



OTSC Quarterly Newsletter



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Office of the Texas State Chemist

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2019 Spring Advisory Committee Meeting Held April 25, 2019

The Office of the Texas State Chemist (OTSC) held its Spring Advisory Committee meeting on April 25, 2019. Dr. Patrick Stover, the new Vice Chancellor of Agriculture, thanked the group for their contribution to increasing communication and cooperation between the consumers and regulatory agencies in Texas.



Updates on the status of several laboratory methods were presented by OTSC scientists. Using the new more sensitive LC-MS/MS instrument added to OTSC in 2017 (OTSC Quarterly Newsletter 25:1), Dr. Wei Li created a method to detect the presence of six water-soluble vitamins in a single analysis of complete feeds. In addition, a method for the analysis of the fat-soluble vitamins, including vitamin D, has been developed (also using the LC-MS/MS). Both of these methods have been validated for use in the lab. Recently, excess vitamin D has occurred at toxic levels in some brands of dog food.

At the request of the Advisory Committee during the Fall 2018 meeting, OTSC began investigating analytical methods for nitrogen stabilizers. These compounds could be analyzed by LC-MS/MS or GC-MS/MS.

A study on the One Sample Strategy highlighted the economic benefits of shared governance (co-regulation) to manage aflatoxin risk. The study concluded that co-regulation improved the marketing of corn at a higher price and created a more transparent and connected market. Some of the benefits included: premium pricing for those participating in the program, crop insurance indemnity payments to producers, resolving testing conflicts, and increased market share. Some of the added costs included sampling and testing, with an average cost of \$17 per aflatoxin test including labor. The entire results of this study will be published in the *Journal of Regulatory Science*.

The Food Safety Modernization Act (FSMA) and rules were also topics for the Advisory Committee. The hazard guide (Chapter 3) in the FDA draft Guidance 245 titled Hazard Analysis and Risk-Based Preventive Controls for Food for Animals was included in the handouts and discussed within the context of Preventive Control inspections. For feed industry personnel who need FSMA training, the Office provides an on-line course in Hazard Analysis and Preventive Controls for Feed using the curriculum considered adequate by FDA to prepare Preventive Control Qualified Individuals (www.feedhaccp.org). This information is also available via open access at no cost on the same website.

The Advisory committee meets twice a year, the current Chair is Suzy Davis with Brownfield Farmers Cooperative and Vice-Chair is Daniel Berglund representing the Texas Corn Producers Board. The Fall Advisory meeting has been scheduled for Friday, September 20, 2019.

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

Analysis and Labeling of Nitrogen Stabilizers in Fertilizers

Fertilizer Industry Memorandum 5-11 defines requirements for labeling and measurement of nutrient stabilizer additives in accordance with the Texas Commercial Fertilizer Control Act and Rules. The above policy requires that all fertilizer mixtures that incorporate a nutrient stabilizer additive with Enhanced Efficiency Fertilizer (EEF) or Slow Release properties be labeled appropriately.

Commercial fertilizer mixtures, including customer-formula fertilizer, that incorporate nutrient stabilizer additives must state on the label the following for each additive:

- Type of additive,
- Purpose of combined fertilizer and nutrient stabilizer additive, and
- Quantity of additive (% by weight).

In addition, each nutrient stabilizer additive in a fertilizer mixture must have a currently accepted laboratory method of analysis.

OTSC has begun investigating laboratory methods of analysis for measuring nutrient stabilizer additives and nitrification inhibitors in fertilizers. These methods use LC-MS/MS or GC-MS/MS instrumentation for analysis and can be used to identify nitrogen stabilizers and nitrification inhibitors in fertilizers. In the future, these methods can be used to facilitate compliance with Texas Commercial Fertilizer Control Act and Rules related to fertilizer mixtures.



OTSC expands scope and updates quality system to ISO/IEC 17025:2017

This summer, OTSC's Agricultural Analytical Services (AAS) will undergo renewal of its accreditation to the new ISO/IEC 17025:2017 standard and will expand the previous scope from 11 tests to 25 tests. This expansion, which will be inclusive of all methods currently used in the analyses for animal feed, also serves to satisfy deliverables for the AFRPS (Animal Feed Regulatory Program Standards) Cooperative Agreement. The renewal is part of the cycle for maintaining accreditation and will include an on-site assessment by assessors assigned by A2LA, the chosen accrediting body. In addition, there will be a renewal of ISO 17034:2016, the standard required for reference material producers. ISO/IEC 17043:2010, the standard for proficiency testing providers, will be up for renewal in 2021.

ISO/IEC 17025:2017 is the new standard for the competence of testing and calibration laboratories. The previous standard, ISO/IEC 17025:2005 had much of the risk managed by the standard and included many required policies and procedures (over 33). The new standard is process-based, the policies have been reduced to a minimum and required procedures are down to a minimum of 13. Accreditation provides added confidence and a foundation for reliable, defensible results. It ensures technical competence of the staff, validity of the test methods, traceability of measurements, maintenance of test equipment, and even maintenance of sampling, handling, and transportation of test items.