

Regulatory Services News

Vol. 67, No. 2

Feed - Fertilizer - Milk - Seed - Seed Testing - Soil Testing
Ag Lime Testing - Industrial Hemp Testing

Summer 2024

Director's Digest

Reflections

This will be the last newsletter I will edit as I am retiring on April 30 and someone else will be taking over newsletter duties after this one. As I have cleaned out my office and files over the last few weeks the thought of "how time flies" has crossed my mind several times. It was hard for me to fathom how many things I threw out that were over forty years old but I still remember them like they were just a year or two old. Some were difficult to throw away but I have no more use for them and my wife would concur that we have no place to store them at home.

The other thing that struck me was how much technology has changed over the last forty years. My first job out of graduate school in 1983 was as Extension Ruminant Nutrition Specialist at Mississippi State University. I was in charge of the forage testing program and the data was kept on a main frame computer. I don't remember the model number but the first desktop computer I had was a Radio Shack (Tandy) computer with very little memory and used floppy disks which many of you have never

seen. The first cellular phone I had was in the early nineties when working for a feed company here in Kentucky and was a bag phone which I still think I have in a closet at home. Now we all carry cell phones that have more memory and capacity than most of us will ever use. I remember making many trips to the library to look up topics and now we just "google" it. New technology has made life much easier but I think of all the things we used to value that are now obsolete such as encyclopedias, VHS tapes, printed newspapers, and even 8-track tapes.

Prior to this job I spent twenty-three years in technical service work with a feed company where I had my share of disagreements with Regulatory Services. Many of my coworkers were shocked that I would take a job with my nemesis. However, I knew deep down that Regulatory Services has an important role for both consumers and agribusinesses. A role I wanted to be a part of. I knew little about the fertilizer, seed, milk, and service components that our Division is involved in but the right people were in place to teach me.

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Director's Digest, continued

In 2023, our inspectors performed 2,628 facility inspections. Our laboratory analyzed 3,557 feed samples, 2,672 fertilizer samples, 1,508 regulatory seed samples, 1,766 service seed samples, 928 milk samples, 137 agricultural lime samples, 245 hemp samples, and almost 38,000 soil samples. I am proud of the work we do and of the relationships we have with agribusinesses, extension agents, the Kentucky Department of Agriculture, and the Martin-Gatton College of Agriculture here at UK. While regulatory work is our primary emphasis, I hope most view us a resource as well. I appreciated the help I received from this Division when I had issues during my feed mill days. We are happy to help anyone resolve their quality or labeling issues. I would be remiss if I didn't acknowledge my appreciation to the Kentucky legislature which has continued to provide us with funding during each budget session.

Changes and challenges are inevitable and we have had our share during my almost twelve year tenure here. From FSMA to the pandemic we have all faced the reality that we need to be adaptable in our work. We can't continue to do things the way we have always done them. It was easy when our inspectors were primarily involved with co-ops and farm stores. As our society has become more urban, it seems that everyone wants to get into the feed, fertilizer, and seed business. Box stores and grocery stores now sell fertilizer, seed, and pet food. The number of pet stores and people selling pet treats from home continues to amaze me. Now, many of these items are also available online and we are continually trying to figure out how to regulate the internet sales but it is necessary if we are to protect our consumers and Kentucky businesses.

I have enjoyed my time leading this Division and appreciate the friendships I have developed over the last 12 years. The duties of the University of Kentucky Division of Regulatory Services have been ongoing for over 100 years. We have faced many changes in the industry over that time and I am sure

there are more to come but this Division has always been able to adapt and will continue its efforts to protect the consumers of Kentucky and provide a level playing field for the agribusinesses selling in our state.

Darrell D. Johnson,
Executive Director

Acting Executive Director for Regulatory Services

Steve McMurry, current Director of Fertilizer and Seed regulatory programs, has been appointed as Acting Executive Director of Regulatory Services. He will serve in this role until a new Executive Director is hired.

Take advantage of free seed testing

As I write this article, I can see a variety of flowers in bloom outside our office windows, it seems the recent warm temperatures have kick-started spring here in the bluegrass. As we edge closer to the planting season, I wanted to remind our seedsman, specifically Kentucky residents, of a cost saving option when submitting samples for testing this season.

Kentucky residents are allowed one free seed test per year. All you need to do to obtain a free test is to print the free test form (found on our webpage), sign and submit along with your sample. If you are submitting a sample through one of our county agents, we do allow them to sign the form for you, if necessary. If the form is not used or received unsigned, you will be charged the normal rate for the desired test(s). Also worth noting, the free test form does not replace the sample submittal form, which must be submitted with every sample, this ensures all necessary information is captured for accurate analysis, report delivery and billing.

Continued on page 4

The seed lab offers an array of seed tests depending on the customers needs, however it is important to understand that the one free test offered to Kentucky residents is the value of a complete test for that seed kind or the equivalent cost if other tests are requested. For example, if a farmer submits a corn sample with the free test form and has requested a complete test as well as a cold test, he or she would only be billed for the price of the cold test. Similarly, if a corn sample is submitted with the free test form and a cold test, AA, and germ tests are requested, they would be billed 29 dollars. This represents the total charges of all tests requested minus the value of a complete test for corn.

Link to the Free Test form:

<https://www.rs.uky.edu/regulatory/seed/forms/FreeTest.pdf>

Link to a complete list of tests offered, and pricing:

<https://www.rs.uky.edu/regulatory/seed/forms/SeedTestsPricing.pdf>

If you have questions, please contact the seed program directly at seed.program@uky.edu or call the seed office at (859) 218-2468.

On another note, I would like to take this opportunity to thank our Executive Director, Dr. Darrell Johnson, for his years of hard work and dedication to Regulatory Services and especially the Seed program. Best wishes on a well-deserved retirement.

Jonathan Collett
Seed Laboratory Supervisor

What Is The Pet Food Uniform Regulatory Reform Act of 2024 and Why Pet Owners Should Be Concerned?

In late April 2023, the Pet Food Institute informed the Association of American Feed Control Officials (AAFCO) of their intent to propose new legislation concerning the regulation of pet food. The Pet Food Institute (PFI) proposal advocated that the regulation of pet food be removed from state authority and to be the responsibility of the Food and

Drug Administration (FDA). In the following months, representatives from AAFCO and the National Association of State Departments of Agriculture (NASDA) met with PFI leadership to voice their opinions regarding the federalization of pet food regulation and to discuss the concerns of the industry.

In September 2023, a letter was sent to AAFCO and NASDA from PFI, the National Grain and Feed Association, and the American Feed Industry Association outlining their concerns in the regulation of pet food. These concerns included variations in state systems (product registration protocols, payment schedules and systems, label review fees), differences in state interpretation of the AAFCO Official Publication, the slow pace of the AAFCO ingredient approval process, and the lack of technical expertise and knowledge of industry practices among AAFCO committee members. Dialogue between these feed industry groups, AAFCO, and NASDA continued in the following months. AAFCO and NASDA leadership and state members hoped the dialogue would lead to compromise and solutions that did not involve federal legislation. However, in February 2024, the Pet Food Uniform Regulatory Reform Act of 2024 (the PURR Act) was introduced in the House of Representatives.

PFI has used the following talking points to describe the intent of the bill. This legislation:

- ◆ Impacts only the state process of pet food label reviews.
- ◆ Codifies ingredient and marketing claim guidelines in the AAFCO Official Publication.
- ◆ Does not impact food safety or nutrition.
- ◆ Replaces an inefficient patchwork approach between states and the federal government with national standard.

After reviewing the final bill introduced, AAFCO and NASDA countered these talking points with their own summarized below.

The bill contains a preemption that prohibits a state from directly or indirectly establishing or enforcing any authority or requirement related to the marketing of pet food. Pre-market label review by

state regulators would cease and consumers would be responsible for evaluating the validity of marketing claims. Only a handful of states actually conduct pre-market label review and Kentucky is one of these reviewing around 3,000 product labels annually. States that do not conduct reviews themselves do rely on the opinions of the state programs such as ours.

The PURR Act would automatically allow the use of generally recognized as safe (GRAS) ingredients that have not been submitted to the FDA for review. State regulatory programs, including our own, do allow firms to use self-affirmed GRAS ingredients provided that they meet the same criteria as a formal GRAS notice submitted to the FDA. The act would take away the ability of a state regulatory program to prohibit the use of self-affirmed GRAS ingredients in pet food.

One of the more troubling portions of the bill allows pet food manufacturers to list ingredients as “sometimes present”. While positioned as a solution for supply chain issues, there is the potential for manufacturers to replace ingredients with lower quality substitutes with no consideration given to dietary restrictions or food sensitivities including allergens.

Finally, the purpose of the Food Safety Modernization Act (FSMA) was to establish a national integrated food safety system with federal, state, and local health officials working together and focusing on assuring a safe food supply. By federalizing pet food regulation and prohibiting state regulation, the PURR Act is in direct opposition to FSMA goals.

Clearly, there are differences in how states regulate pet food and one can understand that pet food companies may find some difficulties in marketing products across state lines. However, any business that distributes products in multiple states faces the same challenges. As state regulators, we protect consumers but also promote a level playing field for businesses. With the current system, both states and the FDA are involved in regulation of pet food. However, state programs collect nearly all samples and conduct the majority of facility inspections. The FDA does not have the resources to regulate pet food

on the same plane as state programs. If this bill becomes law, pet food manufacturers will essentially police themselves and the potential outcome will be less consumer protection and a playing field that is no longer level.

G. Alan Harrison,
Director Feed and Milk Programs

AAPFCO Approves the Uniform Beneficial Substances Bill

Over the past several newsletters I have been mentioning the Uniform Beneficial Substances Bill being developed by the Association of American Plant Food Control Officials (AAPFCO). AAPFCO voted on this Bill in February creating an Official version of the bill. This is the first step for states to adopt a bill which will allow for biostimulant claims to be made on fertilizer products, or standalone biostimulant products. In February, the Biostimulant Committee within AAPFCO also voted for the following five ingredients to be moved into a “Tentative” status to be considered as beneficial substances:

- Humic Acids
- Hydrophobic Fulvic Acid
- Fulvic Fraction
- Seaweed Extract
- Kelp Extract

As mentioned in an earlier article, the new bill will change how many fertilizer products are labeled. On the next page is an example of a fertilizer product with a potential biostimulant guarantee. Changes to labeling include the addition of the heading “Also Contains Beneficial Substances” or just “Contains Beneficial Substances” when no nutrients are claimed, a purpose statement for the biostimulant as well as directions for use. Some states will need to adopt the Beneficial Substances Model Bill in order for these changes to come into effect, while other states like Kentucky may already have this terminology already in place. Since Kentucky already accepts these headings, we will be able to register fertilizer products

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making biostimulant claims once ingredients are made official by AAPFCO. For standalone biostimulant products, no registration is required at this time in Kentucky. An example of a fertilizer product with a biostimulant guarantee is below:

SuperGro

12-4-9

GUARANTEED ANALYSIS

Total Nitrogen (N).....12%
4%....Water Soluble Nitrogen
8%....Water Insoluble Nitrogen
Available Phosphate (P₂O₅) 4%
Soluble Potash (K₂O)9%

Derived from....

ALSO CONTAINS BENEFICIAL
SUBSTANCES

Humic acid6%

Derived from....

Purpose statement:

Directions for use:

Farm Co-op
Hwy 1, Box 7
Centerville, Any State Zip Code
Phone Number

Net Weight – 25 lb (11.33 kg)

***Stephen McMurry,
Director Fertilizer and Seed Programs***

Ag Lime and Soil Testing

The Kentucky Department of Agriculture contracts with our Division to perform sampling and analysis of ag lime sold in Kentucky. We sample and test ag lime from about 65 quarries in the spring and fall of each year and report results at https://www.rs.uky.edu/soil/technical_info/.

We test and report % Ca, % Mg, % calcium carbonate equivalence (CCE), % passing 10 mesh sieve, and % passing 50 mesh sieve. The most important parameter we report is the % relative neutralizing value (%RNV) which is determined from the calcium carbonate equivalence and the amount passing 10 and 50 mesh sieves. The higher the CCE and the finer the material, the higher the RNV. Ag lime with 100% RNV means all the ag lime is expected to be effective in neutralizing soil pH. Ag lime with 50% RNV means only half of the ag lime is expected to be effective. Typical values we see for %RNV, % CCE, % less than 10 mesh sieve and % less than 50 mesh sieve are shown in table 1 on the next page.

The RNV results from the quarries are incorporated into soil test reports we generate on soil samples analyzed from county extension offices throughout Kentucky. The counties provide us the quarries important to producers in their area so calculations can be made on the amount of lime to apply based on the RNV from that quarry. An example of a soil report with lime recommended on pasture ground with low soil pH is shown in Table 2 on page 7. Quarries with lower %RNV require higher application rates. With quarry specific application rates, cost comparisons can be readily made across different quarries.

Table 1

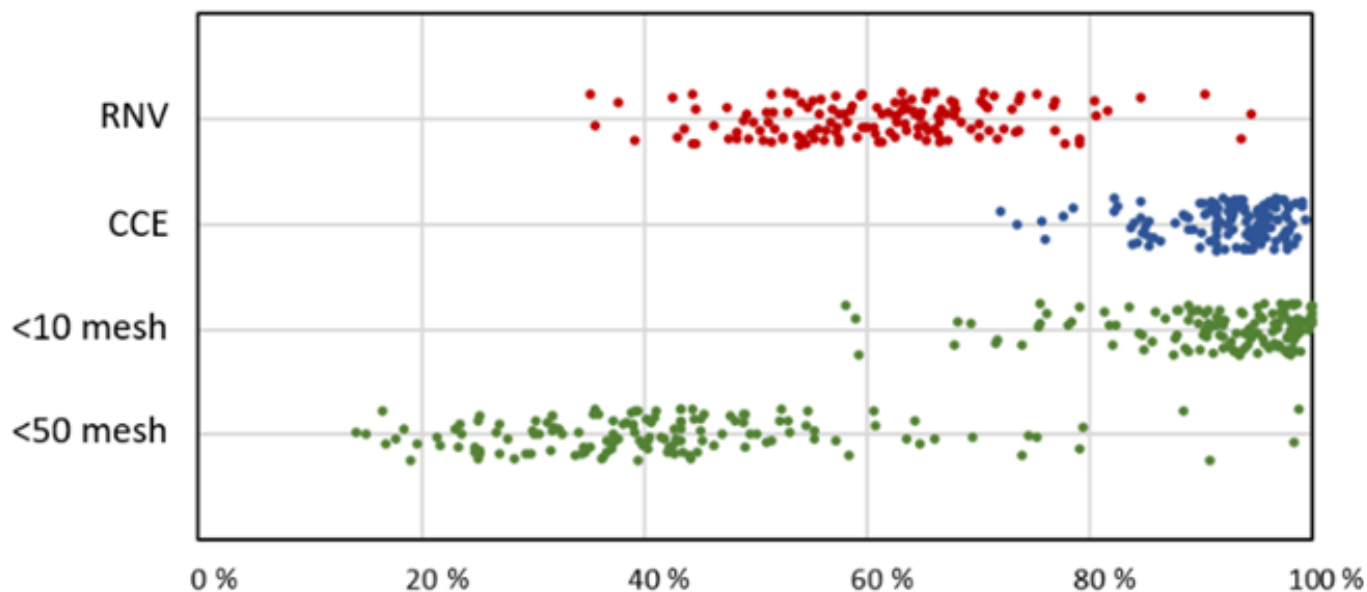


Table 2

AGRICULTURE CROP INFORMATION:

. . . . CROP: Cool Season Grass MANAGEMENT: Annual Top Dressing USE: Pasture

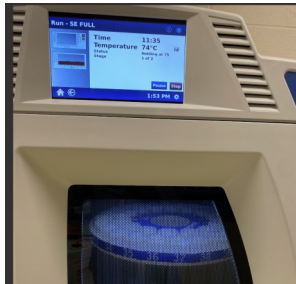
Determination	Result	V Low	Low	Med	High	V High	Recommendation
Soil pH	5.4						see below
Nitrogen							see comments below
Phosphorus	1 lbs/acre						120 lb P205/ac
Potassium	81 lbs/acre						80 lb K20/ac
Calcium	1957 lbs/acre						
Magnesium	187 lbs/acre						None
Zinc	3.6 lbs/acre						None
Cation Exchange Capacity	12 meq/100g	Typical for KY which is 11 to 19 meq/100g					
Cation Saturation	>>>>>>	1% K, 40% Ca, 6% Mg, 47% total bases					

Soil pH Recommendation:

1.5 T/A of 100% effective lime is required. This can be supplied with 2.5 T/A from Cave Run Stone... in Morgan CO (60% RNV), OR 4 T/A from Heidelberg Mate... in Carter CO (37% RNV), OR 3 T/A from Heidelberg Mate... in Fleming CO (50% RNV), OR 2.5 T/A from Walker Construc... in Montgomery CO (61% RNV)

*Dr. Frank Sikora,
Director of Laboratories*

UKDRS Laboratory Approach to Hazardous Samples



In our laboratory, prioritizing the safety of our analysts and adhering to regulatory standards is our top priority. We have meticulously refined our approach to mineral analysis, especially concerning hazardous samples, such as fertilizers. Our primary concern revolves around potential explosive reactions that could arise from the interaction between nitric acid and Potassium Thiosulfate or Ammonium Thiosulfate fertilizers.

To address these risks, we have implemented several precautionary measures in our methodology. One key adjustment involves reducing the sample size. By weighing a smaller amount of the sample in the microwave digestion vessel, we minimize the presence of potentially reactive materials during the

analysis.

Additionally, we have introduced a strategic dilution step into our procedure. After the initial weighing, the sample undergoes a 1:1 dilution with water. This dilution serves as a critical safety measure, especially in mitigating the risk of explosive reactions between the robust reducing properties of Potassium Thiosulfate or Ammonium Thiosulfate and the powerful oxidizing nature of nitric acid.

Previously, direct interaction between these fertilizers and nitric acid posed significant hazards, potentially compromising the safety of our analytical environment. However, through the implementation of these precautionary measures, we have effectively minimized the likelihood of accidents while ensuring the accuracy and reliability of our analytical results.

Our revised approach not only reinforces the safety of our analysts but also aligns seamlessly with established regulatory standards. It underscores our unwavering commitment to safety and compliance in all aspects of our work. Ultimately, this concerted effort enhances confidence in the integrity and efficacy of our analytical processes.

Solomon Kariuki, Ph.D.
Laboratory Manager

Upcoming Events

AAPFCO Annual Meeting

August 5-6, 2024

Hyatt Regency Riverwalk

San Antonio, Texas

[AAPFCO Meetings](#)

AAFCO Annual Meeting

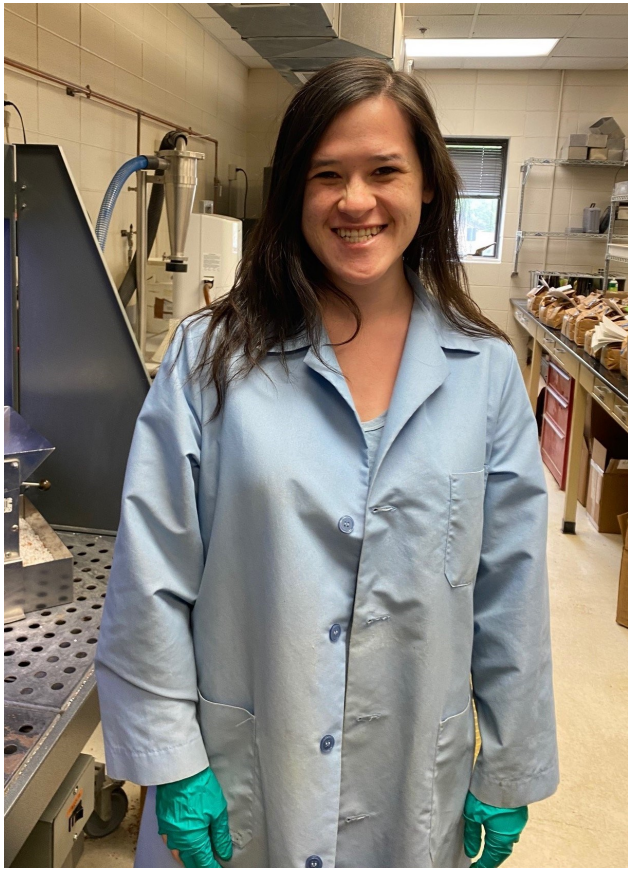
August 7-9, 2024

Hyatt Regency Riverwalk

San Antonio, Texas

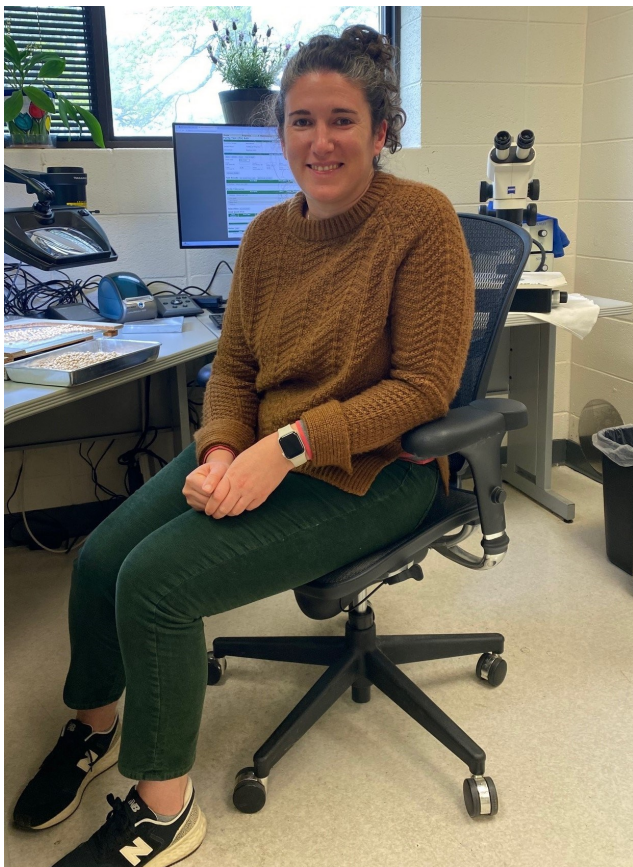
<https://www.aafco.org/events/meetings/annual/2024-annual-meeting>

Personnel News



Allison Eades started with us as a Laboratory Technician Senior in March. She is working in the sample preparation area. Allison went to high school in Indiana and received a BS in Natural Resources and Environmental Science in 2020 from the University of Kentucky. She worked in the Department of Forestry and Natural Resources after graduation.

Interestingly, Allison worked with us previously in the soils laboratory while a student here at UK from 2017 to 2020. She was an excellent worker as a student and we are glad to now have her as a full time employee in the important area of sample preparation.



Maria Julia Santoro started with us as a Research Analyst in the Seed Department in April. She will primarily work in the area of seed purity. Julia has a BS degree in Agronomy from the University of Buenos Aires and an MS in Agronomy from the University of Kentucky.

Julia worked with Dupont, Monsanto, Syngenta, and Dow in Argentina before moving to Kentucky. She spent five years as an Agriculture Research Specialist in the Plant and Soil Science Department before coming to our Division. We think her vast experience will be of benefit to us and welcome Julia to the Division of Regulatory Services.

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