



Seed Regulatory and Testing Division

ITEMS OF INTEREST IN SEED

October 2012

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EDITOR'S NOTES

The Seed Regulatory and Testing Division (SRTD) would like to introduce to you its new Director, Dr. Fawad S. Shah. Before his arrival at SRTD, Dr. Shah was employed with the Washington State Department of Agriculture for over eight years, first as Seed Program Manager and later promoted to Grain and Seed Administrator. We have included in this Items of Interest in Seed (IOI) edition a full article about Dr. Shah and his many contributions to the seed industry.

This year, the U.S. Department of Agriculture celebrates its 150th anniversary. On May 15, 1862, President Lincoln signed into law an act of Congress establishing the U.S. Department of Agriculture. In a recent message regarding the 150th anniversary, Secretary of Agriculture Tom Vilsack added, "Two and one-half years later, in what would be his final annual message to the Congress, Lincoln called USDA 'The People's Department.' At that time, about half of all Americans lived on farms, compared with about 2 percent today. But through our work on food, agriculture, economic development, science, natural resource conservation and host of issues, USDA still fulfills Lincoln's vision – touching the lives of every American, every day."

Did you know that prior to 1924 USDA had distributed approximately 1.1 billion seed packets to farmers? The farmers liked receiving the seeds for two specific reasons: the seed was free and government seeds were considered higher quality. In honor of President Lincoln and USDA's 150th Anniversary, USDA's People's Garden Initiative distributed 'Abraham Lincoln' heirloom tomato packets to People's Gardens that had been registered in their database prior to April 2012. Over 1,600 People's Gardens around the world actively participated in this tribute to Abraham Lincoln. We have included two brief articles about the 150th anniversary and 'Abraham Lincoln' heirloom tomatoes in this IOI. The articles also contain links to interesting articles about President Lincoln and his contributions to agriculture.

This issue highlights several important meetings and workshops that the SRTD staff members have participated in recently, including the annual meetings of the American Seed Trade Association (ASTA), the Association of American Seed Control Officials (AASCO), the Association of Official Seed Analysts and Society of Commercial Seed Technologists (AOSA-SCST), the International Seed Testing Association (ISTA), and the Organization for Economic Cooperation and Development (OECD) Seed Schemes. Two articles also worth highlighting are Plant Physiologist Yujia Wu's article "Testing Tomato Seeds for Nematode-Resistant Varieties by Isozyme Acid Phosphatase" and Botanist Patsy Jackson's historic article "The Seed Regulatory and Testing Division's Herbarium: Past and Present." Patsy's article, in particular, ties in nicely with USDA's 150th Anniversary.

The SRTD is committed to providing its customers quality service. Your feedback concerning our IOI provides SRTD an excellent way to measure whether or not we are addressing the topics that interest you the most. We want to know how this publication may better serve your business needs. Please send your comments or suggestions to me at linda.vanderhoof@ams.usda.gov.

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

Linda Vanderhoof
IOI Editor

NEW DIRECTOR OF THE SEED REGULATORY AND TESTING DIVISION - DR. FAWAD S. SHAH

The Agricultural Marketing Service's (AMS) Seed Regulatory and Testing Division (SRTD), in Gastonia, North Carolina welcomes Dr. Fawad Shah as its new Director. Dr. Shah brings a great deal of experience to this leadership position and we are fortunate and pleased to have him onboard. An excerpt from an April 19th introductory memorandum from Livestock and Seed Deputy Administrator, Craig Morris, follows:

Originally from Pakistan, Dr. Shah completed his Master's and Bachelor of Science degrees at the University of Agriculture, Faisalabad. He came to the U.S. as a graduate student at Mississippi State University in August 1993 and graduated with Ph.D. in Seed Technology – Agronomy in May 1997. He then worked as a Seed Analyst and a Quality Assurance Assistant Manager for a seed testing lab and seed company, respectively, before returning to Mississippi State University in 1999 to pursue a Master of Science in Business Administration (MSBA) in 2001. The Mississippi Agricultural and Forestry Experiment Station soon hired him as a Research Associate, where he prepared new and existing variety trials for corn, soybeans and wheat, and also worked for their Foundation Seed Production Program.

In March 2004, Dr. Shah moved to Yakima, Washington, to serve as the Washington State Department of Agriculture's Seed Program Manager. In that capacity, he oversaw seed certification, seed testing, phytosanitary inspections and issuance of phytosanitary certificates, and seed regulatory functions. Impressively, within 9 months of his hiring Dr. Shah had turned this fee-for-service program that had been suffering from a funding deficit into a program that earned a funding surplus.

Photo by Dr Yujia Wu, USDA, AMS 2012



Dr. Fawad S. Shah, Director, Seed Regulatory and Testing Division.

In January 2011, Dr. Shah was promoted to the Grain and Seed Administrator of the Washington State Department of Agriculture where he oversaw 150 full time staff in 12 statewide locations for the grain, seed and warehouse fee-for-service audit programs, along with its \$20 million operating budget.

Dr. Shah's other achievements include his selection to attend the Executive Management Program at University of Washington in Seattle; serving as a Washington State Crop Improvement Association board member; and serving as a commissioner of the Washington Turf Seed, Washington Alfalfa Seed and Washington Canola and Rapeseed Commissions. Further, for the past five years, he has served as Associate Editor of the Seed Technology Journal and has published numerous publications related to seed quality and variety testing.

Welcome to the Seed Regulatory and Testing Division, Dr. Shah! We look forward to working together to meet our future goals.

FEDERAL SEED ACT CASES SETTLED

The Federal Seed Act (FSA) regulates the interstate shipment of agricultural and vegetable seeds. The FSA requires that seed shipped in interstate commerce be labeled with certain information necessary for the seed buyer to make an informed choice. The labeling information and any advertisements pertaining to the seed must be truthful. The FSA helps promote uniformity among the State laws and fair competition within the seed trade.

The following cases were settled administratively under the FSA between March 14 and September 4, 2012. Under the administrative settlement procedure, the Seed Regulatory and Testing Division 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 are accessible on the following Web site under the "Latest Releases" link: <http://www.ams.usda.gov/news/newsrel.htm>.

Beachner Seed Company, St. Paul, KS, has paid \$7,800 for cases involving nine grass seed shipments to Kentucky, Missouri, and Tennessee. Seed regulatory officials in Kentucky and Missouri cooperated in the initial sampling and inspection. The alleged violations, while not the same for all shipments, were:

- False labeling of germination, pure seed, and inert matter percentages; and
- Failure to label the presence of noxious-weed seeds.

Buchheit, Inc., Perryville, MO, has paid \$1,575 for cases involving three grass seed shipments to Georgia and Kentucky. Seed regulatory officials in Georgia and Kentucky cooperated in the initial sampling and inspection. The alleged violations, while not the same for all shipments, were:

- False labeling of germination percentage and variety name;
- Failure to test for germination within the prescribed time prior to interstate shipment; and
- Failure to keep or supply complete records of the seed.

Discount Seeds, Inc., Watertown, SD, has paid \$2,025 for cases involving three seed shipments to Kentucky, Missouri, and Texas. Seed regulatory officials in Kentucky, Missouri, and Texas cooperated in the initial sampling and inspection. The alleged violations, while not the same for all shipments, were:

- False labeling of germination percentage;
- Failure to label the presence of noxious-weed seeds; and
- Failure to keep or supply complete records of the seed.

Johnston Seed Company, Inc., Ashburn, GA, has paid \$3,150 for cases involving five seed shipments to Alabama and Florida. Seed regulatory officials in Alabama and Florida cooperated in the initial sampling and inspection. The alleged violations, while not the same for all shipments, were:

- False labeling of germination, pure seed, and inert matter percentages and kind name; and
- Failure to keep or supply complete records of the seed.

J. Lee Company, Hennessey, OK, has paid \$2,475 for cases involving three shipments of rye seed to Georgia. Seed regulatory officials in Georgia cooperated in the initial sampling and inspection. The alleged violations, while not the same for all shipments, were:

- False labeling of noxious-weed seeds; and
- Failure to label the interstate shipper's name and address or code designation.

ProSeeds Marketing, Inc., Jefferson, OR, has paid \$2,250 for cases involving three grass seed shipments to Kentucky and Missouri. Seed regulatory officials in Kentucky and Missouri cooperated in the initial sampling and inspection. The alleged violations, while not the same for all shipments were:

- False labeling of germination, pure seed, and other crop seed percentages, test date, and variety name; and
- Failure to keep or supply complete records of the seed.

The Scotts Company LLC, Marysville, OH, has paid \$2,925 for cases involving four grass seed shipments to Kentucky, Missouri, and Texas. Seed regulatory officials in Kentucky, Missouri, and Texas cooperated in the initial sampling and inspection. The alleged violations, while not the same for all shipments, were:

- False labeling of germination and pure seed percentages and date of test.

FALL TRUENESS-TO-VARIETY OVERVIEW

Each year the Seed Regulatory and Testing Division (SRTD) 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 SRTD. SRTD relies on State seed control programs to submit samples for inclusion in the TTV tests.

This summer, the SRTD conducted TTV tests on pumpkins at Piedmont Research Station, Salisbury, NC; watermelons at Alcorn State University, Lorman, MS; and sweet corn at Clemson University, Clemson, SC. This fall, the SRTD will be conducting TTV trials on tall fescue for evaluation in 2013.

The SRTD would like to thank all the States for participating in the TTV program. Once results and information have been compiled, participating States will be notified of any mislabeling.

If there are any questions concerning the TTV program or directions for submitting samples, please contact Seed Marketing Specialist Kevin Robinson, at (704) 810-7264; kevin.robinson2@ams.usda.gov.

AN IMPORTANT NOTE TO STATE SEED CONTROL OFFICIALS

Please contact the Seed Regulatory and Testing Division (SRTD) when your office or laboratory has changes regarding the following information:

- Seed Control Officials or regulatory and laboratory contacts
- Commissioners, Directors, or Secretaries
- Titles
- Department names (division, section, bureau, etc.)
- Addresses (physical or mailing)
- Telephone numbers (voice and fax)
- E-mail addresses
- Web sites

SRTD wants to make sure laboratory reports, copies of regulatory correspondence, training notices, program announcements, and requests for information reach the correct person as soon as possible. Sometimes SRTD may need to refer a customer to a State office, and directing them to the appropriate contact person can be a helpful service.

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

2012 ASSOCIATION OF OFFICIAL SEED ANALYSTS - SOCIETY OF COMMERCIAL SEED TECHNOLOGISTS ANNUAL MEETING

The 2012 joint annual meeting of the Association of Official Seed Analysts (AOSA) and the Society of Commercial Seed Technologists (SCST) was held May 20-24, in Des Moines, IA. Division Director Fawad Shah, Ph.D., Botanist Ernest Allen, and Botanist Patsy Jackson represented the Seed Regulatory and Testing Division (SRTD) at the meeting.

The Teaching and Training Committee mini-workshop included a presentation by Ms. Jackson on "Points to Consider when Training a Seed Analyst." The presentation covered various teaching methods, different analyst learning types, and ways to bridge the two. Ms. Jackson is also a member of the Purity Committee and the Certification Committee. The Certification Committee will offer the first combined AOSA/SCST analyst examination April 2013 in Ames, IA.

SRTD representative Ernest Allen currently serves as a member of the AOSA Rules Committee. This year, the Rules Committee presented 21 rule change proposals for review and adoption. Several proposals involved adding a new column to Table 2A of the AOSA rules to indicate whether or not individual seed kinds are chaffy. Various proposals recommended adding rules for germination, purity, or the assignment of species into pure seed definitions that best characterize their morphological seed features. Other rule change proposals were intended to

clarify existing testing procedures. A complete listing of the 2012 rule proposal voting results can be found on both the AOSA and SCST websites respectively at www.aosaseed.com/rules_committee.htm and www.seedtechnology.net/rules_committee.htm.

The AOSA and SCST voted to accept 12 of the 21 proposed rule changes for implementation on October 1, 2012. Three proposals were not accepted into the AOSA rules. These proposals involved adding a “nucleic acid assay method” as an option to the ryegrass fluorescence test, removing the orchardgrass multiple unit procedure from the AOSA rules, and revising table 14K tolerances and removing “fungal endophyte testing” from the title of the table. The remaining six proposals were either withdrawn or dropped.

None of the accepted proposals are expected to conflict with the Federal Seed Act (FSA) or its regulations. One proposed and accepted method involves using an allelic discrimination procedure to aid in the determination of ryegrass growth types. The new method is supplemental to the fluorescence test, but an option to the grow-out method and has maintained tolerance with current FSA grow-out methods in samples with annual ryegrass contamination levels of 20 percent or less in perennial ryegrass seed lots. Although there is not much supporting evidence or research at contamination levels greater than 20 percent, the test is expected to maintain tolerance with FSA grow-out methods because results for each seedling or plant is generated individually. Regulatory samples of ryegrass received by the SRTD will continue to be tested using the fluorescence test and, if necessary, a 400 seed grow-out.

In addition to the 2012 Rule proposals, considerable time at this year’s meeting was devoted to discussions about increasing uniformity within and between laboratories. One effort already underway involves revisiting outdated and unused methods, procedures, and requirements for possible removal from the rules. AOSA and SCST member laboratories are encouraged to participate if they receive a method survey.

The AOSA and SCST membership also agreed to begin distributing self-audit checklists to member laboratories. The purpose of the checklist is to ensure that each seed testing laboratory understands what the minimally accepted requirements are for seed testing. A current copy of the AOSA Rules for Seed Testing, accurate balances, dividers, and growth chambers are some examples of basic requirements. Ensuring that laboratories are appropriately equipped to test seeds will aid in achieving uniformity in seed testing.

A highlight of the meeting for the SRTD was the presentation of two awards to SRTD Deputy Director and Laboratory Supervisor, Susan Maxon. Ms. Maxon was honored by both the AOSA and SCST leadership for her years of extensive and dedicated work advancing the best interests of the public and the seed industry. AOSA President Dan Curry presented a Merit Award in recognition of outstanding contributions to the advancement of seed technology. SCST President Brent Reschly presented a Meritorious Service Award for outstanding service and contributions to the society. These awards are given once each year to the person the respective organizations determine has made a positive impact in the seed industry. Botanist Patsy Jackson accepted the plaques on behalf of Ms. Maxon, who was not present at the annual meeting.

Photo by Dr. Yujia Wu, USDA, AMS, 2012



Susan R. Maxon, SRTD Deputy Director and Laboratory Supervisor with her recent awards.

For more information on this year's AOSA/SCST joint annual meeting, please visit www.aosaseed.com or www.seedtechnology.net. The 2013 AOSA/SCST annual meeting is scheduled for May 19-23, in Boise, ID.

For more information regarding this article, please contact Botanist Ernest L. Allen, (704) 810-8873, ernest.allen@ams.usda.gov.

INTERNATIONAL SEED TESTING ASSOCIATION ANNUAL MEETING

Seed Regulatory and Testing Division Deputy Director, Susan Maxon, participated in the annual meeting of the International Seed Testing Association (ISTA), June 10-14, 2012, in Venlo, the Netherlands.

The meeting opened with a welcome reception the evening of June 10, at the conference venue, the Floriade 2012 World Horticultural Expo. A very informative symposium on new technologies in seed testing was held June 11, followed by two days of equally informative technical committee meetings and presentations. Susan Maxon presented the Nomenclature Committee report on behalf of the Chairman John Wiersema (USDA Agricultural Research Service), who could not be present at the meeting.

At the Ordinary Meeting on June 14, Susan Maxon served as the voting delegate on behalf of the Agricultural Marketing Service, which is the U.S. Designated Authority for ISTA. Of the 72 ISTA member countries, 40 were represented by Designated Members entitled to vote at the Ordinary Meeting, exceeding the required quorum of 29. ISTA President Joël Léchappé (France) gave the welcome address and chaired the Ordinary Meeting.

Decisions of the Ordinary Meeting:

- The ISTA Constitution was amended to establish ISTA as an association under Swiss law. The vote in favor of this proposal was unanimous. The change came into immediate effect as the new “Articles of the International Seed Testing Association” were signed by the ISTA President and Vice-President during the Ordinary Meeting.
- ISTA annual membership fees for 2012 were increased by 1 percent to cover inflation and the average salary increases in Switzerland.
- The fee for blank ISTA certificates will increase to 3.25 Swiss francs effective January 1, 2013.
- Rule changes which will take effect January 1, 2013, include the following:
 - Provision for issuing up to five ISTA Orange International Seed Lot Certificates on sublots with test results from the original single lot.
 - Provision for ending a germination test at a pre-determined level, upon request of the applicant.
 - Minimum recommended seed sample sizes for seed health tests.
 - Removal of the low-temperature method of moisture content determination for those species for which it has not been individually validated.
- As of July 1, 2013, new provisions in the ISTA Rules for an approval process for submission of large herbage seed lots up to 25,000 metric tons will become effective. The ISTA/ISF Experiment on Herbage Seed Lot Size will expire June 30, 2013. The new rule will replace the experiment with a permanent regime in which participation and monitoring of seed company production facilities will be under the responsibility of the certifying or designated authority in their country.
- A working group will study the ISTA accreditation system in comparison with other available accreditation systems, with a view toward providing greater transparency to the membership regarding cost effectiveness of ISTA’s accreditation program.

Next year’s ISTA Congress is scheduled for June 12-18, 2013, in Antalya, Turkey. The following year, ISTA’s Annual Meeting is scheduled for June 16-19, 2014, in Edinburgh, Scotland.

For more information, please contact Deputy Director Susan Maxon at (704) 810-8877; susan.maxon@ams.usda.gov.

AG-DISCOVERY CAMP HELD AT NORTH CAROLINA STATE UNIVERSITY IN RALEIGH, NC

Seed Regulatory and Testing Division (SRTD) Plant Pathologist Sandra Walker participated in the first two days of the AgDiscovery science camp held on the campus of North Carolina State University (NCSU), June 18-29, 2012. A welcoming ceremony and lunch was held for students, parents, and instructors on Monday morning June 18. Booths were staffed by representatives

from the Animal and Plant Health Inspection Service (APHIS) who explained various aspects of their mission, including Plant Protection and Quarantine (PPQ) and Animal Care. Classes began on Monday afternoon.

Tuesday morning was devoted to insects and seeds. Plant Pathologist Betsy Randall-Schadel, of APHIS PPQ, led students in a sampling exercise based on procedures APHIS inspectors use for risk assessment. In response to questions from students, Sandra talked about the responsibilities of SRTD, explaining their role in enforcing the Federal Seed Act and discussing their mission to promote the fair export of seeds. Afterward, Sandra presented a talk on tall fescue endophytes. She discussed staining and immunoblot methods used to test for both friendly and toxic endophytes in grass seeds.

AgDiscovery camps are sponsored each summer by APHIS and held at numerous universities across the United States. Applications are available online to high school students. An evaluation committee chooses the participants. Sixteen students were accepted for the NCSU camp this year from as far away as Florida and Massachusetts. AgDiscovery is designed to expose students to a range of career opportunities available in agriculture and animal science, with variations in the curriculum depending upon the expertise of the various universities.

For more information about this article, please contact Plant Pathologist Sandra Walker at (704) 810-7268 or sandra.walker@ams.usda.gov or www.aphis.usda.gov/agdiscovery.

AMERICAN SEED TRADE ASSOCIATION ANNUAL CONVENTION AND VISIT WITH CHINESE DELEGATION

Seed Regulatory and Testing Division (SRTD) Director Fawad Shah, Ph.D., participated in the 129th American Seed Trade Association (ASTA) Annual Convention which took place in National Harbor, MD, on June 20-23, 2012. Approximately 400 participants from 30 States attended the meeting. Secretary of Agriculture Tom Vilsack was the keynote speaker and discussed the budget challenges for agricultural research and competition for water resources. He also stated that farmers should be able to choose the production method they want. "That requires us to facilitate a conversation between those producers and to recognize that there are some legitimate questions that need to be asked. As seed companies, you understand this. You create conditions and requirements and you minimize risks for farmers that buy your seed. We need to have a different conversation in the country-side. It's not that we are one or the other; we are all types of production. That's the challenge we have and you, the seed industry, can help us. We want all aspects of agriculture and we want agriculture to be an attractive place."

This year ASTA welcomed six representatives from the Chinese Ministry of Agriculture's Bureau of Seed Management, Division of General Affairs, Department of Policy and Principle's Division of Administrative Execution Supervision, as well as the National People's Congress Economic Law Section of Legislative Affairs Commission and the Agriculture and Rural Affairs Committee. ASTA Director of International Programs Lisa Nichols stated, "The delegation's visit is part of a continuous exchange between the U.S. seed industry and officials of the Chinese Administration." Dr. Shah was able to enter into discussions with other attendees and shared information concerning such topics as U.S. seed regulatory, seed testing, and seed certification activities.

Prior to the ASTA annual meeting, on June 17-18, Dr. Shah took part, along with other U.S. government officials and seed industry representatives, in a meeting with officials from the newly created Seed Management Bureau of China. Livestock and Seed Program Deputy Administrator Craig Morris, Ph.D., and Dr. Shah provided the Chinese delegation an overview of the Agricultural Marketing Service (AMS) and SRTD programs and addressed questions on how U.S. seed regulatory, seed certification, and seed testing systems operate. The overview also included information on seed violations and disputes, seed exports, variety development, and the Plant Variety Protection Office (PVPO). Also discussed were quality assurance methods from beginning to final product. Dr. Shah discussed the “Role of Government in the Marketplace.” He explained that, in the United States, seed production and marketing is industry driven, and the Federal Seed Act is a truth-in-labeling law with enforcement carried out by AMS with cooperative agreements with State seed control programs.

SRTD remains committed to assisting the seed industry and our stakeholders in promoting fair seed trade by regulating agricultural and vegetable seed shipped in interstate commerce, enforcing truth-in-labeling laws, and ensuring integrity in seed testing.

For information concerning ASTA, visit their Web site at www.amseed.com.

For additional information about this article, please contact SRTD Director Fawad S. Shah, Ph.D., at (704) 810-8884; fawad.shah@ams.usda.gov.

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES ANNUAL MEETING

Seed Regulatory and Testing Division (SRTD) Director, Fawad Shah, Ph.D., and Seed Marketing Specialist Karen Sussman attended the 94th Annual Meeting of the Association of Official Seed Certifying Agencies (AOSCA) on June 24-27, 2012, in Sun Valley, ID. The Idaho Crop Improvement Association hosted the event. AOSCA is an organization consisting of over 48 agencies from North and South America, Australia, New Zealand, and a new member, South Africa. Their mission is “to promote and facilitate the movement of seed or plant products in local, national, and international markets through the coordinated efforts of official seed certification agencies acting to evaluate, document and verify that a seed or plant product meets certain accepted standards.” AOSCA accomplishes this by developing and modifying seed varietal and mechanical standards for use in seed certification.

Dr. Shah represented the SRTD on behalf of its multiple missions including applying the regulations of the Federal Seed Act (FSA) to ensure truth in labeling and to promote uniformity in seed laws to facilitate fair competition within the seed trade. Dr. Shah chaired the OECD Seed Schemes meeting with a number of seed certifying agencies in attendance. Mrs. Sussman discussed items on the agenda for the upcoming OECD Seed Schemes annual meeting in Helsinki, Finland. Dr. Shah also participated in the Vested Member and Standards Council meeting, AOSCA Business Development meeting, Peanut/Sunflower/Cotton Committee meeting, and the Corn/Sorghum Committee meeting. Mrs. Sussman attended meetings of the Vested Member and Standards Council, Grass Committee, Small Grains Committee, and Corn/Sorghum Committee.

Information and items of interest pertaining to the Federal Seed Act:

- The AOSCA Standards Council passed a language change in the certified seed labeling requirements. Dr. Shah spoke at the AOSCA Advisory Committee meeting where he addressed the possible impact of FSA on this change.

Information and items of interest pertaining to the OECD Seed Schemes:

- An issue concerning OECD labels stapled to bags was addressed with participant input. A consensus was reached to maintain the current practice.
- The [OECD List of Varieties eligible for certification in the Seed Schemes](#) is updated more than twice per year on the [OECD Web site](#), but the goal is to have updates posted monthly. (The [U.S. list](#) is updated continually on [SRTD's Web site](#).)
- No new information regarding counterfeit OECD seed tags was reported.
- Preliminary data for the volume of U.S. OECD Seed Schemes shipping for the OECD fiscal year, ending June 30, was reported as approximately 157 million pounds shipped. This reflects an increase of 3 million pounds over the same period last year. Crops with an increase in 2011 are sorghum and corn.
- The United States will occupy the position of the Chairman of the OECD Seed Schemes Annual Meeting for 2012 and 2013.
- In February 2012, SRTD Seed Marketing Specialist Karen Sussman began assisting with the management of the U.S. OECD Seed Schemes Program. She will represent the United States at the annual meeting while Seed Marketing Specialist Gene Wilson will serve as Chairman.

New SRTD Director Fawad Shah, Ph.D., along with Seed Marketing Specialist Karen Sussman, took advantage of this meeting as an opportunity to interact with seed certification officials from various States, Argentina, Canada, and South Africa, and with representatives from seed companies and organizations such as the American Seed Trade Association (ASTA), Association of American Seed Control Officials (AASCO), Association of Official Seed Analysts (AOSA), and Society of Commercial Seed Technologists (SCST). Dr. Shah has reiterated SRTD's commitment to remain engaged with all stakeholders and to assist with seed trade matters.

The 2013 AOSCA Annual Meeting is scheduled for June 25-28, in Dearborn, MI. For additional information concerning AOSCA, visit their Web site at www.aosca.org.

For information about OECD, visit www.oecd.org, or contact Gene Wilson at (704) 810-8888; gene.wilson@ams.usda.gov.

For information regarding this article, please contact SRTD Director Fawad S. Shah, Ph.D. at (704) 810-8884; fawad.shah@ams.usda.gov, or Seed Marketing Specialist Karen Sussman at (704) 810-7272; karen.sussman@ams.usda.gov.

2012 OECD SEED SCHEMES ANNUAL MEETING HIGHLIGHTS

The Organization for Economic Cooperation and Development (OECD) Seed Schemes met July 9-13, 2012, in Helsinki, Finland. Seed Regulatory and Testing Division Deputy Director Susan Maxon and U.S. OECD Seed Schemes Program representative Karen Sussman participated in

the technical working group and annual meeting as U.S. delegates. Representatives from the Association of Official Seed Analysts (AOSA) and the American Seed Trade Association (ASTA) reported on their activities. The AOSA representative also presented the report on behalf of the Association of Official Seed Certifying Agencies (AOSCA). Additional meeting highlights follow.

- The United States will continue to serve as OECD Seed Schemes Chair for the Extended Advisory Group meeting and annual meeting in 2013.
- Presentations were given by Chile, Israel, Japan, Kenya, and Mexico on their experiences implementing the OECD Seed Schemes in their countries. Indonesia, South Korea, Tanzania, and Zambia attended the annual meeting as observers. They gave presentations on their seed certification systems and expressed interest in joining the OECD Seed Schemes.
- The following technical working group documents were adopted at the annual meeting:
 - Extension of the authorization of field inspection to pre-basic and basic seed production;
 - Terms of reference of the Ad Hoc Working Group on Electronic Certification;
 - Proposal for amendment of the Rules and Regulations of the OECD Seed Schemes: Substitution of the term Gramineae by Poaceae.
- The OECD Experiment on seed lot size for herbage seed was extended until 2015. The Expert Working Group and the Secretariat will develop an action plan regarding what further data (for example, post control results) is needed. Several U.S. seed production plants are participating in this experiment.
- Ms. Maxon and Mrs. Sussman, both U.S. delegates, worked with the Secretariat, AOSA, and AOSCA for the review and update of the draft brochure, "A synthesis of international regulatory aspects that affect seed trade".

The next Extended Advisory Group meeting is scheduled for January 28 through February 1, 2013, in Paris, France. The next annual meeting will be held June 3-6, 2013 in Paris, France.

For more information on the OECD Seed Schemes, go to <http://www.oecd.org>.

For more details regarding this year's meeting or for more information regarding this article, please contact Seed Marketing Specialist Karen Sussman at (704) 810-7272; karen.sussman@ams.usda.gov.

ASSOCIATION OF AMERICAN SEED CONTROL OFFICIALS ANNUAL MEETING

Seed Regulatory and Testing Division (SRTD) Director Fawad Shah, Ph.D., Seed Marketing Specialist Roger Burton, and Seed Marketing Specialist Kevin Robinson attended the 26th Annual Meeting of the Association of American Seed Control Officials (AASCO), July 22-26, 2012, hosted by the Louisiana Department of Agriculture and Forestry (LDAF) in New Orleans, LA. Representatives of 21 State seed control programs, the Association of Official Seed Analysts (AOSA), the Association of Official Seed Certifying Agencies (AOSCA), the American Seed Trade Association (ASTA), Canadian Food Inspection Agency (CFIA), Society of Commercial Seed Technologists (SCST), and seven seed company representatives attended the meeting.

The General Session was opened by Louisiana Department of Agriculture and Forestry Commissioner Mike Strain, DMV, with the official welcoming address and introduction. Next,

AASCO president John Heaton gave the President's Address which was followed by the Allied Organization Reports. The AASCO Affiliate Meeting Reports from AOSA/SCST, ASTA, and AOSCA and Preliminary Committee Reports from AASCO rounded out the first General Session meeting.

At the General Session meetings, Dr. Shah gave an account of the 2011 Federal Seed Act (FSA) activities. Roger Burton reported FSA activities at the Western Association of Seed Control Officials regional meeting. Kevin Robinson reported FSA activities at the combined regional meeting of the Southern Seed Control Officials Association and the Association of Seed Control Officials of the Northeast States.

During a discussion on Bioassay and Trait Testing, Mr. Burton informed AASCO of tolerances for labeling used by SRTD for enforcing FSA regulations regarding tests for percentage of kind, variety, type hybrid, or off-type. The table used, Table 4 section 201.62 of the FSA regulations, is the same as table 14K in the AOSA rules. SRTD Seed Marketing Specialists use this table to determine whether a seed variety has been properly labeled. Mr. Burton also noted that the FSA does not specifically address genetically engineered seed or biotechnology-derived traits. As such, the FSA treats genetically engineered and biotechnology derived varieties of seed the same as it does traditional varieties for labeling purposes.

Other discussions included:

- The importance of training new seed professionals who will be replacing many retirees;
- Teleconferencing or videoconferencing committee or regional meetings to include members who are unable to travel to the annual meeting.

Meeting attendees toured the Chalmette Refinery of American Sugar Refining, Inc. (Domino®) in Arabi, LA.

The following announcements were made:

- The 27th annual meeting is tentatively scheduled for July 2013 in Annapolis, MD
- The current AASCO officers are:
 - President John Heaton (CA)
 - First Vice-President Steve Malone (MN)
 - Second Vice-President Jim Drews (MD)
 - Secretary Larry Nees (IN)
 - Treasurer Greg Helmbrecht (WI)

For more information about AASCO, go to <http://www.seedcontrol.org>.

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

CELEBRATING USDA'S 150TH ANNIVERSARY WITH TOMATO 'ABRAHAM LINCOLN'

"I can't think of a more tangible way to engage our past than by growing an heirloom tomato variety named in honor of the Department's visionary founder - Abraham Lincoln." - Secretary of Agriculture, Tom Vilsack.



In 2012, USDA People's Gardens around the world will grow 'Abraham Lincoln' tomatoes to celebrate the [150th Anniversary](#) of its founding. Abraham Lincoln signed into law an act of Congress establishing the United States Department of Agriculture in 1862.

Two and one-half years after establishing the Department, Lincoln called USDA "The People's Department." The People's Garden Initiative is named in honor of President Lincoln's description of USDA.

Read more about the connection between [Abraham Lincoln and Agriculture](#).

About This Heirloom Plant

'Abraham Lincoln' is an heirloom variety of tomato introduced in 1923 by the W. H. Buckbee seed company of Rockford, Illinois named in honor of Illinois' Greatest Son.

It is one of the great tomato classics excellent for making tomato juice, ketchup and slicing.

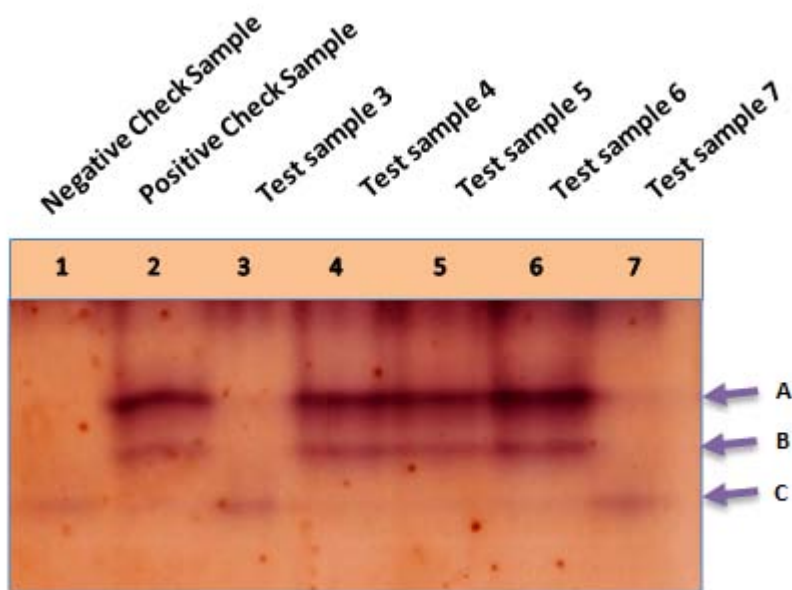
The image on the cover of the seed packet is from [USDA's National Agricultural Library: Rare and Special Collections](#).



TESTING TOMATO SEEDS FOR NEMATODE-RESISTANT VARIETIES BY ISOZYME ACID PHOSPHATASE

Root knot nematodes are found worldwide and are known to affect many species of plants, including tomatoes. There are some tomato varieties, however, that are resistant to the nematode. Grow-out testing is a direct way to test for nematode infection, but is time intensive and cost prohibitive. Seed Regulatory and Testing Division Plant Physiologist Yujia Wu, Ph.D., has conducted work on an alternative method for resistance-detection in tomato varieties by means of protein electrophoresis. Dr. Wu extracts acid phosphatase, which contains multiple phosphatase isozymes that vary in size and other properties (Elizabeth MP, 1987), and then separates these isozymes by means of non-denaturing PAGE (polyacrylamide gel electrophoresis). Identification of unknown varieties as either nematode-susceptible or nematode-resistant is made by a comparison of their banding patterns with banding patterns of nematode-resistant and nematode-susceptible check-samples, thus providing a simple, efficient and cost effective, indirect method for determining susceptibility.

Four-week old tomato seedlings were used for this study. Harvested leaves (1.4 g) were ground in extraction buffer (0.75 ml of: 100 mM Tris pH 6.8, 100 mM KCl, 2 mM EDTA, 10 mM DTT and 10 percent glycerol), transferred to separate 1.5 ml tubes and centrifuged for 10 minutes at 10,000 rpm. The resulting supernatants (20 μ l) were each loaded onto a 12 percent non-denaturing polyacrylamide gel (5.15 ml water, 6.0 ml of 30 percent acrylamide, 3.8 ml of 1.5 M Tris pH 8.8, 0.15 ml of 10 percent APS and 0.006 ml TEMED) and run at 105 volts for two and a half hours. The gel was then rinsed in buffer (10 ml 0.5 M NaAc, 75 μ l 1 M MgCl₂ and 90 ml pure water) for 15 minutes, transferred to an acid phosphatase staining buffer (100 mg Fast Black K and 2.5 ml 1% β -naphthylphosphate added to 100 ml of rinse buffer), and incubated overnight.



Acid phosphatase banding, from tomato seedlings, in non-denaturing polyacrylamide gel.

Two check samples and five unknown samples, as listed below, were used in this study (photo of gel, above).

- | | |
|--------|---|
| Lane 1 | 'Rutgers', a nematode susceptible tomato variety |
| Lane 2 | 'Better Boy', a nematode resistant tomato variety |
| Lane 3 | tomato sample, susceptibility to nematode infection unknown |
| Lane 4 | tomato sample, susceptibility to nematode infection unknown |
| Lane 5 | tomato sample, susceptibility to nematode infection unknown |
| Lane 6 | tomato sample, susceptibility to nematode infection unknown |
| Lane 7 | tomato sample, susceptibility to nematode infection unknown |

An examination of the acid phosphatase banding patterns shows that the negative check sample, 'Rutgers', only has one very fine band, "C". The positive check sample, 'Better Boy', has two bands, "A" and "B". These bands are clear and definitive evidence for susceptible and non-susceptible varieties. Based on the check sample banding pattern, unknown samples 3 and 7 are nematode-susceptible and unknown samples 4, 5, and 6 are nematode-resistant varieties.

References:

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

THE SEED REGULATORY AND TESTING DIVISION HERBARIUM: PAST AND PRESENT

A quality seed herbarium has been and remains a useful tool for seed analysts to use in identification of crop and weed seeds. The earliest versions of the USDA Seed Regulatory and Testing Division (SRTD) laboratory and seed herbarium started in Washington, D.C. in 1895 and moved to several locations through 1939. In 1940, the laboratory and herbarium moved to the Beltsville Agricultural Research Center, Beltsville, MD and remained there until 2003. Currently the SRTD is located in Gastonia, NC with a collection of more than 30,000 specimens in its seed herbarium.

The specimens, contributed by many individuals over the years, are arranged phylogenetically by family, with genera within each family arranged alphabetically. This type of organization makes it easier to identify an unknown seed because seeds in a family or closely related family often have similar characteristics. Specimens are stored in stoppered glass vials in metal drawers with dividers separating the specimens. For additional protection, the metal drawers were installed in water-resistant cabinets when the herbarium was moved to Gastonia.

USDA archival photo, 1943



Photo by Todd Erickson, USDA, AMS, 2011



Miss Harriet Cull, Seed Technologist (left, 1943), and Botanist Patsy Jackson (right, 2011), each compare an unidentified seed with specimens of known identity from the seed herbarium.

The herbarium contains several thousand samples of various species contributed by Gilbert H. Hicks, one of the first botanists in the USDA. In the early 1890s, Hicks studied under the direction of Professor C.F. Wheeler and collectively they acquired numerous species of seed. After graduating in 1894, Hicks became a Seed Expert for the USDA in Washington, D.C. and was the first Assistant Chief of the Division of Botany. Hicks established the herbarium, and he and Wheeler donated specimens from their earlier collections. Seeds were obtained through requests from other collectors as well as harvested from their own field plots. Within the same year the USDA planted unknown weed seeds found in imported grasses and forage plants and grew them to maturity for identification; thus providing a way to “keep informed of the character of the weeds now being introduced into this country” (Pieters, 1899). Gilbert Hicks was a dedicated worker and was eventually responsible for maintaining 20,000 seed specimens, although his tenure at USDA was short-lived due to his sudden passing in 1898.

Photo by Patsy Jackson, USDA, AMS, 2011

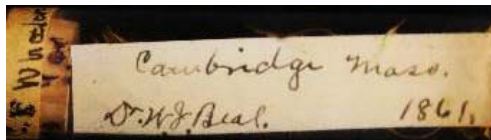


A few herbarium specimens collected by Gilbert Hicks. L. to r. *Trifolium procumbens* L., *Commelina erecta* L., *Sedum ternatum* Michx., and *Oenothera biennis* L.

Recently, while using the SRTD herbarium, Botanist Patsy Jackson noticed a specimen dating to 1861, one year before President Abraham Lincoln created USDA. Ms. Jackson did a bit of detective work to discover how this specimen found its way into the SRTD herbarium.

The name W. J. Beal, listed on the label in the vial (see photos below), refers to Dr. William J. Beal. In 1861, while working on his S.B. (now called B.S.) degree at Harvard University, Dr. Beal collected many seed specimens. After graduating in 1865 he continued his education, receiving a M.S. degree in 1875 from the University of Chicago. Dr. Beal eventually packed up his seed collection and moved to Michigan where he was a professor of botany at the Agricultural College at the State of Michigan (later Michigan State University (MSU)), from 1871-1910. James W. Beal is still remembered by MSU’s J.W. Beal Botanical Garden, which is now the oldest operating botanical garden in the United States. The Beal collection of 1860-1870 is now the property of MSU.

Photos by Patsy Jackson, USDA, AMS, 2012



Herbarium seed specimen with original label, collected in 1861 by Dr. W.J. Beal



Reverse side of label; 1861 specimen from Dr. Beal. *Carex straminea* var. *aperta* Boott

As botany professor at MSU, Dr. Beal hired an assistant professor by the name of Charles Fay Wheeler, better known as C.F. Wheeler. It appears likely that Wheeler acquired specimens from his mentor, Dr. James Beal, and later on one of those specimens, collected in 1861, was donated to the SRTD seed herbarium along with many other specimens of Wheeler’s personal collection.

As a result of contributions in the 19th century by seed pioneers such as Hicks and his predecessors Beal and Wheeler, universities and government organizations were able to start or augment seed herbariums which led to improved identification procedures. Seed specimens collected in the 19th century are still relevant to seed analysts today.

In the early 1900s, F.H. Hillman from the USDA seed laboratory created 350 illustrations of species of crop and weed seeds which are still used today as references for seed identification. He and others prepared and distributed reference sets of economically important crop and weed seeds to State agricultural colleges and experiment stations, which became the core seed collection for many State seed laboratories. Each set consisted of 500 samples of seeds arranged in five trays of 100 vials each. Another set, consisting of 100 samples was prepared for distribution to schools, and a later set of 100 samples of common weed seeds found in crop seeds was distributed.

In addition to the seed herbarium, the SRTD also has a Reserve Seed Collection which is used to provide seeds to individuals upon request. These are distributed to seed analysts who are studying to become certified and to seed testing laboratories that request seeds for identification purposes. In this way, the SRTD continues the collaboration with State seed laboratories and private seed testing laboratories, which laid the foundation for the efforts of the early contributors. For more information about the Reserve Seed Collection, see the article by Anitra Walker in this issue of the IOI.

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For information about this article, please contact Botanist Patsy Jackson at (704) 810-8870; patsy.jackson@ams.usda.gov.

RESERVE SEED COLLECTION

The Seed Regulatory and Testing Division (SRTD) maintains a Reserve Seed Collection (RSC) which consists of more than 800 species. The seeds are donations from various seed laboratories and seed companies. The SRTD, in turn, provides these seeds to the public as a complimentary service.

Most requests for seeds are for the purpose of establishing a herbarium either as a resource for studying for a seed analyst exam or as a reference herbarium for a new laboratory. The SRTD provides seeds for those in other countries as well; however, if an import permit is required, the requestor must provide the appropriate documentation.

Please limit sample requests to no more than 150 at a time, and provide labeled envelopes with scientific names and corresponding numbers as listed on the SRTD Web site. The list is available at www.ams.usda.gov/seed. Click on "Reserve Seed Collection," listed under Resources.

Send requests to:

Reserve Seed Collection Coordinator
Seed Regulatory and Testing Division
801 Summit Crossing Place, Suite C
Gastonia, NC 28054-2193

For information regarding this article, please contact Biological Science Laboratory Technician Anitra Walker at (704) 810-7269; anitra.walker@ams.usda.gov.

2012 SEED ANALYST TRAINING WORKSHOPS IN GASTONIA, NC

During the week of August 13-17, 2012, the Seed Regulatory and Testing Division (SRTD) held seed identification, variety testing, and seed health training sessions in Gastonia, NC. The training was divided into two sessions. The first session, seed identification, lasted three and a half days. Nine participants, representing five State seed laboratories, took part in this session. During the seed identification training, SRTD botanists presented programs focusing on the identification of weed and crop seeds, along with a review of subjects such as seed structure, pure seed units, grass-mix separations, various calculations, and the oat fluorescence test which distinguishes between white (fluorescent) and yellow (non-fluorescent) oat seeds.

Photo by Matthew Arthen, USDA, AMS, 2012



Seed ID workshop participants, L to R standing: Dave Palmer, VA, Ronwood Harris, NC, Mark Spencer, LA, Todd Erickson (SRTD instructor), Dr. Yujia Wu (SRTD instructor), Denise Poole, NC, Ciara Clark, ND, Susan Maxon (SRTD Deputy Director and Laboratory Supervisor), Ernest Allen (SRTD instructor), Sandy Dawson (SRTD instructor), Angel Shepard, GA, Jeanna Mueller, GA, Charlene Burton (SRTD instructor), Anitra Walker (SRTD participant) **Seed ID workshop participants, L to R kneeling:** Nicole Gibson, NC, Patsy Jackson (SRTD instructor), Ametra Berry, GA, and Sandra Walker (SRTD instructor)

The variety and seed health training was led by SRTD Plant Physiologist Yujia Wu, Ph.D., who demonstrated his new method of Polyacrylamide Gel Electrophoresis (PAGE) as a tool for variety testing, and SRTD Plant Pathologist Sandra Walker, who demonstrated an Association of Official Seed Analysts (AOSA) bioassay procedure for fungicide detection on seeds. This second session lasted one and a half days. Six participants from two State seed laboratories attended.

It is the mission of the SRTD to promote uniformity in seed laws and fair competition within the seed industry. These goals are accomplished in part by enforcing the interstate commerce provisions (truthful marketing of seed) of the Federal Seed Act. This effort is supported by State seed control programs through authorization provided by cooperative agreements between the States and the USDA's Agricultural Marketing Service (AMS). SRTD biannual (usually in May and August) workshops, offered to State and other seed industry personnel, also further these goals by promoting uniformity in testing and by fostering greater compliance with State and Federal seed-labeling laws.

In addition to learning new skills and acquiring new information, workshop participants enjoy discussing specific issues, problems, and solutions with other analysts. Through these interactions, participants often develop contacts that may be beneficial in the future.

For more information about this article, please contact Botanist Ernest L. Allen at (704) 810-8873; ernest.allen@ams.usda.gov or contact Botanist Sandy Dawson at (704) 810-7270; sandy.dawson@ams.usda.gov.

POINTS TO CONSIDER WHEN TRAINING SEED ANALYSTS

Proficiency in seed analysis is attained primarily through on-the-job training and continuing education. There are numerous ways to train seed analysts which can be done either internally or externally. Internal training is conducted within the analysts' laboratory. This includes educating the analyst on laboratory work instructions, practices, and policies. External training is conducted outside the analysts' laboratory. Examples of external training include participating in workshops organized by outside sources, training at external facilities, and viewing externally prepared webinars. A combination of these two methods will promote a better understanding and learning experience for the seed analyst.

Internal training is also referred to as in-house, one-on-one, or basic training. Points to remember when conducting internal training follow.

- Ensure that the analyst knows the preferred methods and procedures for their laboratory.
- Provide current rules such as Federal Seed Act (FSA) and its regulations, Association of Official Seed Analysts (AOSA) Rules for Testing Seeds, International Rules for Seed Testing by the International Seed Testing Association (ISTA), and relevant updated reference materials.
- Determine a time frame for the analyst to become proficient in specific area(s); then discuss it with the analyst. Document when proficiency is attained. This documented record ensures that all elements of required proficiencies are met (see protocol example).
- Be mindful that each analyst processes information in different ways. Present information in ways that complement each analysts learning style. For example, some people are visual learners, some are hands-on, and some prefer to take detailed notes while learning the task. Others often prefer a combination of all the techniques. Making an effort to understand the analysts learning style can ensure the most optimal learning experience possible.

External training is developed, organized, and controlled by outside sources. Points to consider when conducting external training are the same as those listed for internal training and also include:

- Ensuring training is done by a reputable source with valid credentials
- Ascertaining that the training is relevant and on par with the analysts level of understanding
- Informing the analyst that every laboratory's procedures are different and what is good practice for one laboratory may not fit their home laboratory.

Additional training suggestions:

- Avoid teaching by "do as I say, not as I do"; lead by example.
- Explain why you test a certain way. Provide citations from the relevant rules or handbook, as appropriate.

- Know the laboratory's Standard Operating Procedures (SOP's).
- Give detailed explanations for testing procedures. Don't assume the analyst knows.

Encourage analyst participation in webinars. Webinars can be cost effective and informative.

Laboratory Training			
TRAINEE:			
STARTING DATE:			
ORIENTATION	Date Started	Date Completed	Init.: Analyst/Trainer
1. Introduction to Personnel	_____	_____	_____
2. Laboratory Layout	_____	_____	_____
3. Reference Materials	_____	_____	_____
4. Safety Training	_____	_____	_____
5. Overview of Seed Testing	_____	_____	_____
BASIC TRAINING	Date Started	Proficiency Attained	Init.: Analyst/Trainer
1. Monitoring Equipment	_____	_____	_____
2. Balances and Weighing	_____	_____	_____
3. Dividing	_____	_____	_____
4. Planting – Germination Test	_____	_____	_____
5. Introduction to SRTIS	_____	_____	_____
INTERMEDIATE TRAINING	Date Started	Proficiency Attained	Init.: Analyst/Trainer
1. ISTA Purity Test	_____	_____	_____
2. ISTA All Seeds Test	_____	_____	_____
3. Uniform Blowing Procedure	_____	_____	_____
4. Grain Inspection	_____	_____	_____
5. Seedling Evaluation	_____	_____	_____
6. Referee/Proficiency Testing	_____	_____	_____
ADVANCED TRAINING	Date Started	Proficiency Attained	Init.: Analyst/Trainer
1. FSA Noxious Weed Test	_____	_____	_____
2. FSA Purity Test	_____	_____	_____
3. Tetrazolium Chloride Test	_____	_____	_____
4. Balance Calibration	_____	_____	_____
5. Divider Calibration	_____	_____	_____
6. Grinding Mill Calibration	_____	_____	_____
7. Thermometer Calibration	_____	_____	_____
8. Oven Calibration	_____	_____	_____
9. Uniform Blower Calibration	_____	_____	_____
10. Moisture Determination	_____	_____	_____
11. Conductivity Test	_____	_____	_____
TEST/PROCEDURE	Date Started	Proficiency Attained	Init.: Analyst/Trainer
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Example of SRTD training protocol and documentation for new analysts.

<p>DATE:</p> <p>SUBJECT: In-house / On the job training</p> <p>TO: The file</p> <p>FROM: Employees name</p> <p><i><u>Provide a brief description of the training, and when it was performed.</u></i></p> <p>_____</p> <p>Employee signature</p> <p>_____</p> <p>Supervisor signature</p>
--

Example of a training documentation.

This article offers some suggestions of ways to train seed analysts, but every laboratory has its own technique. A properly trained seed analyst helps the seed industry by ensuring uniformity within and across laboratories.

For more information about this article, please contact Botanist Patsy Jackson at (704) 810-8881; patsy.jackson@ams.usda.gov.

AN IMPORTANT NOTE TO OUR SERVICE TESTING CUSTOMERS

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

- Addresses (physical, mailing, or billing)
- Telephone numbers (voice and fax)
- Company contacts
- 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 Office Automation Assistant Carolyn Camidge at (704) 810-8870; seedservice@ams.usda.gov.

RYEGRASS FLUORESCENCE LIST

The Association of Official Seed Certifying Agencies (AOSCA) revises its report of the “Variety Fluorescence Levels Recognized by the AOSCA National Grass Review Board” twice a year. Click on the National Grass Variety Review Board section of the Web site <http://www.aosca.org/VarietyReviewBoards/Grass/Grass.html>, then click on the link for the National Perennial Ryegrass Variety Fluorescence Report to view the most current list.

PLANT VARIETY PROTECTION CERTIFICATE STATUS

The Plant Variety Protection Office (PVPO) posts a public version of the Certificate Status Database. Access PVPO’s Web page, [PVPO Certificate Status Database](#), to check the status of certification or to search for expired certificates. To view PVPO’s list of U.S. protected varieties, access their Web page [PVPO List of U.S. Protected Varieties](#). It may take time for the list to open due to its large size. PVPO updates these online public access databases monthly or as time permits.

SUBSCRIPTION INFORMATION

The Seed Regulatory and Testing Division (SRTD) Web site (<http://www.ams.usda.gov/seed>) contains links to SRTD publications. Some of those publications are the Federal Seed Act (FSA), FSA Regulations, State Noxious-Weed Seed Requirements Recognized in the Administration of the Federal Seed Act, and current and past issues of the “Items of Interest in Seed.” An electronic subscription option is available on the SRTD home page. The subscription service provides an e-mail notification when SRTD publications are issued or changed. The e-mail notice includes the option of unsubscribing or viewing the publications.

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

CALENDAR OF EVENTS

American Seed Trade Association (ASTA) Corn & Sorghum and Soybean Seed Research Conference Chicago, IL	December 4-7, 2012
American Seed Trade Association (ASTA) Vegetable & Flower Seed Conference Scottsdale, AZ	January 26-29, 2013
Organization for Economic Cooperation and Development (OECD) Seed Schemes Extended Advisory Meeting Paris, France	January 28-30, 2013
Association of Official Seed Analysts (AOSA/SCST) Annual Meeting Boise, ID	May 19-23, 2013
Organization for Economic Cooperation and Development (OECD) Seed Schemes Working Group and Annual Meeting Paris, France	June 3-6, 2013
International Seed Testing Association (ISTA) Congress and Annual Meeting Antalya, Turkey	June 12-18, 2013
Association of American Seed Control Officials (AASCO) Annual Meeting Annapolis, MD (tentative)	June 15-19, 2013
American Seed Trade Association (ASTA) 130 th Annual Convention Nashville, TN	June 15-19, 2013
Association of Official Seed Certifying Agencies (AOSCA) Annual Meeting Dearborn, MI	June 23-26, 2013

Seed Regulatory and Testing Division training schedule to be determined.

For further information, please visit organization Web sites.

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Sandra Walker, Plant Pathologist
Dr. Yujia Wu, Plant Physiologist

“Without seeds, our food supply, clothing, buildings, beautiful scenery, soil stability, wildlife habitat, energy and other products vital to life would no longer be available.”

**-From the Colorado State University Web Site
[-http://step.colostate.edu/](http://step.colostate.edu/)**

(Contributed by SRTD Botanist Sandy Dawson)

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