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Marketing and
Regulatory
Programs

Agricultural
Marketing
Service

Livestock and
Seed Program

Items of Interest in Seed

April 2008

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EDITOR'S NOTES

Many people in the seed industry know the Seed Regulatory and Testing Branch (SRTB) for enforcement of the Federal Seed Act (FSA) which, in part, regulates agricultural and vegetable seeds shipped in interstate commerce. They may not be aware, however, that the SRTB participates in many diverse activities throughout each calendar year.

Are you interested in knowing more about the OECD Seed Schemes Program or our three seed programs approved by the Process Verified Program? Maybe you need information regarding the Canadian seed grader program, the seed service-testing program, or the trueness-to-variety testing program. Perhaps you would like the SRTB to review your seed company's proposed seed labels. This issue of the Items of Interest in Seed contains articles on all these topics.

If training is of interest to you, the SRTB offers Federal Seed Schools and Seed Sampling Workshops. The Federal Seed School is a 3 to 5 day training class offered twice a year to seed analysts from private and government seed testing laboratories. Training focuses on the purity and identification of similar crop and weed species along with other topics such as specific test procedures or quality assurance, as interest and time permit. Seed Sampling Workshops, usually requested by State seed control officials and inspectors, pertain to sampling and inspecting seed subject to the FSA. If you are interested in attending or learning more about these events, you will want to read Botanist Patsy Jackson's article titled, "Upcoming Federal Seed Schools in Gastonia, NC," and Seed Marketing Specialist Roger Burton's article titled, "Request for Seed Sampling Workshops."

In addition, SRTB personnel represent USDA at meetings throughout the U.S. and internationally each year. These meetings are reflected in the Calendar of Events in this issue and include the International Seed Testing Association (ISTA), OECD Seed Schemes, Association of Official Seed Analysts (AOSA), Society of Commercial Seed Technologists (SCST), American Seed Trade Association (ASTA), Association of American Seed Certifying Agencies, and Association of American Seed Control Officials (AASCO), among others. (See Seed Marketing Specialist Jeri Irwin's interview with AASCO President and Kentucky seed control official David Buckingham in her Seed Segment's column.)

Please let me know if you have suggestions for future IOI topics by sending an e-mail to linda.vanderhoof@usda.gov. If you would like to read articles from past issues of Items of Interest in Seed, dating back to 2001, please visit our Web site at <http://www.ams.usda.gov/lsg/seed.htm> and follow the Publications link.

On behalf of the SRTB staff, I hope you enjoy these articles and continue to find them informative.

Linda Vanderhoof
IOI Editor

UNITED STATES COORDINATES THE 2008 ANNUAL MEETING OF THE OECD SEED SCHEMES

USDA Agricultural Marketing Service (AMS) is pleased that the Organization of Economic Cooperation and Development (OECD) Seed Schemes has selected the United States in which to hold their 2008 annual meeting. This year marks the 50th anniversary of the Seed Schemes. Staff members of the Seed Regulatory and Testing Branch (SRTB) have been working with the OECD Secretariat to coordinate local arrangements for the meeting, which will be held in Chicago, IL, June 29-July 3, 2008.

The main purpose of the Seed Schemes is to establish rules and procedures for the varietal certification of seed moving in international trade. Currently, 55 countries participate in the Seed Schemes, and there are usually about 75 government officials and trade representatives who participate in the annual meeting.

AMS is assigned as the OECD Seed Schemes Designated Authority for the United States, and SRTB's Perry Bohn is the OECD Seed Schemes Program Manager for administering the Seed Schemes in the United States. He serves as the head of the U.S. delegation at Seed Schemes meetings. The main purpose of the Seed Schemes is to establish rules and procedures for the varietal certification of seed moving in international trade.

Anyone with questions about the meeting or who would like to attend may contact the OECD Seed Schemes Program Manager Perry Bohn at (704) 810-7262; perry.bohn@usda.gov, or contact Michael Ryan (OECD Head, Codes and Schemes); michael.ryan@oecd.org.

AMS ACCREDITED SEED LABORATORY AND SEED GRADER PROGRAM

On December 19, 2007, Associate Administrator Dr. Kenneth Clayton of AMS and Senior Executive Glyn Chancey of the Canadian Food Inspection Agency (CFIA) Plant Production Division signed a Memorandum of Understanding that implements the Canadian Seed Grader Program for U.S. residents. The signing of the agreement officially authorizes AMS to facilitate the training and accreditation of U.S. seed graders to apply Canadian grades to U.S. seed for shipment and direct sale in Canada.

Until recently, CFIA only authorized Canadian residents as seed graders. Therefore, seed that had been tested in the United States before shipment was subject to duplicate testing and then grading in Canada. The effect was threefold: shipments could be delayed for weeks, seed

could not be shipped directly from the United States to the end user, and the producer and consumer experienced higher costs.



Clockwise from top left: Dr. Craig Morris (Deputy Administrator, AMS Livestock and Seed Program), Randall Jones (Associate Deputy Administrator, AMS Livestock and Seed Program), Glyn Chancey, and Dr. Ken Clayton.

Discussions between the two countries began nine years ago in an attempt to make the seed trade between them more efficient. These discussions eventually led to CFIA recognition of the U.S. Accredited Seed Laboratory (ASL) Program and the development of an AMS accreditation program for U.S. residents as seed graders. On June 10, 2005, the CFIA granted equivalence to the ASL Program under the Canadian Seed Laboratory Accreditation and Audit Protocol (SLAAP). This first step allowed Canadian seed graders to use seed testing results from an ASL in the United States to apply a seed grade without retesting in Canada. That eventually led to the development of a U.S. grader

training and testing program, which recognized U.S. residents to be accredited to assign a grade to seed for direct sale and distribution in Canada.

Following the signing of the agreement in December 2007, the Livestock and Seed Program can now train and examine graders for grading proficiency. In preparation for this program, AMS has provided seed grader training and examinations to 23 U.S. seed analysts to date, and training is tentatively scheduled for additional seed analysts in June 2008.

The U.S. seed industry has expressed great support for the implementation of the ASL Program and Canadian Seed Grader Program. By eliminating the need for retesting and grading of U.S. seed upon arrival in Canada, participating seed companies and seed users in Canada will experience significant monetary savings. These initiatives, along with AMS' other audit-based programs for seed, will enhance the movement of U.S. seed and seed products in the international market.

For information regarding this article, see <http://www.ams.usda.gov/news> or contact U.S. OECD Seed Schemes Program Manager Perry Bohn at (704) 810-7262; perry.bohn@usda.gov.

ACCREDITED SEED GRADER AT SRTB



Congratulations are in order for Seed Regulatory and Testing Branch (SRTB) Botanist Patsy Jackson (pictured above with U.S. OECD Seed Schemes Program Manager Perry Bohn and SRTB Chief Dr. Richard Payne). Patsy became one of the first Accredited Seed Graders in the U.S. She is one of 21 individuals who have passed the Seed Grader examination and have the potential to be recognized by the Canadian Food Inspection Agency. Patsy has worked for SRTB for 8 years.

For more information on the Seed Grader Program see <http://www.ams.usda.gov/lsg/seed/Seedgrader.htm>, or contact Perry Bohn at perry.bohn@usda.gov or call 704-810-7262.

SEED GRADER TRAINING

A Seed Grader Training workshop was held in Corvallis, OR, at the Oregon State University Seed Laboratory on January 30, 2008. Participants included 10 persons from Oregon and Washington interested in becoming accredited seed graders, while Perry Bohn and Gene Wilson, of the Seed Regulatory and Testing Branch, Gastonia, NC, conducted the training. On January 31, 2008, attendees took exams to test their knowledge of the seed grading process and their ability to assign grade names to seed for export to Canada.

There was a high level of interest in the training as Oregon exports large quantities of seed to Canada. With the ability to test and grade seeds destined for export to Canada following the signing of an agreement in December (see "AMS Accredited Seed Laboratory and Seed Grader Program"), U.S. seed companies should find the trade to be both more efficient and less costly.

The next workshop for Seed Grader Training is tentatively scheduled in June 2008 at the AOSA-SCST annual meeting in St. Paul, MN. Anyone interested in the Seed Grader Program may find additional information at our Web site:

<http://www.ams.usda.gov/lsg/seed/Seedgrader.htm>; or contact Perry Bohn at (704) 810-7262, perry.bohn@usda.gov or Gene Wilson at (704) 810-8888, gene.wilson@usda.gov.

REQUEST FOR SEED SAMPLING WORKSHOPS

The Seed Regulatory and Testing Branch (SRTB) occasionally provides seed sampler workshops pertaining to Federal Seed Act enforcement. SRTB frequently receives requests about when and if there is a workshop in the near future in a given area. These requests are received from State seed control officials as well as from the seed industry.

The SRTB is always willing to participate and assist in providing training to anyone interested in the proper methods of seed sampling. Seed sampling workshops have been held at the SRTB facility in Gastonia, NC, at State facilities across the U.S., and, on at least one occasion, at a seed company.

When considering a request for a seed sampling workshop, thought should be given to the following:

- Dates when trainees can participate, usually 1½ to 2 days;
- Number of participants, generally not to exceed 25;
- Availability of a conference room with audio and video equipment, good lighting, and relatively comfortable seating arrangements;
- Nearby facility (preferably a seed company warehouse) where seed sampling demonstrations can be observed and practiced; and
- Local hotels and restaurants in close proximity to training facility.

For information regarding this article, contact Seed Marketing Specialist Roger Burton at (704) 810-7265; roger.burton@usda.gov.

UPCOMING FEDERAL SEED SCHOOLS IN GASTONIA, NC

The Seed Regulatory and Testing Branch will host two full 5-day Federal Seed Schools this year at our facility in Gastonia, NC, April 28-May 2 and August 4-8, 2008. The focus of the first 3 days will be purity and identification of similar crop and weed species. Other topics such as the uniform blowing procedure will be covered. Presentation of topics will be on a level appropriate for experienced seed analysts. The last 2 days of the week will focus on quality

management systems and accreditation.

Seed schools are open to seed analysts from private and government seed testing laboratories. Enrollment at each of the seed schools will be limited to 20 participants due to the hands-on nature of topics and one-on-one attention from instructors. Participants from non-government laboratories will be charged a fee of \$32 per day. Participation during the entire week is not required. You may sign up for the 3-day session on purity and identification, the 2-day session on quality management systems, or all 5 days, depending on your interest.

For more information or to request a pre-registration form, please contact Botanist Patsy Jackson at patsy.jackson@usda.gov or Laboratory Supervisor Susan Maxon at susan.maxon@usda.gov.

SPRING TRUENESS-TO-VARIETY OVERVIEW

Each year the Seed Regulatory and Testing Branch (SRTB) conducts trueness-to-variety (TTV) field tests to determine if seed lots are properly labeled for variety, as required by the Federal Seed Act (FSA) and State seed laws. Field testing is conducted by crop experts at State universities and State departments of agriculture in cooperation with SRTB. SRTB relies on State seed control programs to submit samples for inclusion in the TTV tests.

This winter, SRTB is conducting a tall fescue TTV test at the Sandhills Research Station, Jackson Springs, NC, and a winter small grains TTV test at the Piedmont Research Station, Salisbury, NC. This spring, SRTB plans to plant **carrots** at the Sandhills Research Station, Jackson Springs, NC; **pumpkins** and **winter squash** at the Piedmont Research Station, Salisbury, NC; **cowpeas** at Southern University and A&M College, Baton Rouge, LA; **millets** and **summer squash** at the Texas Department of Agriculture, Giddings, TX; **spring small grains** at South Dakota State University, Brookings, SD; and **collards**, **radishes**, **turnips**, and **onions** in the SRTB greenhouse.

We encourage all State seed control programs to submit seed samples of the previously mentioned kinds (in bold) for TTV testing. If there are any questions concerning the TTV program or directions for submitting samples, please contact Agronomist Mike Lovelace at (704) 810-7261; michael.lovelace@usda.gov.

SRTB REACCREDITED BY ISTA

The Federal Seed Laboratory at the Seed Regulatory and Testing Branch (SRTB) in Gastonia, NC, has been recredited by the International Seed Testing Association (ISTA) following an audit in October 2007. SRTB continues to be accredited by ISTA and is an approved Accredited Seed Laboratory (ASL).

For information regarding this article, contact U.S. OECD Seed Schemes Program Manager Perry Bohn at (704) 810-7262; perry.bohn@usda.gov.

NEW SEED HEALTH TESTING METHODS AVAILABLE

Seed Regulatory and Testing Branch (SRTB) Plant Pathologist Sandra Walker reports that three new seed health testing methods became part of the International Seed Testing Association (ISTA) rules that went into effect in January 2008. The new methods are titled "Agar method for the detection of *Microdochium nivale* on *Triticum* spp." (wheat), "Detection of *Pseudomonas savastanoi* pv. *phaseolicola* on *Phaseolus vulgaris*" (bean), and "Detection of Pea Early-Browning Virus and Pea Seed-borne Mosaic Virus on *Pisum sativum*" (pea).

These methods can be downloaded from the ISTA Web site, www.seedtest.org. From the ISTA home page, follow the link to Technical Committees, then click on Seed Health Committee, then click on Testing Methods. All twenty-four methods for seed health testing may be downloaded and used by anyone.

The SRTB Pathology Laboratory became ISTA accredited for seed health testing after the last ISTA audit in October 2007, when SRTB's scope of accreditation was extended to include this aspect of seed testing. The SRTB Pathology Laboratory is ready to conduct service testing using ISTA seed health testing methods. The SRTB Pathology Laboratory is also prepared to do seed health testing by other methods such as the National Seed Health System (NSHS) methods or International Seed Health Initiative (ISHI) methods. Please feel free to contact Plant Pathologist Sandra Walker about any seed health testing concerns that you might have.

For information regarding this article, contact Plant Pathologist Sandra Walker at (704) 810-7268; sandra.walker@usda.gov.

NOXIOUS-WEED SEED LIST FOR 2008

The State Noxious-Weed Seeds Recognized in the Administration of the Federal Seed Act publication contains information about the various State labeling requirements and prohibitions of noxious-weed seeds and shows the botanical names and common names according to the law and regulations of the particular State in which the seed is noxious.

The current list was published on the Seed Regulatory and Testing Branch (SRTB) Web site in 2006. SRTB did not publish a 2007 list since changes were reported late in the year. Those changes, shown below, will be included in the 2008 list:

Alabama:

Jointed Goatgrass moved from prohibited to restricted at 9/lb.,
Tropical Soda Apple added as prohibited, and
Sicklepod added as restricted at 27/lb.

Ohio:

Added to Prohibited:

Forage Kochia,
Kochia,
Palmer amaranth,
Shattercane, and
Apple of Peru

Seed Marketing Specialist Jeri Irwin will issue a request to each State seed control official, including those in Alabama and Ohio, to submit any changes to their State noxious-weed seed requirements since the 2006 publication.

For information regarding this article, contact IT Specialist Jonathan Farmer at (202) 205-4541; jonathan.farmer@usda.gov or Seed Marketing Specialist Jeri Irwin at (704) 810-8878; jeri.irwin@usda.gov.

SEED PACKAGING AND LABELING REVIEWS

The Seed Regulatory and Testing Branch (SRTB) occasionally receives requests for review of seed labeling information and formatting. These requests are from State seed control officials as well as from the seed industry. SRTB is always willing to provide assistance to anyone interested in proper seed labeling, packaging, and advertising methods.

When requesting a review of seed labeling, packaging, or advertising prior to shipping in interstate commerce, please include the following information:

- Company name and address;
- Name of company representative making request;
- Telephone, fax number, and/or e-mail address; and
- Mock-up of the labeling, packaging, or advertising proposal.

Requests via e-mail are preferable with the mock-up as an attachment. An immediate acknowledgement of receipt of the request will be sent. SRTB's review will be from the perspective of Federal Seed Act compliance and should take no more than five business days.

These requests are kept in strict confidence.

For information regarding this article, contact Seed Marketing Specialist Roger Burton at (704) 810-7265; roger.burton@usda.gov.

AMS NUMBERS

The Federal Seed Act (FSA) requires that the interstate shipper be identified on the label of all agricultural and vegetable seed shipped in interstate commerce. Two options are available for fulfilling this FSA labeling requirement. The interstate shipper has the option of putting the full name and address of their company on the label. The interstate shipper also has the option of labeling the seed with the full name and address of the company to whom they are selling the seed along with their own AMS number. The AMS number identifies the interstate shipper and allows the receiving company to resell the seed without the necessity of relabeling the seed with their own name and address. The AMS number labeling option can be used only with the permission of the company receiving the seed. An AMS number is a code designation that identifies an individual seed company and is issued to a seed company by our office upon request. All AMS numbers are confidential between a seed company and the Seed Regulatory Testing Branch.

To have an AMS number issued to your company, please provide your company name, complete address, contact name, and any additional information you may have to jeri.irwin@usda.gov or via fax (704) 852-4109.

For information regarding this article, contact Seed Marketing Specialist Kevin Robinson at (704) 810-7264; kevin.robinson2@usda.gov.

THE SEED VIOLATION PROCESS

In fulfilling its responsibility for enforcement of the Federal Seed Act (FSA) and the FSA Regulations, the Seed Regulatory and Testing Branch (SRTB) investigates alleged labeling violations forwarded by State seed control officials, to determine if regulatory provisions were violated and to decide on appropriate follow-up actions, if necessary. For interstate shippers, which may include anyone from large corporate entities to smaller seed companies and even farmers, the process is one with which they may not be familiar. Below is information to help shippers understand the process by providing information regarding the different actions SRTB may ask of shippers or submit to shippers.

Request for records:

A seed shipper will probably first be apprised of an investigation of a labeling violation when

he/she receives a request for records from SRTB. This form provides existing information such as the kind or variety, lot number, quantity of seed at the sampling location, approximate shipping date, and identity of the receiver.

Page two of the form describes in detail the records (or copies, not the originals) needed. In general, these include receiving, processing, testing, shipping, and labeling records. Shippers are required to supply the records within 30 days. An interstate shipper is obligated by the Federal Seed Act and FSA Regulations to maintain records for three years from the shipment date of a seed lot and must make the records available to agents of the Secretary of Agriculture upon request.

Letter of warning:

Receipt of a letter of warning may be the point a shipper is first aware of SRTB involvement if the labeling violation is of a less serious nature. A letter of warning simply notifies the shipper that one or more labeling violations have occurred and identifies those violations, by section, of the FSA and FSA Regulations. The letter of warning completes the action SRTB will take regarding the violation(s). SRTB maintains a record of the warning letter for 5 years and may take it into consideration in resolving future labeling violations.

Follow-up letters:

All shippers receive a follow-up letter at the end of the calendar quarter in which they received the letter of warning. This letter gives the shipper the opportunity to address the causes of the labeling violation(s) and is not part of a penalty phase. The shipper may explain actions taken to avoid future violations of the same type, discuss extenuating circumstances, or provide other information as desired.

Pending charge sheets:

Charge sheets issued for more serious labeling violations, list the violations individually, relative to a specific interstate shipment of seed. The charges can involve a monetary penalty if a pattern of violations exists. Initially, a pending charge sheet may be issued to the most culpable party. This pending charge sheet states the facts of the case and an accompanying letter informs the shipper that the charge sheet is being held in a "pending" status for a period of time, typically three years from the date of the original shipment. If no further serious labeling violations have been received, the charge sheet is waived. On the other hand, if additional violations have occurred, the status of the original charge sheet will no longer be pending but will be considered "active," and the process will go to the next step, which is the opportunity to present views.

Opportunity to present views:

If an accumulation of labeling violations occurs such that multiple charge sheets can be presented to the shipper, then a letter is sent along with the charge sheets, offering the shipper an opportunity to reply to the charges. This reply may take the form of a written letter, a telephone conference, or a face-to-face meeting as the shipper prefers and must take place within a 30-day period. It is usually helpful to the shipper to use this opportunity to provide additional information and explanation regarding the circumstances associated with the shipments.

Settlement sheet:

Following the opportunity to present views, SRTB re-assesses the charge sheets in light of any

additional information and may waive selected charges. For the remaining charges, a monetary assessment is determined based on company history and the severity of the charge. A letter, along with the settlement sheet, is sent to the shipper specifying the remaining charges and the dollar amount of a settlement offer. This allows the shipper to resolve the labeling violations without admitting or denying liability. The payment of the settlement offer by the interstate shipper concludes the process. It should be noted that all payments are sent to the U.S. Treasury for deposit and are not used to finance SRTB programs.

Summary:

While the above actions are the main steps in the regulatory process, there are additional minor actions the SRTB may take. If time requirements are not met, a final letter is used to notify the shipper that action is required. In addition, under certain circumstances, the SRTB may hold charge sheets in abeyance pending a specific action on the part of the shipper or for other valid reasons. Following settlement of charge sheets, a program announcement is posted on the AMS Web site noting settlement of the case.

Timely response and cooperation by the shipper makes the process more efficient and generally benefits the shipper. Providing records, for example, may supply evidence that the shipper is not at fault.

The ultimate purpose of the enforcement of the FSA and FSA Regulations is not to penalize shippers for violations, but to create an environment in which seed customers can take labeling as an accurate reflection of the seed in the container. The SRTB endeavors to assist shippers in spotting labeling problems and encourages them to correct any weaknesses in their system to avoid future problems.

For information regarding this article, contact Seed Marketing Specialist Gene Wilson at (704) 810-8888; gene.wilson@usda.gov.

FEDERAL SEED ACT CASES SETTLED

The following cases were settled administratively under the Federal Seed Act between September 1, 2007, and March 31, 2007. Under the administrative settlement procedure, the Seed Regulatory and Testing Branch and the firms agreed to settle the cases for the amount specified, with the firms neither admitting nor denying the charges. Official Program Announcements on each of these cases is accessible on the following Web site: <http://www.ams.usda.gov/news/newsrel.htm>:

Bennett Seed, Jennings, FL, has paid \$700 for a case involving two shipments of seed into Georgia. The alleged violations, for both shipments, were false labeling as to pure seed and inert matter percentages. Seed regulatory officials in Georgia cooperated in the initial sampling and inspection.

Caudill Seed Company, Inc., Louisville, KY, has paid \$3,150 for a case involving four shipments of seed into Georgia and Ohio. The alleged violations, while not the same for all shipments were false labeling of pure seed, other crop seed, inert matter, and germination percentages; failure to label the presence of noxious-weed seed; failure to show the shipper's code or name and address; and failure to keep a complete record of the seed. Seed regulatory officials in Georgia and Ohio cooperated in the initial sampling and inspection.

Livingston Seed, Inc., Columbus, OH, has paid \$1,550 for a case involving three shipments of seed into Indiana and Texas. The alleged violations, while not the same for all shipments, were mislabeling of seed that was "Below Standard" germination; false labeling as to kind and variety

name; and failure to test for germination prior to interstate shipment. Seed regulatory officials in Indiana and Texas cooperated in the initial sampling and inspection.

Plantation Products, Inc., Norton, MA, has paid \$1,550 for a case involving three shipments of seed into Indiana and Texas. The alleged violation, for all shipments, was mislabeling of seed that was “Below Standard” germination. Seed regulatory officials in Indiana and Texas cooperated in the initial sampling and inspection.

Seedway LLC, Hall, NY, has paid \$1,400 for a case involving three shipments of seed into Maryland, North Carolina, and Pennsylvania. The alleged violations, while not the same for all shipments, were false labeling as to pure seed percentages and variety name; failure to label the presence of noxious-weed seeds, failure to test for germination prior to interstate shipment, and failure to keep a complete record of the seed. Seed regulatory officials in Maryland and Pennsylvania cooperated in the initial sampling and inspection.

Warner Brothers Seed Company, Lawton, OK, has paid \$1,750 for a case involving four shipments of seed into Texas. The alleged violations, for all shipments, were false labeling of pure seed, inert matter, germination percentages, and test date; misleading labeling with respect to germination percentages; misrepresenting seed as being treated (considered advertising); and failure to keep a complete record of the seed. Seed regulatory officials in Texas cooperated in the initial sampling and inspection.

QUESTIONS AND ANSWERS

Company City and State Address on Seed Labels

- Q. If a company puts the company name and web address on the seed label, does the city and state address have to be on the label also?
- A. Section 201.23 of the Federal Seed Act (FSA) Regulations states: “The full name and address of either the shipper or consignee shall appear upon the label. If the name and address of the shipper are not shown upon the label, a code designation identifying the shipper shall be shown.” Address is interpreted to mean the city and state location. The code designation refers to the “AMS number” that can be obtained from our office. An interstate shipper has two options for fulfilling this labeling requirement. The company shipping seed in interstate commerce can put either their own name and address on the label or the name of the consignee (the company to whom the seed is shipped for resale) and their own AMS number identifying them as the interstate shipper.

This labeling requirement is also contained in Section 201(a)(9) of the FSA. See Kevin Robinson’s article on *AMS Numbers* in this issue.

Recordkeeping Requirements

- Q. Where can I find information about Federal Seed Act recordkeeping requirements?
- A. Section 201 of the Federal Seed Act (FSA) and Sections 201.4, 201.5, 201.6, 201.7, and 201.7a of the FSA regulations contain the recordkeeping requirements. The FSA and FSA regulations can be viewed on the Seed Regulatory and Testing Branch Web site www.ams.usda.gov/lsg/seed.htm. Also, if you click on “Publications” on the Web site and scroll down to “Recordkeeping” there is a publication titled “Seedmen’s Records and the Federal Seed Act.” This publication contains more detailed information about the records that are required to be kept along with a checklist and suggested forms that could be used. In addition, an article titled “Maintaining Records and File Samples” by

Gene Wilson is contained in the April 2007 issue of Items of Interest in Seed.

Variety Name Changes

- Q. Can we change the name of our variety to a more appealing name?
- A. If a variety has been sold by a variety name, it must continue to be sold by that name. A possible exception to this rule would occur if there is a legal reason that the existing variety name must be changed. One example might be legal action forcing a company to stop using a variety name because that name is a trademark of another company. In this case, another variety name would have to be chosen. Another example of the need to change a variety name would be if there are two different varieties being sold with the same name. In this case, the company that first sold the seed would keep the variety name and the second company would have to choose a new name for their variety. In addition, if seed is imported into the U.S. for sale with the same name of an existing variety in the U.S., a new name would have to be chosen for that variety before it could be sold in the U.S.

It is not legal under the FSA for two varieties to have the same name or for one variety to have two names. Once a variety has been named, the name cannot be changed except as noted above, and the name of an old variety cannot be used for a new variety, even if the old variety is no longer being sold.

The Seed Regulatory and Testing Branch Web site contains a publication titled "Facts About Naming and Labeling Varieties of Seed" that can provide guidance about naming varieties. Our Web site address is www.ams.usda.gov/lsg/seed.htm.

For information regarding these questions and answers, please contact Branch Chief Richard Payne at (704) 810-8884; richard.payne2@usda.gov.

TOLERANCES AND THE FEDERAL SEED ACT REGULATIONS

Background

Anyone who deals with the testing or labeling of seed, especially regulatory personnel, eventually comes into contact with the concept of tolerances. At its basic level, tolerance is the amount of variation from a given figure that can occur while that value is still acceptable.

Any process involving seed is subject to variability. The less uniform and the less precise techniques such as sampling or testing are, the greater the degree of sampling and experimental error that can occur. On the other hand, regardless of the degree of precision or uniformity of methods, results have a certain amount of variation. As Copeland and McDonald (2001, p. 346) noted, "Tolerances are used to define statistically acceptable limits within which different test results may be expected to vary."

Tolerances play an important role in the regulatory process. Discrepancies from labeled values are evaluated based on whether they are inside or outside these acceptable limits. In enforcement of the Federal Seed Act (FSA), the Seed Regulatory and Testing Branch (SRTB) is guided by Sections 201.59 through 201.66 of the FSA Regulations. These sections address the subject of tolerances.

The regulations state that "tolerances shall be recognized between the percentages or rates of occurrence found by analysis, test, or examination in the administration of the Act and percentages or rates of occurrence required or stated as required by the Act." In other words, a

level of variation expressed as a tolerance is allowed between a labeled value and the result of a regulatory test.

Specifically, in regard to purity and germination, tolerances "...shall be determined from the mean of (a) the results being compared, or (b) the result found by test and the figures shown on a label, or (c) the result found by test and a standard." The first example might be a situation comparing two tests such as when seed is shipped in bulk with a seed test and subsequently a regulatory test is performed. The second example is comparing a label with a regulatory test, and the third might be comparing a regulatory test against an established standard (e.g., the germination standard for packets of vegetable seed shipped in interstate commerce).

Germination Tolerances

Beginning what will be a series of articles on tolerances and the FSA Regulations, this article addresses the subject of germination and tolerances. Section 201.63 concerns the tolerances for germination. As in the section on purity, the average of the regulatory test and labeled value or standard is computed to obtain the tolerance. The table in Section 201.63 indicates the tolerances applicable for tests of 400 or more seeds for germination and also for the sum of germination plus hard seed.

In the conduct of germination tests, Section 201.54 of the FSA Regulations requires that 400 seeds shall be tested for germination if the seed kind is a single component and by inference if the seed kind is part of a mixture and present in an amount greater than 15 percent. For example, if a label reported 85% germination and a subsequent regulatory test had results of 45% germination, the two would be averaged, resulting in a mean of 65%. Turning to the table below (reproduced from Section 201.63), the tolerance would be 9. In this example, the difference between the labeled germination and the regulatory test result is 40%, well beyond the 9% tolerance. Therefore, the variation is due to more than random factors and could indicate that the seed was mislabeled.

Mean	Tolerance
96 or over	5
90 or over but less than 96	6
80 or over but less than 90	7
70 or over but less than 80	8
60 or over but less than 70	9
Less than 60	10

If the germination test is on 200 seeds--used when a component in a mixture comprises 15% or less of the mixture--2 percent should be added to the regular germination tolerances (as indicated in Table 201.63). Therefore, a labeled germination of 85% for that component with a regulatory test result of 65% would have a tolerance of 10%; this is based on the mean of 75% having a tolerance of 8% plus the additional 2% based on a 200 seed test. In this example, the difference between the labeled germination and the regulatory test result is 20%, exceeding the tolerance of 10% and indicating a likely problem with the label.

Tolerances are also used in germination testing as an indication of the reliability of the test itself. Section 201.54 of the FSA Regulations requires testing for germination in replicates of 100 seeds or less. One reason for retesting seed is "when the range of 100-seed replicates of a given test exceeds the maximum tolerated range..." as given in the table in Section 201.55. Reproduced below is a small portion of the relevant table:

Average Percent Germinations	4 replicates	2 replicates
99.....2	5	----
98.....3	6	----
97.....4	7	6
96.....5	8	6
95.....6	9	7
94.....7	10	8

To determine if retesting is necessary, the results of the replicate testing are averaged to obtain the percent germination. The tolerance is determined by looking at the relevant column, either for 4 or 2 replicates. If the difference between the highest and lowest replicates exceeds the tolerance in the appropriate column, then retesting is necessary due to excessive variation in results. If the difference between the highest and lowest replicates is within the accepted tolerance, then no retesting is required. For example, four 100-seed replicates of a germination test each totaled 92, 89, 96, and 99 normal seedlings, resulting in an average germination of 94%. The difference between the highest and lowest replicate is 99 minus 89, or 10%, and the maximum tolerated range for 94% germination is 10%; therefore the difference between the replicates is within the tolerated range and is an indication of the reliability of the test results. If sub-replicates were tested, then sufficient sub-replicates which were closest together in the germinator should be combined into 100-seed replicates (Section 201.55).

Summary

The accurate labeling of seed can be improved by uniform and precise methods for sampling and testing, but regardless of the degree of precision, a certain variation is inevitable. The proper calculation and use of tolerances allows regulatory bodies to better judge the validity of labeled values taking into consideration normal statistical variation. Future articles will cover tolerances for purity and noxious-weed seeds.

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For information regarding this article, contact Seed Marketing Specialist Gene Wilson at (704) 810-8888; gene.wilson@usda.gov.

PURITY OF TALL FESCUE VARIETIES

Kentucky 31 tall fescue originated in Kentucky. It was developed as a forage-type tall fescue and became widely accepted and utilized as a turf grass variety.

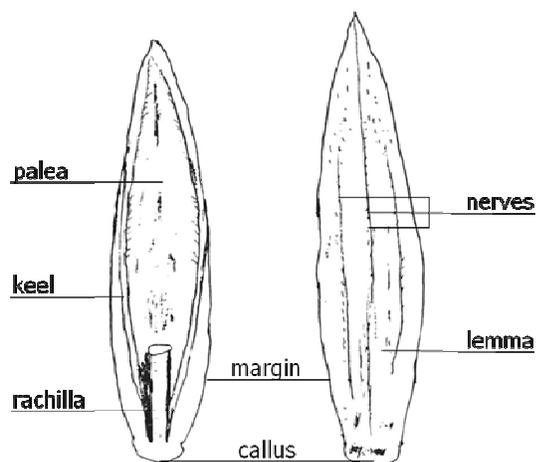


FIGURE 1.—Kentucky 31 Tall Fescue

Coarsely granular, dull, with short-hispid (stiff) hairs on the nerves and along the margins (fig. 1).

Due to recent complaints forwarded by State seed control programs relative to the possible substitution and/or blending of various turf-type tall fescues with Kentucky 31 tall fescue, SRTB has again conducted various tests such as trueness-to-variety (TTV) grow-outs and electrophoresis. Comparisons of the seed characteristics for the tall fescue varieties, Kentucky 31 (fig. 2A) and a turf-type (fig. 2B), were completed. The turf-type tall fescue variety was randomly selected from those used in TTV tests conducted by SRTB.

When conducting a tall fescue purity analysis, the seed is first examined to remove all other crop, inert, and weed seed, and a 400-seed separation is performed on the pure seed portion. In order to obtain these 400 seeds in an unbiased manner, the entire pure seed portion is divided in half and each half is then again divided in half leaving the seed in four “equal” parts. Once the pure seed is separated into four “equal” parts, one hundred seeds are removed from each group and counted. The characteristics used in the 400-seed separation were based on the morphological characteristics Rodney Young used to describe Kentucky 31, Fawn, and Alta tall fescues. The 400 seeds were then separated into four categories based on seed characteristics shown below:

About 20 years ago the Seed Regulatory and Testing Branch (SRTB) received inquiries from cooperating State seed laboratories regarding possible varietal differences, contamination, and/or substitution concerning Kentucky 31 tall fescue. In response to these inquiries SRTB conducted studies on the morphological characteristics of Kentucky 31 (fig. 1) and Fawn and Alta, two forage varieties. Rodney Young, a botanist with SRTB at that time, described the morphological characteristics for these three varieties of tall fescue. Shape, size, and color were also used as characteristics in the identification of these varieties. The description of a Kentucky 31 tall fescue lemma is as follows:

FIGURE 2.—Tall Fescue Seeds



Category	Description of Seeds
A	no hairs or some hairs on the margins of the lemma.
B	hairs on the nerves and the margins of the lemma.
C	hairs all over the entire lemma surface, i.e., not confined to the nerves and margins of the lemma.
D	areas of purple pigmentation anywhere on the seed.

A Kentucky 31 2003 breeder's seed sample from the Kentucky foundation seed project was used as a reference sample. Individual seeds in the 400-seed separation were put into one of the four categories based on visual examination for the characteristics described above. In the reference sample, the majority of the seeds were placed in category C, and no seeds were categorized as having areas of purple pigmentation, category D. The seed separations were used for further testing by SRTB Plant Physiologist Yujia Wu (see article in this issue).

For information regarding this article, contact Botanist Charlene Burton (704) 810-8880; charlene.burton@usda.gov.

IDENTIFICATION OF KENTUCKY 31 TALL FESCUE BY ISOELECTRIC FOCUSING ELECTROPHORESIS

Kentucky 31 tall fescue (*Festuca arundinacea*) is a perennial, cool season, heavy-duty grass that grows across a wide range of soil and climatic conditions in the United States. Tall fescue is used mainly for lawns, landscaping, and as forage for livestock. The variety Kentucky 31 was named in 1931 and released in 1943. The "31" in the variety name refers to the year the plant was discovered. Kentucky 31 is presently grown on approximately 35 million acres in the south central United States. Since many states and companies are involved in the Kentucky 31 tall fescue seed business, the variety test for seed contamination and mislabeling is very important.

To improve the existing Kentucky 31 variety test, Seed Regulatory and Testing Branch (SRTB) Plant Physiologist Yujia Wu, along with SRTB botanists, has developed a new method using Isoelectric Focusing (IEF) protein separation technology. Five Kentucky 31 test samples and one check (control) sample were used for this study. Each sample was obtained by performing a purity test on a seed lot and then taking a 400-seed separation from the resulting pure seed. Four groups of seed (A, B, C, and D) were generated from each 400-seed separation. (See Charlene Burton's article, "Purity of Tall Fescue Varieties," in this issue.)

Four-week old seedlings were harvested from the growth chamber, bulked by group (A, B, C, or D) and each group was ground separately with an extraction buffer, and then centrifuged for 10 minutes at 4°C. Supernatants were loaded on the IEF gels, electrophoresed, and the resulting gels were stained with esterase. Figure 3 shows the IEF gel with the 400-seed separation samples vs. the Kentucky 31 check sample. Figure 4 shows the five samples not separated by a 400-seed separation test (un-separated) vs. the Kentucky 31 check sample.

Different banding patterns are visible for separation A, B, and C of the Kentucky 31 check sample, as well as separations A, B, C, and D of the test samples. The banding patterns in the Kentucky 31 check sample separations and those of the test samples are not similar. See fig. 3.

Samples 1 through 5 in fig. 4 are the five test samples not subjected to 400-seed separations (un-separated). The similarity in banding patterns is clearly visible between the Kentucky 31 check sample and the five un-separated test samples. However, test samples 1, 2, and 5 are less similar to the Kentucky 31 check sample than are test samples 3 and 4. See fig. 4.

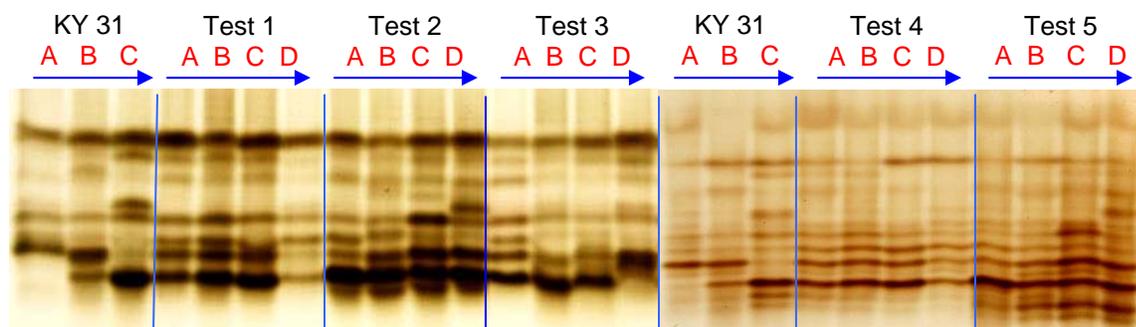


FIGURE 3.—IEF gel showing 400-seed separation samples (A, B, C, and D) and Kentucky 31 check sample.

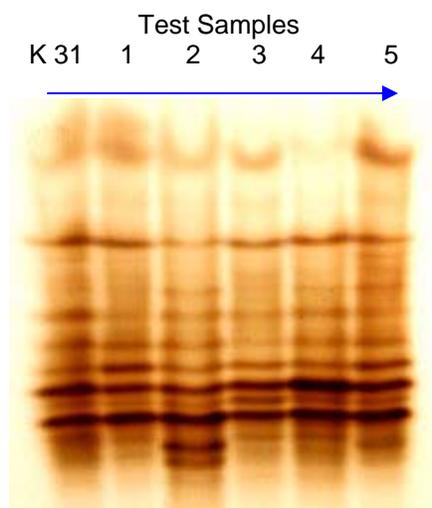


Figure 4.—IEF gel showing un-separated samples and Kentucky 31 check sample.

Based on these results, it appears preferable to use the pure seed fraction from the purity test rather than a further subdivided sample based on seed characteristics, when performing IEF electrophoresis in variety tests for Kentucky 31 tall fescue.

For information regarding this article, contact Plant Physiologist Yujia Wu at (704) 810-7267; yujia.wu@usda.gov.

THE ROLE OF THE SEED COAT IN DETERMINING SEED PURITY IN FABACEAE

The Association of Official Seed Analysts (AOSA), the International Seed Testing Association (ISTA), and the Federal Seed Act (FSA) Regulations all consider broken seeds in the Fabaceae family to be pure if they are greater than 50 percent of their original size and have at least some portion of the seed coat attached. The many possible ways for Fabaceae seeds to break and the role of the seed coat in determining purity sometimes make it difficult to determine whether a broken Fabaceae seed is pure or inert.

AOSA, ISTA, and FSA rules and regulations have the same provisions for classifying split cotyledons in this family. All three classify a single cotyledon as inert irrespective of whether the radicle-plumule axis or any portion of the seed coat is attached (fig. 5). Also, AOSA rules specifically state in pure seed definition number 2 that a seed consisting of split cotyledons held

together in a seed coat is classified as pure (fig. 6). Neither ISTA rules nor FSA regulations specifically mention “split cotyledons held together in a seed coat”; however, the implied meanings are the same as described in AOSA.

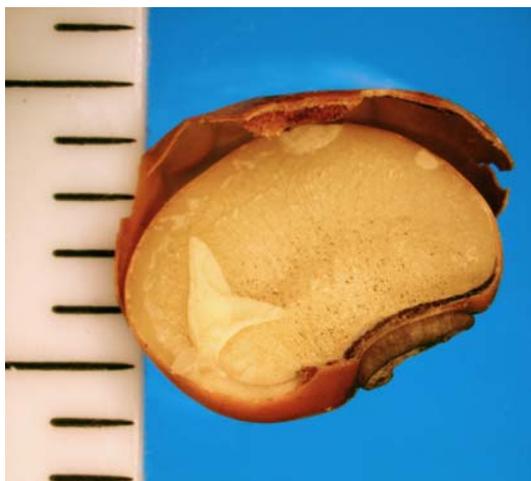


FIGURE 5.—Inert cowpea seed



FIGURE 6.—Pure cowpea seed

Misinterpretation of pure seed rules can cause differences in purity test results among analysts and laboratories. Ensuring uniform analyses according to the relevant rules will not only improve accuracy, but potentially may reduce workload by decreasing the need for retests caused by misinterpretation.

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WHAT IS “DAMPING-OFF” AND WHAT DO WE DO WHEN IT INVADES OUR GERMINATION TEST SEEDLINGS?

The unusual term “damping-off” is a common name for a disease that causes the decay of plant tissues. Various soil-borne fungi that attack seeds and seedlings are responsible for this series of unpleasant symptoms that occasionally shows up in the germination test. The culprits include species of *Pythium*, *Rhizoctonia*, and *Phytophthora* among others. After infection, a small lesion or water-soaked spot may be visible on a root or hypocotyl followed by rapid spreading resulting in slimy, darkened seedlings collapsed onto the surface of the substratum (fig. 7).

The disease occurs worldwide in both cool and warm soils and affects seeds, seedlings, and mature plants of most kinds of vegetables, fruits, cereals, and even forest trees. Both pre-emergence and post-emergence types of damping-off may attack seeds and plants in field situations. If plants are older when afflicted, they may survive but suffer lesions, decayed roots, and stunted growth. The exact symptoms vary with the species of fungi, environment, and condition of the plant.

Damping-off is occasionally a problem in laboratory germination tests, particularly with untreated seeds such as watermelon, squash, and cucumber. If infected seeds are planted for the germination test, the pathogen has conditions favorable for establishing and spreading through the test. Nutrients released from the germinating seed also facilitate growth of the fungus. A seed invaded by damping-off will most likely turn brown and fail to germinate; if only the seed coat is infected, a seedling may emerge before succumbing.

However, the seed analyst can take steps to minimize the risk and damage as much as

possible. Equipment, planting and evaluating areas, and substrata should be clean at all times. Hands or gloves should be clean when handling seeds, seedlings, and planting equipment. The correct conditions of moisture and temperature must be maintained, as improper conditions may result in slower seedling growth that could allow the fungus time to establish. Moisture is



FIGURE 7.—Watermelon germination test. The three seedlings on the left are normal; the three seedlings on the right are infected with the damping-off fungus and are abnormal.

particularly important and should be available to seeds and seedlings at all times, but paper substrata should never be wet enough that a film of water forms around seeds or around a finger when pressed against the substratum. (See Section 201.55a of the Federal Seed Act Regulations Part 201 for information about moisture in soil and sand tests.) Maintaining adequate spacing and removing dead moldy seeds and infected seedlings at each count will help avoid secondary infection. Early, frequent preliminary counts also can help avoid the spread of secondary infection.

According to Section 201.56 (c) of the Federal Seed Act Regulations, a seedling affected by a fungus is considered normal if the essential structures are present. A seriously damaged seedling that appears to have developed all essential structures before the damage occurred is considered normal if the infection originated from another source (secondary infection). If secondary infection makes seedling evaluation difficult, a retest should be conducted on paper substratum with wide spacing of seeds or in soil or sand. Seed coats infected with the damping-off fungus may drop off more quickly in a soil or sand test, permitting seedlings to emerge without infection.

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Agrios, G.N. 1988. *Plant Pathology*, Third Edition. Academic Press, Inc, San Diego.

Alexopoulos, C.J. and C.W. Mims. 1979. *Introductory Mycology*, Third Edition. John Wiley & Sons, New York.

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SEED SEGMENTS

By Jeri Irwin

A JOURNEY TO KENTUCKY

Have you ever wondered if your seed program was similar to other seed programs? Are you curious about how other remote seed samplers communicate with their office and each other? The Seed Segments reporter will help you find answers to these and other questions by asking State agencies to share information about their daily challenges. Last October, Seed Segments reporter Jeri Irwin began this virtual journey at the Department of Agriculture in tropical Hawaii. Now she ventures to the green rolling hills of Lexington, KY, also known as the Horse Capital of the World. Seed Regulatory Program Coordinator David T. Buckingham and Seed Testing Coordinator Cindy Finneseth of the Division of Regulatory Services in the University of Kentucky (UK), College of Agriculture (<http://www.rs.uky.edu/sections/seed/index.php>) agreed to answer some questions about their program.

What are the main functions of the Kentucky Seed Regulatory and Seed Testing Program?

The main functions of our Seed Regulatory Program are seed testing and the administration of the Kentucky Seed Law.

The mission of the Seed Regulatory Program is to administer the Kentucky Seed Law, providing producer, consumer, and agribusiness protection through an inspection, sampling, and analysis program of seed products distributed and offered for sale across the State.

The mission of the Seed Testing Program is to provide accurate and timely seed quality analysis to the Seed Regulatory Program, producers, agribusiness firms, researchers, and others based on scientific principles and common sense.

The Kentucky Program strives to provide Kentucky seedsmen support from production through packaging and sales to end use. We seek to expand the industry's economic opportunities by maintaining a fair marketplace, sharing knowledge and expertise, and responding to industry needs.

Testing activities are separate from, but integral to, a successful regulatory program. Our laboratory typically tests 5,000-7,000 samples for service and about 2,500 official regulatory samples annually. The seed laboratory at the UK is the only seed testing facility in the State. It is also an AOSA (Association of Official Seed Analysts) member laboratory.

The Seed Regulatory Program does not have access to service testing information other than general information about how specific seed kinds are tested, and this information

is provided by the seed testing coordinator or laboratory staff. It is necessary to maintain a division between regulatory and service activities as the laboratory performs service testing for the regulated industry. It is important that there is no conflict of interest – whether implied or real – between the two programs. In theory and in practice, the Seed Regulatory Program is treated as a customer of the seed laboratory. I do not review or access service samples, unless requested by the submitting firm. Our industry requested that this division of responsibility be made in 1994.

The Seed Testing Program staff performs an obvious vital function for the Seed Regulatory Program in testing of official samples. I consider their service testing capability as another vital function and tool for the Seed Regulatory Program. The service testing laboratory provides individuals and industry with a basis for labeling seed offered for sale in Kentucky. Service testing has proven to be an excellent regulatory tool in maintaining voluntary compliance with the provisions of the Kentucky Seed Law. To ensure this relationship, seedsmen must have access to an accurate, reliable, and efficient laboratory, and most producers in the State use the UK laboratory for at least a portion of their samples.

The regulatory function of administration of the Kentucky Seed Law includes a number of activities. The Seed Regulatory Program annually issues about 240 permits to label seed and registers over 400 seed dealers and processors. Our inspection staff obtains about 2,500 official samples from retail and wholesale locations across the State, and regulatory action is taken in the form of stop sale orders for out of tolerance seed lots. The inspection staff also issues stop sale orders in the field on seed lots that are not in compliance with our labeling requirements. Most stop sales in the field are issued on expired test date seed in the specialty market (e.g., big box stores or local hardware stores). A smaller number of stop sale orders are issued for other violations. We cover all seed that is marketed, including agricultural, lawn/turf, vegetable, and flower seed. The Seed Regulatory Program is responsible for the collection of quarterly fees from agricultural permit holders. The Seed Regulatory Program also submits complaints to Seed Regulatory and Testing Branch (SRTB) to assist in the administration of the Federal Seed Act (FSA).

The Division of Regulatory Services publishes a quarterly newsletter that is sent to more than 2,500 individuals and regulated firms across Kentucky and the United States. This forum allows the Kentucky Program to communicate to a large and diverse audience about issues of importance in testing and regulation. Examples of article topics range from Roundup Ready™ alfalfa to the utility and interpretation of vigor tests. Other forms of communication include publishing an annual report, conducting seed schools, and participating in many division, college, and university activities. Many of our personnel are active in our State, regional, and national organizations, serving as officers and on committees.

How many employees are in the Seed Regulatory Program?

Staffing of the Kentucky Program currently consists of two purity analysts, two germination analysts, one laboratory manager, one seed testing coordinator, and one seed regulatory program coordinator. Additionally, shared between the two programs is a staff assistant who is responsible for a wide variety of administrative tasks. We employ three to four students in the laboratory and also have used temporary employees. The part-time employees help with sample entry, sample preparation, planting, and other associated tasks. The laboratory manager has oversight of analyst and laboratory activities and reports to the seed testing coordinator. Both the seed regulatory program coordinator and seed testing coordinator report to the Director of the

Division of Regulatory Services. All of our full time analysts are AOSA certified (three in germination and purity, two in germination only) as is the seed testing coordinator (purity and germination).

A ten member inspection staff, one of whom is also the inspection staff coordinator, contributes to the Seed Regulatory Program. They routinely inspect and sample all seed products available in the marketplace. These seed kinds include grains (primarily corn, soybeans, and wheat), tobacco, lawn/turf seed, and forages. With increasing frequency, the inspection staff encounters native plant species (grasses, wildflowers, and legumes) used for Conservation Reserve Program and Conservation Reserve Enhancement Program projects in addition to vegetable and flower seeds. The inspection staff works across multiple programs, and about 22 percent of the inspection staff time for 2007 was utilized by the Seed Regulatory Program.

What other commodities do they inspect, along with seed?

Eight of the inspectors work seed, feed, and fertilizer primarily as in-area agricultural inspectors. Feed responsibilities also include Federal FDA Good Manufacturing Practices inspections and the Center for Veterinary Medicine and Ruminant Feed (BSE) inspections. Two of the inspectors inspect seed, feed, and fertilizer products in what we call the specialty market, which consists of the big retail stores, nurseries, hardware stores, and other outlets. The specialty inspectors inspect and sample lawn/turf, vegetable, and flower seed; pet foods; and specialty fertilizer products. Each specialty products inspector has responsibility for half of the State as well as designated counties where they cover other regulated agricultural commodities. One of these specialty inspectors also has milk inspection duties.

Kentucky is a rather big State. How do the inspectors communicate sampling issues with the main office and each other?

The regular agricultural inspectors work a designated territory. They maintain a home office and work from there. One of the specialty inspectors is in western Kentucky and the other specialty inspector lives close to Lexington and is in the office every Friday. Twice a year (July and December), the entire inspection staff as well as respective program coordinators meet to review the previous period's work and plan future work. During the course of a year, all of the inspectors will come in for a specific purpose, in addition to the biannual inspector meetings.

The Seed Regulatory Program provides the inspection staff an on line, real-time database of regulatory sample information accessible from their home office which includes permit and registration information, as well as sample information. They can access the official samples and query by lot number or regulated firm, if they wish. I also provide them with weekly or bi-weekly, as needed, information relating to sample stop sales.

Is there a popular crop that Kentucky has always been known for?

Historically, the traditional crop in Kentucky has been burley tobacco. With the changes to the Federal Tobacco Program, Kentucky production has gone from 200,000 acres to 70,000 acres. Tobacco continues to be a top value crop, but according to acreage planted, the number one 2006 crop in Kentucky was hay, followed by corn, soybeans, tobacco, and winter wheat. Vegetable production and grape production for the wine industry are emerging crops in Kentucky. Kentucky is also well known for its thoroughbred horse industry, which is an important segment of State agricultural

receipts. We have the largest beef cattle herd east of the Mississippi, a fair number of dairy and goat herds, and a growing number of integrated poultry operations.

What unique challenges does the Seed Regulatory Program face?

One of the unique things about our law is that it does not accept variety not stated (VNS) labeling. This does present challenges as most of the seed sold in Kentucky comes from sources outside of the State where this is allowed. Variety Unknown labeling is allowed for some seeds but only if the variety is unknown. Soybeans are required to be labeled by variety name, hybrid designations are required, and grain farmers growing wheat are not going to plant “unknown wheat” for anything but cover crop purposes. Every spring and fall we find and stop the sale of VNS soybeans, corn, and wheat. There has been a good amount of improvement in this situation but it continues to be a challenge.

We have also seen an increasing number of direct-to-farm sales in Kentucky. A number of these products were being distributed by out-of-State and in-State marketing representatives from companies that did not secure the necessary registrations and permits. We have had to make adjustments in our Inspection Program to identify, inspect, and sample these products on the farm. This process is more difficult to accomplish because of having to locate the farms, make contacts to gain access, and maintain the goodwill of the individual whose farm we visit. Inspection of these products is necessary if we are to keep a “level playing field” for everyone involved on distribution of seed.

Another challenge is securing resources in terms of personnel, equipment, and space to do more advanced testing, including testing for varietal purity, testing for transgenic traits and their purity, and research into methods development. This is not unique, as other programs most likely face the same challenge.

We also have to be involved when groups introduce legislation that would have a significantly negative or positive impact on our industry. In the past, we became involved when an effort was made in our State legislature to place tall fescue, orchardgrass, lespedezas, crownvetch, and other agronomic seed kinds on an invasive plant species list. Change does occur, and we need to be involved in the process. Our work load is significant, and when issues arise that we need to address, we frequently find ourselves in a re-active position rather than a pro-active position.

What are some of the extraordinary duties the Kentucky Program is involved with?

A few years ago, the seed laboratory conducted extensive testing when the State’s thoroughbred industry was threatened by Mare Reproductive Loss Syndrome (MRLS), which resulted in serious losses to our equine industry due to spontaneous abortion in breeding mares. Our contributions to the investigation of the cause of MRLS involved copious endophyte testing on pasture samples submitted by researchers and members of the horse industry. This support to the equine industry continues through a collaboration involving pasture sampling and evaluation.

The program has been able to employ electronic delivery of information to improve services to the industry we serve. We have contracted with a software programmer to develop a comprehensive system for laboratory and reporting functions. Using a secure, password based system, our customers can access their service and regulatory sample information online at their leisure as well as track sample progress, including anticipated completion date. Additionally, our inspection staff has access to official sample

information from their home base and, as technology allows, the inspectors will have real-time, on-demand access to firm and sample information while working in the field.

On the regulatory side, our program is also involved in education and training. We recently completed a training program for seed specialty marketing for one of our large chain outlets, and over 60 individuals attended. We continue to place emphasis on variety labeling, especially for grains.

Although not a recent activity, our Seed Regulatory Program tested corn samples for StarLink contamination utilizing commercially available USDA approved test strips.

How does the Seed Regulatory Program benefit from the cooperative agreement between the it and the Agricultural Marketing Service?

Approximately 85 percent of seed in commerce in Kentucky comes through interstate commerce. Complaints are submitted to SRTB on those seed lots that our laboratory finds to be significantly out of tolerance of labeled guarantees, and I also submit complaints that relate directly to mislabeling as to variety statements. Investigation and actions by SRTB taken on these complaints has improved seed quality and compliance with the Kentucky Seed Law.

Sample results received from SRTB on submitted samples also serve as a basis of comparison between our laboratory results and another laboratory's results on the same sample. SRTB's seed marketing specialists, Dr. Payne, and their testing laboratory are also good resources to go to when I need specific technical or FSA information.

The program appreciates the training opportunities and takes advantage of the programs offered by STRB. We send personnel to participate in the various seed schools that have been offered at the facility in Gastonia, NC, and upon their return they share that information with the other staff members. Also, staff at the STRB have provided guidance on various topics – Mike Lovelace with herbicide bioassays and Sandra Walker with seed pathology questions.

As the Association of American Seed Control Officials (AASCO) President, have you noticed any national or regional concerns that seed control officials are being faced with?

1. Labeling issues related to labeling as to variety or in the case of hybrid seed corn, labeling with a true hybrid designation. Growers have been told to spread their risks and plant different varieties and hybrids. These growers are beginning to notice that grain crops are being sold by brands without being identified as hybrids or varieties. They are asking how they can spread the risk if the label does not identify the hybrid or variety.
2. Placement of pre-emptive language in State seed laws that would prohibit local government entities from imposing restrictions that overruled State seed laws.
3. Increasing use of native plant species across the U.S. is calling attention to the lack of approved testing procedures for a good number of these seed kinds in commerce, raising an increasing interest and debate about the validity of tetrazolium testing as a legally-recognized stand-alone test to be used as a substitute for germination, and also raising the awareness that a significant number of native species are unregulated by current State and Federal laws.
4. Concerns that current testing methods for ryegrass differentiations are not adequate.

5. Inadequate funding for official seed testing laboratories.

Is there anything else that you would like to say about the Kentucky Program?

The Seed Program in Kentucky has a unique position as part of the land-grant university. As such, our philosophy may be different from other regulatory programs in that, in addition to consumer and industry protection, we are sensitive to research, education and service. We perform an essential service that directly or indirectly benefits many citizens of the Commonwealth. We are dedicated to improving the life of Kentuckians, and we strive to provide a comprehensive education, inspection, sampling, and analysis program that support the State seed industry from production through packaging and sales to end use. We seek to achieve voluntary compliance while partnering to expand the industry's economic opportunities by sharing our knowledge and expertise and by responding to traditional and emerging industry needs. In the future, the Seed Regulatory Program will continue to improve the effectiveness of our programs and the efficiency with which we perform regulatory and service functions. As new State, Federal, and international regulations place demands on producers and agribusinesses, additional needs for both regulatory and service programs will arise. Our Program is committed to responding to those needs.

The Seed Regulatory and Testing Branch thanks David Buckingham and Cindy Finneseth for submitting information for the IOI's Seed Segments column. The Seed Segments reporter may contact you to share information about your seed program.

For information regarding this article, contact Seed Marketing Specialist Jeri Irwin at (704) 810-8878; jeri.irwin@usda.gov.

RYEGRASS FLUORESCENCE LIST

The current ryegrass fluorescence list by the National Grass Variety Review Board is available on the following Web site: <http://www.aosca.org/VarietyReviewBoards/Grass.html>

PLANT VARIETY PROTECTION CERTIFICATE STATUS

Check the status of certification and search for expired certificates by accessing the Plant Variety Protection Office's Web site and entering their Public Access Database: <http://www.ams.usda.gov/science/pvpo/PVPindex.htm>.

AN IMPORTANT NOTE TO OUR STATE SEED CONTROL OFFICIALS

Please contact the Seed Regulatory and Testing Branch when your office or laboratory has changes regarding the following information:

- Regulatory and laboratory contacts
- Commissioners, Directors, and/or Secretaries
- Title changes
- Address (physical or mailing)
- Telephone numbers (voice and fax)
- E-mail addresses

For further information or to submit your updates, please contact Seed Marketing Specialist Jeri Irwin at (704) 810-8878; jeri.irwin@usda.gov.

AN IMPORTANT NOTE TO OUR SEED COMPANY CUSTOMERS

Please contact the Seed Regulatory and Testing Branch when your company has changes regarding the following information:

- Address (physical, mailing, or billing)
- Telephone numbers (voice and fax)
- Company contact
- Updated DBA (doing business as) information
- Any other changes to your existing account, such as mailing or courier instructions for Seed Analysis Certificates, etc.

For further information or to submit updates, please contact Carolyn Camidge at (704) 810-7263; carolyn.camidge@usda.gov.

CALENDAR OF EVENTS

International Seed Testing Association (ISTA) Seed Health Committee Meeting, Workshop, and Symposium Pretoria, South Africa	April 5-19, 2008
International Seed Testing Association (ISTA) Workshop on Species and Variety Testing/Verification Freising, Germany	April 20-25, 2008
Federal Seed School Gastonia, NC	April 28-May 2, 2008
Association of Official Seed Analysts (AOSA) and Society of Commercial Seed Technologists (SCST) Annual Meeting Saint Paul, MN	June 6-11, 2008
International Seed Testing Association (ISTA) Executive Committee Meeting Bologna, Italy	June 15 and 20, 2008
International Seed Testing Association (ISTA) Annual Meeting Bologna, Italy	June 16-19, 2008
American Seed Trade Association (ASTA) Annual Convention Orlando, FL	June 25-29, 2008
Organization for Economic Cooperation and Development (OECD) Annual Meeting Chicago, IL	June 29-July 3, 2008
American Phytopathological Society Annual Meeting Minneapolis, MN	July 26-30, 2008

Association of Official Seed Certifying Agencies (AOSCA) Annual Meeting Quebec City, Canada	July 26-30, 2008
American Society of Plant Biology (ASPB) Merida, Mexico	July 27-August 2, 2008
Federal Seed Schools Gastonia, NC	August 4-8, 2008
American Association of Seed Control Officials (AASCO) Annual Meeting Nashville, TN	August 6-9, 2008
FSA Seed Inspector Training	TBD

Seed Regulatory and Testing Branch (SRTB)-sponsored training is shown in **bold**.

For further information regarding the Calendar of Events, contact Branch Secretary Winston Robinson at (704) 810-8871; winston.robinson@usda.gov.

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“Seedsmen reckon that their stock in trade is not seeds at all...it’s optimism.”

Geoff Hamilton
Gardener and broadcaster in Great Britain

(Contributed by Seed Regulatory and Testing Branch Botanist Sandy Dawson)

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