for participation in the BPP at this time. Samples are distributed quarterly and, as of February 2003, include both qualitative and quantitative testing. Results are posted on GIPSA's biotechnology web page. In 2004, GIPSA plans to add two new events to the BPP, Herculex and Corn Root Worm.

In general, Kendall reported that participants are relatively evenly split between qualitative and quantitative testing. Qualitative results are reported correctly more than 90 percent of the time. However, the lack of global methods for quantitative analysis and reference materials for all of the events contributes to the wide variation seen in BPP results.

The BPP is meeting its goal of improving the reliability of testing as some entities have ceased offering GMO testing due to their poor performance and GIPSA is seeing improvements in the organizations ability to accurately identify the presence of events.

DNA-based testing faces several challenges. First, conventional PCR is qualitative and event specific. Second, there is no uniform agreement on methods and multiple instruments are used for quantitative analysis. The lack of reference methods is primarily due to the life science organizations protecting their intellectual property. GIPSA is currently revising the confidentiality agreements with Life Science Organizations, and is working with the American Association of Cereal Chemists to collaborate methods.

In addition, there is currently only limited availability of reference materials. GIPSA is working with NIST to develop a strategic plan to produce globally recognized reference materials. This effort is in cooperation with several organizations and countries.

In response to a question from Mr. Mark Scholl, Mr. Kendall indicated that currently there is not a good method to differentiate stacked events. Mr. Thomas Bressner indicated the timing between the release of a new event and the availability of a test for that event is important. Mr. Kendall indicated that the life science organizations have agreed to work with GIPSA and private test kit manufacturers to ensure tests are available when a new event is released.

## GENERAL UPDATES

Mr. Shipman provided the Committee an update on the biosafety protocol, reauthorization, the Minnesota Pilot Program, Mexico Outreach Activities, and Round-up Ready (RUR) Wheat.

First, Mr. Shipman addressed the status of the biosafety protocol implementation. As discussed at the June meeting, the Cartagena Protocol on Biosafety is designed to provide a framework for the safe trans-boundary movement of living modified organisms (LMOs). The Protocol became effective September 11, 2003, but the first meeting of the parties will be held in February 2004.

While the U.S. is not a Party to the Protocol, U.S. exporters must comply with the implementing policies. To deal with this issue, there is a U.S. Interagency Working Group for Protocol Implementation of which GIPSA is a member. This group has drafted practical definitions on meeting the protocol and has established a trilateral agreement with Canada and Mexico outlining documentation requirements for North America. This agreement may serve as a model for Protocol implementation at the first meeting of the Parties in 2004. Additional countries, such as Argentina, have expressed interest in joining the trilateral agreement, so Mr. John Pitchford, Director, Office of International Affairs, GIPSA, is currently working with the State Department on how to modify the document to allow for additional signatories.

The second item Mr. Shipman addressed was the upcoming efforts for reauthorization. On September 30, 2005, some provisions of the U.S. Grain Standards Act expire. GIPSA has begun the process of preparing for reauthorization of those provisions. By this coming spring GIPSA expects to have developed a legislative proposal to forward to USDA for approval. After USDA approval, the legislative proposal is forwarded to the Office of Management and Budget. GIPSA expects the final proposed legislation to be submitted to Congress in February 2005.

The third item Mr. Shipman addressed was the upcoming Minnesota Pilot Program. Recently, the State of Minnesota's designation was extended for 18 months. This period was abbreviated from the usual 3 years due to quality and service concerns. Early in 2004, GIPSA will announce the termination of Minnesota State's designation at the end of their term and introduce a pilot program allowing multiple agencies to service an area.

The goal of the pilot is to evaluate the impact of market competition on the quality, integrity, and overall value of the official inspection system. GIPSA plans to designate multiple applicants and allow customers within the State to select their provider. GIPSA is considering accuracy of results, timeliness of service, volume of grain officially inspected, oversight costs, and customer satisfaction as potential performance measures to evaluate the pilot. GIPSA's Compliance Division has been tasked with developing the test protocol and more detailed information should be available at the next Committee meeting.

Mr. Shipman's fourth item addressed GIPSA's Mexico outreach activities. The goal of these activities is to address Mexico's grain quality concerns and improve customer satisfaction. GIPSA has held three 3-day seminars in Mexico for more than 160 importers, traders, and end users explaining sampling, U.S. standards, mycotoxin

testing, fumigation, loading procedures, wheat protein, and GIPSA's quality control programs. In addition, multiple visiting Mexican teams, including producers, importers, and government officials, have received in-depth training at the Technical Services Division.

Also, a GIPSA representative, Mr. Chuck Britton, spent 3 months in Mexico working with USDA cooperators to further educate Mexican buyers and increase their confidence in official inspection system. Britton is currently supporting the establishment of five inspection labs and quality control measures at five major Mexican grain facilities. GIPSA has donated excess equipment such as probes, sieves, and dockage machines. Plans are for inspectors from the five companies to attend training at the Technical Services Division. The hope is to identify where discrepancies between the two countries occur in inspection and why.

GIPSA has also translated into Spanish several grading aids, such as self-paced grain grading CDs for corn, wheat, soybeans, and grading mats. Currently, the Foreign Agricultural Service is translating GIPSA handbooks into Spanish. These materials have been translated into a variety of languages as tools for helping our customers understand the U.S. official inspection system. These efforts are designed to build positive relationships with our customers.

Under consideration is a Mexican proposal for a Consultative Committee to address harmonization issues. This proposed committee would have industry and government members from both sides in an attempt to establish an organized method to address issues. This concept is under consideration by the U.S. and Mexico. Mexico has also requested USDA establish one dispute settlement process under NAFTA instead of having several different processes for fruit and vegetables, corn, etc.

The last item Mr. Shipman addressed was the status of Round-Up Ready (RUR) wheat. GIPSA currently provides a statement, upon request, that there are no transgenic wheat varieties for sale or in commercial production in the United States. This statement is still true since RUR wheat is regulated by the Animal and Plant Health Inspection Service and not available for commercialization. However, Monsanto has requested deregulation, which affects GIPSA's ability to issue this statement.

Monsanto has expressed commitment to the wheat industry to achieve several specific milestones before making RUR wheat varieties available to farmers. However, they may complete the deregulation process before achieving all of these milestones. It is likely that RUR wheat will be deregulated by the government before the company allows commercial production. At the time of deregulation, Monsanto must meet three GIPSA requirements before the statement will continue to be issued. First, Monsanto must provide a statement to GIPSA each year confirming they would not sell or distribute RUR wheat seed for commercial production during the upcoming growing season. Next, Monsanto must have a Quality Management System to assure that seed is not sold for commercial grain production. Last, Monsanto must provide GIPSA with RUR wheat reference materials, the specific primer sequences for the modified DNA in RUR wheat, and any special procedures unique to the analysis of RUR wheat.

GIPSA will no longer issue the statement if Monsanto fails to comply with the three GIPSA requirements or if any other transgenic wheat is commercialized.

## STANDARDS UPDATE

Ms. Marianne Plaus provided the Committee with an update on standards initiatives regarding Hard White wheat, Soybean Test Weight, and Sorghum Standards Review.

In Hard White Wheat (HDWH), there are three proposed amendments, to add two subclasses to the Hard White wheat class, to remove HDWH as a contrasting class in Hard Red Winter and Hard Red Spring wheat classes, and to specify the sample size to use in determining sample grade factors. Minimal comments were received on these proposals.

The comment period on the proposed rule has closed, but the final rule has not yet been published, so Ms. Plaus indicated she was not able to discuss GIPSA's direction on these changes. GIPSA is currently drafting a final rule and hopes to publish it by June 2004. Implementation of any changes would be 1 year after publication.

For soybeans, the relevance of test weight (TW) as a grade determining factor is under review. Literature reviews indicate that soybeans TW is not meaningful as an indicator of quality. Statistical review of over 4,000 soybean inspections from 2001 to the present was undertaken to determine the affect of TW on the grade. Overall, 99.5 percent of official soybean grades would be unaffected by the removal of TW. However, further review showed a regional difference in the gulf, where the soybean grade would improve about 15 percent of the time.

Plaus indicated GIPSA needs to make a decision on TW in soybeans. If TW is not relevant to the end-use of the grain, should it be removed as a grade determining factor? Plaus suggested TW in soybeans could be either an official criteria factor available upon request or a non-grade determining mandatory factor similar to moisture if removed from the standard. Members were asked to provide guidance on this issue.

As a related topic, Plaus indicated there was a procedural matter to consider in soybean TW reporting. TW is currently reported in whole and half pounds. When loading a ship, the rounding to the whole or half is done at the end of the shipment. Since TW is reported to tenths in other grains, is there a reason for reporting it in soybeans to either a whole or half pound?

Ms. Plaus then reported on the sorghum standards review requested by the National Grain Sorghum Producers (NGSP). The NGSP requested that GIPSA clarify the definitions of various classes and simplify the definition of non-grain sorghum in order to reduce misconceptions in the market.

Essentially, the NGSP has requested that the classes Sorghum and White be changed from indicating a 'low tannin' content to containing no tannin. For the class tannin, NGSP suggested the definition be changed from indicating a 'high tannin' content to sorghum which has tannin content. For non-grain sorghum, NGSP recommends removing the various types from the definition and simply defining as seeds of weed or wild relatives of sorghum. GIPSA's next step will be to publish an Advance Notice of Proposed rulemaking, announcing its intention to review the sorghum standards.

## INSPECTION PROCEDURES UPDATE

Mr. John Giler, Chief, Policies and Procedures Branch, Field Management Division, updated the Committee on short voyage fumigation procedures, mechanical sampler grain test exemptions, and review of inspection regulations.

For the past 2 years, GIPSA has found intermittent problems with short voyage fumigations. A short voyage is one where a ship can reach its destination within about 5 days, such as from the gulf area to Central America. Complaints from buyers have shown that standard fumigation practices may not be effective for short voyages. The standard treatment is surface fumigation, which requires time for the gas to disperse through the entire load. Effective fumigation requires a maintained concentration of gas over time. The recirculation method of fumigation, which requires inserting tubing in the vessels and a fan to force the gas through the grain, provides the best method for quickly distributing the gas to reach the desired concentration level in the hold. There is an unknown cost to the shipper associated with installing the circulation equipment.

In short voyage fumigation, the dosage rate and grain depth affects distribution, and the temperature and humidity affect release. For the fumigation to be affective, a minimum of 200 parts per million (ppm) of gas must be maintained. The time to reach this concentration throughout the hold depends on the product used and the dosage rates. For short voyages, a good kill can be obtained if the concentration level is maintained at 400 ppm for 72 hours. This time does not include the time to reach the concentration level, which is about 12 hours on a normal-sized vessel. There is some additional time after fumigation for airing out the hold until it is safe to handle the grain again.

There are two chemical formulations available for fumigation, magnesium phosphide and aluminum phosphide. Both are the same type of gas, the difference between the two is that magnesium phosphide is faster but more expensive. The dosage rates are determined by the manufacturer on the label.

GIPSA is trying to establish guidelines for companies shipping grains on voyages of less than 5 days. The guidelines include the best kind of treatment to get a quick concentration for kill, the dosage rate, and the fumigation period. The goals of the change are to ensure requirements apply to all, distribute gas quickly, and reach critical concentration quickly. Even if these methods are applied, there is a risk that discharge may occur before the 72 hours needed to affectively fumigate the lot as it is outside of GIPSA's control. Alternative options for future consideration are to not allow fumigation on 2-day voyages or less or to hold a ship in port for static fumigation.

Next, Mr. Giler discussed mechanical sampler grain test exemptions. Historically, GIPSA has initially performance-tested new mechanical samplers to assure the integrity of installation. A need for change was identified due to safety concerns and physical problems with manual sampling. GIPSA is developing exemptions from testing new mechanical sampler installations. The testing could be exempted when it is a simple spout installation, a simple grain flow system, an approved model, quality drawings and blueprints are submitted, and good documentation is provided. This process only applies to railcar installations at this time. Barges belt-to-belt installations must still be tested.

The approval process for exempted mechanical sampler installations would be for the local official agency to visually inspect the sampler and forward information, including drawings and blueprints, to FMD through the field office. FMD then reviews the information and, if approved, issue a memo to the field office approving the exemption. This method improves safety, documentation and approval efficiency while maintaining the integrity of the system.

Mr. Giler then updated the Committee on the status of the review inspection procedure change. This procedure change is to allow review inspections of a single factor instead of the total grade, while still allowing for review of additional factors if the reviewer determines it is necessary to assure the grade issued to correct. The final rule was published October 28, 2003, and becomes effective November 28, 2003. GIPSA will transmit the rule change via a program notice along with holding a conference call with GIPSA field offices to ensure uniform interpretation and implementation of the rule.

### **ARTIFICIAL NEURAL NETWORK (ANN) UPDATE**

Ms. Marianne Plaus reported the findings of the pilot and economic impact studies of changing the protein calibrations for wheat recommended by the Committee in May 2002, along with GIPSA's direction on this issue.

The ANN pilot compared the current protein Partial Least Squares (PLS) calibrations to the ANN calibrations for current market samples in all major production and handling locations for all major classes of wheat. The data was used for statistical and market impact analysis. A copy of the market impact analysis was provided to the Members. The statistical analyses made the following comparisons:

- Field to Combustion Nitrogen Analyzer (CNA) reference method
- ANN to CNA
- PLS to CNA
- Field ANN to field PLS

Overall, ANN predicts protein content with the same accuracy as the PLS. For ANN to CNA and PLS to CNA, ANN has virtually the same accuracy overall. For Hard Red Spring wheat (HRS) and Soft White wheat (SWH), ANN could slightly under-predict the protein content. The most notable improvement over PLS is in predicting the protein content of Durum wheat (DU).

ANN provides more consistent results, reducing the likelihood of reporting an incorrect value compared to PLS for all classes, except for DU. For DU, the ANN provided no improvement over the PLS.

For the market impact analysis, Plaus indicated a different approach was taken. The field ANN to field PLS results were compared to evaluate the change in the value of wheat stocks of GIPSA had changed calibrations overnight. The total value would have increased \$70,000, or 0.004 percent of the total wheat value as of the end of the wheat marketing year. This increase is negligible. Further breakdown of the impact showed that the value of HRS, Hard White wheat (HDWH) and Soft Red Winter wheat (SRW) would be unaffected, while SWH and DU stocks would increase in value. However, HRW stocks would decrease in value by \$470,000.

Since the ANN predicts protein content with the same accuracy as and better consistency than the PLS, and that switching from PLS to ANN would have negligible economic impact, GIPSA wants to adopt the technology and move forward with implementing. Implementation would be done simultaneously within the official system to avoid potential differences due to multiple calibrations. However, GIPSA's implementation will depend on the financial ability to place sufficient ANN-capable instruments in field locations. While GIPSA would like to implement in May 2004, it might be May 2005 before the funds are available.

Members expressed support for GIPSA's implementation of ANN and recommended outreach efforts to educate industry on where differences could occur while emphasizing the advantages.

### **WEB-INSPECTION SYSTEM PROJECT**

Mr. Chuck Smith, Management and Program Analyst, Office of the Administrator, also the lead architect for GIPSA's web-based system, updated the Committee on the Web-Inspection System project. He indicated that to date, GIPSA has reviewed the existing mission statement, strategic goals and objectives, and system documentation, interviewed both the business people and systems people, modeled the information, and drafted the enterprise architecture.

Smith indicated that they have looked at inspections, grain standardization, registration of export elevators, official agencies, licensed personnel, applicants, and compliance. A primary goal of the project is to lower the per metric ton cost of oversight by improving internal efficiency and improving service delivery. The new system will provide for a single data entry, real-time access to information, reduction of the volume of monitoring samples needed, and provide tools to official agencies.

GIPSA has about 15 existing applications that are in 5 different technologies. The challenge is to bring all to a common environment, which will make support easier. An additional challenge is to retool the developers, who are specialized in one of the five different technologies into the common environment.

The budget restraints require the project to be implemented over time. The total cost is estimated at \$6 million for all of GIPSA. The likelihood of obtaining additional appropriated funds for the project is low. The two applications to be addressed first are certification and NQDB. GIPSA plans to use Joint Applications Development (JAD) sessions for each project to build what is needed. An initial JAD session is scheduled for later in the week.

## OPEN DISCUSSION

Grain End-Use Functionality: Mr. John Oades encouraged GIPSA to pilot test new factors in the market to ensure they are manageable. Ms. Angela Dee suggested that GIPSA focus on fostering research in the community instead of in-house, with GIPSA adopting the tests industry develops. Mr. Steve Tanner responded that GIPSA does minimal in-house research, generally following the approach of fostering outside research with GIPSA standardizing tests developed.

Mr. Thomas Bressner indicated that developing end-use tests would be a challenge as the end-users were not certain of what they needed yet. He encouraged GIPSA to work with the private sector. Mr. Mark Scholl indicated that GIPSA's principle task was to make sure end-use tests have some commonality in the marketplace and were both fast and accurate.

Mr. Dennis Strayer indicated it will be more difficult to distinguish classes and subclasses and that the ability to test for criteria will be what is important. Mr. Robert Smigelski emphasized the concept is the reliability of testing and that standardization will evolve due to market demands. Mr. John Oades offered the generalization that quality by class gets the parties into the ballpark then requesting additional criteria factors addresses the specific value-oriented market. A general discussion on varietal identification and its limitations in the export market followed. End-Use functionality tests are the subject of Resolutions 2 and 9.

**Quantitative Biotech Testing:** Mr. Mark Scholl initiated a discussion on stacked biotechnology events and the lack of a method for differentiating individual events. Mr. Don Kendall indicated there was no method available.

Mr. Thomas Bressner brought up the lack of a quick test for some events and indicated that the timing between the release of a new event needed to be coordinated with the release of a test for that event. Mr. Don Kendall responded that the LSO have agreed to work with both GIPSA and test kit manufacturers to ensure tests are available in a timely fashion. Quantitative biotech testing is the subject of Resolution 3.

**General Update:** Mr. Lynn Clarkson stated the issues presented regarding relations with Mexico are items that visitors have said for decades. Mr. Dennis Strayer indicated that NAFTA is reducing cultural differences and education is a good move. Mexico outreach efforts are the subject of Resolution 1.

Mr. Ernest Potter asked what, if any, plans GIPSA had to prevent the use of the no transgenic wheat statement printed from the website before it was discontinued. Mr. David Shipman felt that both buyers and sellers would be aware of the release of RUR wheat so no plans were in place. The no transgenic wheat statement is the subject of Resolution 8.

**Test Weight in Soybeans:** Ms. Angela Dee raised a test weight (TW) problem in soybeans when shipped from a cold, dry environment to a warmer, humid environment as discussed at the last Committee meeting. Mr. Steve Tanner responded that it was not just the sample for analysis that changed, that the seed coats of the entire cargo had shriveled, changing the condition of the grain. Mr. David Shipman asked the Members if having TW as a grading factor put the U.S. at a disadvantage in the world marketplace since our main competitors, Brazil and Argentina, do not mention TW. Mr. Dennis Strayer indicated that, for soybeans, condensation causes seedcoats to wrinkle, which affects TW. Since Brazil and Argentina's weather conditions are different, they do not have the same affect. Mr. Ernest Potter indicated that TW is used in bulk storage inventory, but offering as a non-grading factor would meet that need. Mr. Bob Smigelski suggested that proposing the standards changes forces industry to provide comments and gets the issue on the table. TW in soybeans is the subject of Resolution 6.

**Short Voyage Fumigation:** Mr. John Oades raised the possibility of sealing hatches after fumigation in an effort to ensure proper fumigation. Mr. John Giler indicated ship captains would vigorously protest any endeavor to seal holds. A general discussion on the recirculation method of fumigation, the dosage amounts, and the time frames followed.

**Mechanical Sampler Test Exemption:** Mr. Ernest Potter asked if GIPSA would require notification when an exempted sampler was modified. Mr. John Giler responded by indicated it would be important for GIPSA to be informed on changes to ensure the requirements met.

**ANN:** Mr. Tim Paurus indicated a preference for ANN calibration implementation during 2004 instead of 2005 and that GIPSA needed to aggressively pursue outreach efforts to educate industry on where differences could occur. Mr. John Oades also expressed the need for GIPSA to be open and direct on where differences could occur to reduce potential negative backlash.

Mr. David Ayers expressed a concern regarding a single manufacturer controlling the calibration and the affect on the cost of obtaining the calibration and/or updates to the calibration. Dr. Richard Pierce indicated that the manufacturer was negotiating a reduced cost to GIPSA due to their participation in developing the calibration. Ayers requested GIPSA include service of the instruments in the contracts with the manufacturer. ANN calibrations are the subject of Resolutions 4 and 10.

**Web-Inspection System:** Mr. David Ayers indicated that a web-based system is the key to GIPSA's future and is the biggest cost savings available to GIPSA. Mr. Jon Setterdahl emphasized compatibility as a key, while Mr. Thomas Bressner expressed the concern that developing the system becomes such a high priority that something else would be delayed. The web-inspection system is the subject of Resolution 5.

**Central Lab:** Mr. David Ayers requested an update on the Central Laboratory. Mr. David Shipman indicated that part of the Minnesota Pilot would involve centralized monitoring. In addition, Shipman indicated that centralization of checktesting was being examined. Currently protein and moisture are checktested by the Technical Services Division. GIPSA is looking at doing more during 2004, as well as some actual central monitoring in the United States.

**Process Verification Program:** Mr. Jon Setterdahl asked for an update on the Process Verification Program. Mr. David Shipman indicated GIPSA has entered a memorandum of understanding (MOU) with the Agricultural Marketing Service (AMS) as a way of providing the service while the rule is delayed. AMS already has a similar verification system.

**Outsourcing:** Mr. David Ayers asked if GIPSA was considering outsourcing commodity testing. Mr. David Shipman indicated that GIPSA has hired a contractor to study the rice inspection program in the Agency for possible outsourcing under the Presidential initiative.

## RESOLUTIONS

1. The Grain Inspection Advisory Committee encourages GIPSA to continue their outreach activities of seminars, training, technical assistance, and harmonization of grain quality inspections in Mexico and other countries.
2. The Grain Inspection Advisory Committee encourages and supports continued research into determining further factors that makes grain grading more functional in the facilitation of grain marketing. The Committee further supports research into providing quick, accurate, inexpensive testing methods to determine these functional qualities.
3. The Grain Inspection Advisory Committee recognizes and supports efforts to bring standardization to analytical testing by the use of internationally accepted reference standards and methods for transgenic grain traits. GIPSA should further position themselves as an authoritative body to provide high proficiency standards for both qualitative and quantitative testing of these traits in the industry. GIPSA should facilitate uniform agreements on methodologies for both single trait and stacked trait testing. GIPSA should continue to research sampling procedures and sample size required to provide consistent results at various tolerance levels and to educate the stakeholders on these findings.
4. The Grain Inspection Advisory Committee recommends that GIPSA aggressively convey to the stakeholders differences in protein levels by classes between PLS and ANN early in the implementation process.
5. The Grain Inspection Advisory Committee states that GIPSA should continue its web-based information system initiative, staying within the budget and insuring that current outside information sharing guidelines remain.
6. The Grain Inspection Advisory Committee supports GIPSA's efforts to assure the United States Standards for soybeans are meeting the needs of the U.S. soybean market. GIPSA should continue its efforts in this area by proposing to remove TW from the standards as a grade determining factor. Further, GIPSA should propose changes to report soybean TW to the nearest tenth pound per bushel.
7. The Grain Inspection Advisory Committee recommends that GIPSA develop procedures including the use of the single kernel characterization system (SKCS) for differentiating Hard White wheat from Soft White wheat.
8. The Grain Inspection Advisory Committee supports GIPSA's proposed strategy for continued use of the "There are no transgenic wheat varieties for sale in commercial production in the United States" as described at the November 4, 2003, Committee meeting, including: Monsanto (or others) meets 3 requirements:
  - a) signed statement of no seed sales or distribution,
  - b) a defined Quality Management system to control handling of seed,
  - c) RR wheat genetic marker reference materials.

9. The Grain Inspection Advisory Committee supports adding Alveograph analysis to the GIPSA/ARS end-use functionality testing project.
10. The Grain Inspection Advisory Committee recommends that GIPSA move forward on ANN and implement just prior to wheat crop year (June 1, 2004).
11. The Grain Inspection Advisory Committee supports GIPSA's move to develop the Minnesota Pilot Program. (One Committee member opposed this resolution.)

### **NEXT MEETING**

The next Committee meeting will be held in early May 2004, at a place to be determined. The Committee recommended the following: Kansas City, KS, Portland, or Dee River Ranch. A decision will be made at a later date.

### **OUTGOING MEMBERS**

This was the final Committee meeting for the following members: Tim Adams, Tim Paurus, Dennis Strayer, Rod Bradshaw, and Mark Scholl. Mr. David Shipman thanked the members for their contributions to the Committee and to GIPSA, and presented those present with a Certificate of Appreciation.