In a letter dated Feb. 14, 2012, OTSC requested a continuation of Bulletin No.: MGR-11-011, One Sample Strategy whereby the Risk Management Agency (RMA) accepts OTSC Certificates of Analysis for aflatoxin content in corn analyzed by approved designees in the One Sample Strategy program. Five Texas grain elevators participated in this program in 2011, issuing 715 ‘Certificates of Analysis’ that were used for crop insurance indemnification, regulatory oversight, and purchasing decisions by the grain elevators.

In his letter to RMA requesting continuation of the managers bulleting MGR-11-011, Dr. Herrman stated that “All parties involved in the program were pleased with the results, as were the major corn grower and grain elevator organizations in Texas including the Texas Corn Growers, the Texas Farm Bureau, the Texas Grain and Feed Association, and the Texas Agricultural Cooperative Council.”

One Sample Strategy aflatoxin results reported on an OTSC Certificate of Analysis are official results of the agency. These certificates have been utilized by grain elevator managers for risk management decisions and accepted by USDA Risk Management Agency (RMA) approved insurance providers (AIP) for insurance purposes.

Elevator operators who participated in 2011 reported that the program provided reliable risk management information that translated to greater confidence in the segregation and marketing of grain. Producers commented that crop insurance settlements were handled more quickly and that certificates were more readily available for crop insurance agents.

For OTSC, the program represents a unique opportunity to implement a form of co-regulation where responsibility is shared by both public and private interests. OTSC field investigators assume the responsibility of evaluating the proficiency of OTSC designees to sample, grind and test corn according to the program criteria and monitor the integrity of the process. One Sample Strategy program participants assume the responsibility of maintaining equipment, appropriately following procedures and keeping accurate records.

Participation in the One Sample Strategy program is free, open to all grain elevators licensed by OTSC within the state of Texas, and requires annual registration. We encourage elevators to enroll now in preparation for the 2012 harvest season. To learn more contact Mary Sasser at (979)845-1121 or mary@otsc.tamu.edu and visit our website: http://otscweb.tamu.edu/risk/OneSample
Regulatory Science in Food Systems Graduate Certificate

The Texas A&M University faculty senate approved the curriculum for the Regulatory Science in Food Systems Graduate Certificate. The courses are offered by faculty from four academic departments including Agriculture Economics, Soil and Crop Sciences, Veterinary Pathobiology, and Veterinary Physiology and Pharmacology, in collaboration with the Office of the Texas State Chemist. Several of the course instructors are commissioned by the Food and Drug Administration including Dr. Lynn Post who is a Veterinary Medical Officer. FDA assisted the web-based delivery of the program through funding via a Cooperative Agreement Program.

To meet the needs of working professionals, the Regulatory Science courses are delivered entirely at a distance. Courses address risk management tools, standards and approaches to improve the quality, protection, and compliance of regulated products in the feed and food industry. Each course is offered for academic credit on a rotating schedule throughout the academic year (below).

The Feed Industry HACCP curriculum at Texas A&M University emphasizes a science-based approach to risk management for identifying and managing hazards in feed ingredients and finished feed, and combines the application of management science and principles of hazard analysis and critical control point that are needed to maintain a safe manufacturing system for feed. This course is offered for either graduate credit or continuing education. In the past two semesters, 54 students from 4 continents and 9 countries have participated in this class. Students who have completed the Feed Industry HACCP course may enroll in the Advanced Plan Development class that provides one-on-one instruction to HACCP coordinators who prepare their company’s plan for an audit by a competent authority using the AAFCO model HACCP standard.

State feed control officials from six states have received HACCP auditor training by the Office of the Texas State Chemist and three states are equipped to perform these audits including California, Indiana, and Texas. The Feed Industry HACCP Auditor Manual is available online and was developed by a task-force comprised of feed industry personnel, state feed control officials, an FDA observer and individuals from academia. The program will assist the feed industry prepare for regulations that will accompany the Food Safety Modernization Act that requires adoption of HACCP principles.

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<th>Spring</th>
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<td>SCSC 634 Regulatory Science: Principles &amp; Practices in Food Systems (3 Student Credit Hours)</td>
<td>VTMI 629/SCSC 629 Laboratory Quality Systems (3 Student Credit Hours)</td>
<td>AGEC 689/SCSC 635 Comparative Global Standards in Food Systems (3 Student Credit Hours)</td>
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<td>AGEC 689 Managerial Economics for Regulatory Science (3 Student Credit Hours)</td>
<td>SCSC 631-621 Prerequisites and Plan Development for Feed Industry HACCP (2 Student Credit Hours)</td>
<td>SCSC 636 Regulatory Science Methodology in Food Systems (3 Student Credit Hours)</td>
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Regulatory Science in Food Systems website: http://regsci.tamu.edu/
Feed Industry HACCP website: http://www.feedhaccp.org/

Licensing for Distribution of Aflatoxin Binding Agents

The use of aflatoxin binding agents in customer-formula feeds was approved in Texas on May 19, 2011. Establishments selling aflatoxin binding agents and manufacturing customer-formula feeds using binding agents must hold a license with the Office. Additionally, a firm must amend an existing license and receive a certificate of approval by the Office to distribute or use the aflatoxin binding agent.

The Texas Commercial Feed Control Act, Chapter 141, defines that “Distribute” means sell, offer for sale, barter, exchange, or otherwise supply. As a result, any establishment that manufactures, packages, or distributes binding agents under their own label or private labeled for another company must hold a license, amend an existing license, and receive a certificate of approval prior to distribution. Also, any establishment manufacturing, packaging, or distributing customer-formula feeds containing binding agents must hold a license, amend an existing license, and receive a certificate of approval prior to distribution. Distribution records and labeling are also required for binding agents. The specifics of distribution records and labeling, along with examples can be found in Policies, Feed Industry Memorandum 5-23 on the OTSC website. Aflatoxin binding agents may be used by on-farm feed manufacturers, integrators, and feed-lot operations.
OTSC Laboratory Receives New Microwave Spectrometer

Microwave Plasma-Atomic Emission Spectrometer (MP-AES) represents a completely new elemental analysis technique that has been designed to improve analytical performance and productivity, while decreasing operating costs by eliminating the flammable and/or expensive gas requirements used in typical elemental analysis techniques. The Nitrogen based plasma operates from a compressed air supply and Nitrogen generator, resulting in a significant reduction in operating costs and reduced infrastructure costs. In addition, the state-of-the-art design of the Agilent 4100 MP-AES reduces the number of costly consumables such as hollow cathode lamps used in Atomic Absorption techniques. The MP-AES technique produces superior linear dynamic range, detection limits and analysis speed compared to conventional flame Atomic Absorption Spectroscopy (AAS). Based on an atomic emission technique, this elemental analysis technique produces simpler spectra than inductively coupled plasma-optical emission spectrometry (ICP-OES) and greater sensitivity than flame AAS.

To evaluate the performance of this new instrumental technology for elemental analysis, we collaborated with Agilent Inc. in an early access program. The Agilent 4100 MP-AES has been compared to atom adsorption and inductively coupled plasma instrument for fertilizer and feed samples.

Application of Raman Spectroscopy as Noninvasive Analytical Method

The RamanStation™ 400 bench-top spectrometer set up in the OTSC since 2009 has been used to enhance the laboratory’s spectroscopic analytical capability. This spectrometer is a dispersive-based Raman with the unique Echelle spectrograph and CCD detector and delivers complete spectral coverage in a single acquisition. A built-in motorized stage and fiber-optic accessory increase the sampling flexibility. The software-controlled sample stage automatically aligns samples into three coordinates to obtain the optimum spectrum. The fiber optic probe brings the spectrometer to the sample, making results easier to gather. With a simple point and click process, a range of sample types can be analyzed – even in uncontrolled environments and restricted spaces. With the aid of spectroscopic amplification and enhancement techniques such as chemometrics and chemical imaging, Raman spectroscopy can provide rapid and reliable prediction of the level of contamination and presence or absence of target compounds with relatively high accuracy.

Some work using Raman spectroscopy has been performed at OTSC to detect aflatoxin in ground corn samples, identify and characterize food-grade tracers for grain tracing system, classify Bovine Spongiform Encephalopathy (BSE) samples, and quantify monoterpene in goat serum. Raman spectroscopy is an attractive technique for a grain traceability system because it would provide rapid quality and process control of tracer and coating. Raman spectroscopy can be a rapid, inexpensive, and convenient analytical method for screening samples and make it amenable for consideration as a routine method of analysis. Raman spectroscopy will find additional new applications in the future at OTSC.

A grant was awarded to explore Raman spectroscopy for the detection of mycotoxin in maize, cotton seeds, and peanut meals by the Anderson Endowment administered through the Ohio Agricultural Research and Development Center of the Ohio State University. At the end of this project, the results of the Raman study may help enhance high-throughput screening of the samples and provide economic benefits to the Texas grain and feed industry.
Office of the Texas State Chemist

Protects consumers & enhances Agri-Business through its Feed & Fertilizer Regulatory Compliance Program, surveillance & monitoring of Animal-Human health & environmental hazards, & preparedness planning.

Announcing Summer 2012 “Laboratory Quality Systems” Course

Laboratory analysis results impact every aspect of our daily life including what we eat, the clothes we wear, how we live, and how we commute. In the 21st century, laboratory quality assurance and quality improvement has been driven primarily by the regulatory and accrediting agencies. Stakeholders and industry have also been heavily involved in the quality assurance and quality control process in the past decades. Laboratory standardizations play a vital role in global trade. Insights into such laboratory quality systems will help companies to be competitive in the domestic and global markets.

As the Regulatory Science in Food Systems Graduate Certificate has been officially launched, a new course titled “Laboratory Quality Systems” (VTMI 689) will be available on-line at Texas A&M University. Dr. Susie Dai, Research Assistant Professor in the Department of Veterinary Pathobiology, will be the lead instructor of the 10-week class, which is offered May 29 - August 9, 2012. The on-line course includes access to the course material and lecture presentations and the web-based forum discussion enables input and output from each student. The new course will be focused on developing and implementing laboratory quality systems and cover a wide range of topics including method development, laboratory accreditation, chain of custody and international laboratory standards. The students will benefit from the class by learning how to implement quality systems in a laboratory to access regulated products. As an outcome of this class, individuals will be better equipped to manage a laboratory and evaluate the quality and reliability of laboratory data under industrial and regulatory settings in the global market. For more information about the course, please visit http://regsci.tamu.edu/, or contact Mary Sasser at (979) 845-1121, or mary@otsc.tamu.edu

Dr. Lynn Post’s Appointment as Adjunct Faculty

On January 5, 2012, Lynn Post, DVM, PhD, Diplomate of the American Board of Veterinary Toxicology was appointed as an Adjunct Member of the Graduate Faculty at Texas A&M University. Dr. Post appointment is under the Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine. In addition to courses in toxicology, Dr. Post will be involved in teaching courses for the Regulatory Science Curriculum.

As stated by Karen L. Butler-Purry, Associate Vice President for Graduate Studies, “The quality and reputation of this institution will be determined by the standards and achievements of the members of its Graduate Faculty and the students who are associated with them. We are delighted to welcome you as a participant in the University Graduate Programs. I hope that your service as a member of this body will be interesting and rewarding to you.”