Regulatory Services News

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Ag Lime Testing - Industrial Hemp Testing

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Director's Digest

Maybe we do embrace change

My local newspaper runs a column each week on what was happening in our town 25, 50, and 75 years ago. This made me think about changes I have seen over my lifetime. We often hear and I have certainly experienced how people resist change. It is human nature to embrace what is familiar and stay away from something different. If you have tried to convince family members, farmers, or coworkers to try something new, it's not unusual to hear things such as "we've never done it that way" or "if it was good enough for grandpa it's good enough for me."

Whether we have embraced it or not, we have certainly seen lots of changes over the last 50 years. Some would argue we have seen more changes in the last 20 years than in the 50 years prior to that. It's hard for me to believe that it's been 50 years since the 1970's. Not to age myself but those were my high school and college years and it sure doesn't seem that long ago. What are some changes we have seen since the 1970's

- The average price of gas in 1972 was 36 cents/ gallon.
- The base price of a 1972 Chevrolet ½ ton pickup was $2,680.
- The median family income in 1972 was $11,120 versus $67,521 in 2020.
- The median price of a house in 1972 was $27,600 versus $336,800 in 2020.
- The last ground troops were withdrawn from Vietnam on August 11, 1972.
- Movies that are turning 50 this year include: The Godfather, Cabaret, Poseidon Adventure, Joe Kidd, and Snoopy Come Home
- $1.00 in 1972 is worth $6.85 today.

We have also seen lots of changes in retail sales. I can remember stores such as Katz and Western Auto that I don't think even exist anymore but certainly others have flourished. Many of these carry products we regulate such as fertilizer, seed, and pet food. Below are examples:

- Wal-Mart went public in 1970 and had 38 stores. They had 125 stores in 1975 and well over 10,000 today.
- Lowes had 86 stores in 1972 and have 2,370 stores today in North America.
- Home Depot opened with 2 stores in Atlanta in

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What's Inside

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Director's Digest, continued

1979. They have 2,284 stores in North America today

- Petco opened their first store in Tigard, Oregon in 1980. Today they have over 1,500 locations.
- $4.9 billion dollars in pet food sales were made over the internet in 2019 versus none in 1972.

Agriculture in Kentucky has certainly seen it's share of changes in the last fifty years. Tobacco was king in the 1970's. According to the Ag Census, in 1974 there were 71,037 farms raising tobacco producing a total of 388,147,707 pounds. The last Ag Census was completed in 2017 and it showed 2,618 tobacco farms producing 173,898,978 pounds. Finding replacement crops for tobacco has been a challenge for several years. Some have turned to beef cattle, poultry, and more recently hemp. The poultry industry in Kentucky has grown over the last 50 years to where it is now the leading agricultural commodity in the state. While the total number of beef cattle and farms have declined since the 70's, we are still the leading beef producing state east of the Mississippi river. Exciting things are happening in the beef business and I believe it will continue to grow if we can increase in-state beef processing. The future of the hemp industry is still uncertain at this point.

Comparisons of differences for several ag commodities in Kentucky between 1974 and 2017 are shown in the tables below:

Livestock in Kentucky

	1974		2017	
	Farms	**Number**	**Farms**	**Number**
Cattle and calves	72,044	3,033,010	38,657	2,155,894
Milk cows	18,596	269,912	1,577	57,645
Hogs & pigs	20,242	898,166	1,805	415,702
Sheep & lambs	865	44,299	2,818	69,933
Horses & ponies	16,783	59,557	16,290	119,583
Broilers	1,221	1,077,406	928	289,214,287

Grain Crops in Kentucky

	1974			2017		
	Farms	**Acres**	**Bushels**	**Farms**	**Acres**	**Bushels**
Corn	39,495	975,401	78,231,852	5,760	1,255,146	220,070,862
Soybeans	11,032	874,551	21,566,582	5,854	1,866,601	96,657,887
Wheat	8,702	331,421	10,460,083	1,180	344,575	23,365,860

With the exception of sheep and lambs, there are fewer farms in each category but more animals or acres of crops per farm. I don't think this is a surprise to anyone. So why did I title this article "maybe we do embrace change". Those who have stayed in the farming business have embraced change to survive. Those who weren't willing to change have gone on to other endeavors. Whether it is better genetics, better nutrition, better management, or better equipment, those in business today have increased their productivity. This is illustrated in the table on the next page.

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	1974	2017
Corn, bushels/acre	80	175
Soybeans, bushels/acre	24.7	51.8
Wheat, bushels/acre	31.7	67.8

Production per acre in our main crops has more than doubled in less than fifty years. Improvements have also been made in livestock production. Pounds of feed/pound of gain has improved for all species and importantly while also using less water. The National Chicken Council promotes that it takes 75% fewer resources to produce the same amount of chicken than it did in 1965; 72% less farm land, 58% less water, and 39% less fossil fuels. In addition, over 95% of broiler litter is recycled and reused to fertilize crops. Kentucky dairy cows produced 7,785 lbs milk/cow/year in 1975 and this increased to 19,717 in 2021 while using less feed and water per pound of milk.

Those who have remained in farming have embraced the changes necessary to keep farming and agribusinesses embrace the challenge to keep improvements moving forward. Jeff Rowe with Syngenta Seeds recently noted three realities remain critical for all of us as we look to the future.

1. We will need to feed more people in the coming decades.
2. We will need to ensure everyone has not just enough calories, but enough nutrition.
3. We will need to do this in a way that is much kinder to our planet.

These challenges mean more changes are coming but I have faith that those in Agriculture will embrace these changes just like we have since the first animal was domesticated and the first crop planted. We reserve the right to complain about change but realize it is inevitable and we are willing to adapt.

Dr. Darrell D. Johnson,
Executive Director

Seed Service Lab News

The spring testing season is in high gear here at Regulatory Services and many seedsman have already sent in samples for testing in preparation of offering seed for sale this spring. In the case of holdover seed, this usually entails a germination test to update their tags and for new seed lots, a complete test (Noxious, Purity and Germination) to get the required labelling information. For individual farmers with holdover seed, a service sample can also be submitted to check seed germination prior to planting. In either case, it is important to note that there is a minimum amount of seed we must have in order to provide an accurate germination test. If you are unsure of how much seed to submit for testing, please refer to the Regulatory Services webpage or give us a call prior to shipment. This can prevent delays of sometimes several weeks in getting results to you.

For crop species such as corn and soybeans, there are additional tests, which can be performed to give the seedsman more information on planting and storing their seed. Unlike the standard germination test, tests such as Cold test (CT) and Accelerated Aging (AA) are useful tools to aid in determining seed lot vigor. Cold tests are usually requested in the early spring before the planting season, as the results represent the lowest rate of emergence for the seed lot when planted under less than ideal conditions, such as the cooler soil temperatures and higher soil moisture levels found in early spring. This can be extremely important information when determining planting time and seeding rates. When a cold test is requested, we strongly encourage the seedsman to request a germination test as well to provide an accurate look at the seed lot as a whole. Many times, a lot of corn or soybeans may perform poorly with a cold test but have a drastically higher germination rate, meaning the seed in question can potentially have a much higher rate of emergence when planted under more ideal conditions.

An Accelerated Aging test is performed by placing the seed in a high stress environment prior to a germination test. This test can be used as an indicator of how well a seed lot will do when placed in storage. Again, we strongly encourage this test to be paired with a standard germination test because, as with other vigor tests, a seed lot may perform poorly on an Accelerated Aging test but have a regular germination percentage that is much more acceptable. In the case of a low Accelerated Aging result, the seed lot in question would generally perform better if planted sooner and under more optimal conditions. Storing seed improperly or for long periods, especially seed that has performed poorly on an AA test will result in decreased germination rates and seed death.

In short, a poor vigor test result does not necessarily mean that the seed lot in question is of lesser value, it simply means that planting and storage conditions may need to be modified in order for the lot to reach its maximum production potential. However, this information can only be determined when a germination test is performed along with the appropriate vigor test.

Jonathan Collett,
Seed Lab Supervisor

The Level Playing Field

As a regulator responsible for enforcing Kentucky laws and regulations for feed and milk, my guiding principle is the concept of a level playing field for anyone doing business in our state. I believe that promoting and supporting a level playing field should not be confused with "leveling the playing field". I equate this approach to picking winners and losers. Fair and equitable regulation should not be about choosing which firms will be successful. A truly level playing field gives all businesses the opportunity to succeed by ensuring that all play by the same rules.

Regulatory Fees

Kentucky feed law establishes fees for both small product registration and inspection fees (feed tonnage). Unlike many states, Kentucky does not issue an annual license for feed manufacturers or feed distributors. Instead of licensing the firm, Kentucky requires registration of products. All commercial feed distributed in the state is subject to either a small product registration fee or feed tonnage. Milk law does set annual license fees for milk handlers, tester, sampler/weighers, transfer stations, and laboratories. Milk inspection fees are paid by both milk processors and by milk producers (collected by milk processors and paid to our division). Both feed and milk law outline when late fees are to be applied. By law, all money collected is to be used to pay a portion of the cost of operating the regulatory program. The fee structure for feed has been in effect since 1998 and milk fees have not changed in over 15 years. Firms doing business in Kentucky are expected to pay their fair share of inspection fees, registration fees, and licensing and these firms should also expect that their competitors are required to do the same.

Labeling

Commercial feed sold in Kentucky is required to have appropriate labeling for the intended use of the product. For our feed law, the regulatory basis for appropriate labeling is stated in KRS 250.521(1)(b):

The guaranteed analysis stated in terms the director by administrative regulation determines are required to advise the user of the composition of the feed or to support claims made in the labeling.

Kentucky regulation (12 KAR 2:006, Section 2) specifies that we follow official feed terms adopted by the Association of American Feed Control Officials (AAFCO). Our feed regulations, updated in 2018, also follow AAFCO guidelines for the format for guaranteed analyses by species. The label is often the only information available to the consumer to

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allow for the product to be properly fed to the animal. This is particularly important with pet foods and medicated animal feed. Correct and appropriate labeling also allows for comparison of similar products. All guarantors of commercial animal feed that is registered in Kentucky must submit labels for review and approval. When non-registered products are found in distribution in the state, we ask firms to register and remove products from distribution if they do not comply.

Sampling Compliance

Kentucky has a long history of livestock feed and pet food sampling and our inspectors collect around 3,000 samples each year. Kentucky feed law (KSR 250.581) grants the authority to sample feed in distribution and specifies how the samples are to be handled and analyzed as well as how reports are disseminated. Analyses from official samples are compared to label guarantees and when found to be deficient or excessive in any analyte on the label, the sample is in violation of Kentucky law. Results from all samples analyzed are sent to the guarantor, the distributor, and if known, the manufacturing plant. When customer formula mixes are sampled, results are also sent to the producer receiving the feed. The guarantor of the product is asked to conduct an investigation and report to the feed program. Our inspectors develop and conduct programs to sample a broad range of products across the state. Sample compliance in meeting label guarantees is a good indicator of formulation and manufacturing conditions.

With our milk program, samples are collected primarily to determine if the sampler/weigher followed proper guidelines for collection of milk samples from bulk tanks. Proper collection ensures that producers are paid fairly for their milk. Sampler/weighers that fail inspections can be required to attend re-training.

Inspection

For the feed program, inspection can include any facility manufacturing or holding animal feed for distribution. Inspection can be as informal a walk through a facility and collection of samples or more structured in the case of an FDA contract inspection. In either scenario, inspection is an evaluation of the conditions under which feed is being manufactured or held. Trained inspectors inspect with their eyes, their ears, and even their noses. While there are differences in facility size and scale, manufacturing equipment, and types of products produced, all facilities are expected to produce feed that is safe and appropriate for the intended use.

In addition to the inspections of sampler/weighers, our milk inspector conducts laboratory inspections to evaluate procedures for the testing of milk. We also conduct pay audits to determine if milk producers are paid properly by milk processors.

Enforcement

Enforcement is the necessary evil required when voluntary compliance is not achieved. We are fortunate that our predecessors crafted our law and regulations to allow regulatory discretion in the use of a range of enforcement tools or options. Our enforcement toolbox includes denying registration of a product, a letter of reprimand, withdrawal from distribution, administrative hearings, legal action through local courts, and fines. To paraphrase our feed law, it also states to do the “least worst first“, an approach we take to heart.

With inspection and registration fees, we will collect what is due and pursue payment when fees are late. When firms do not pay inspection and registration fees, registrations are cancelled and products subject to withdrawal from distribution. Products without approved labeling are not registered and subject to withdrawal from distribution. Products sampled and not meeting label guarantees can be withdrawn from distribution if the deficiency or excess may affect animal health or performance (medications, copper, selenium, salt, non-protein nitrogen). Enforcement of laws and regulations with regards to facility inspection typically involves education and changing protocols but could also include structural changes in the facility. As mentioned early, the goal is always to make products safe for the intended purpose.

Fees and license payments are black and white – no pay, no play. With sample violations and with manufacturing issues found during inspection, we are in more of a gray area. When choosing the appropriate enforcement tool here, there are several factors that should be considered including compliance history, responsiveness, scope, nature, and impact. Primary considerations are always potential impact on animal and human health and scope or size of that impact.

I will end where I started. My guiding principle in regulation is the belief that we should promote and encourage a level playing field for anyone doing business in our state. We are always willing to work with firms on fee payment issues but we do expect all firms to pay what the law requires. When enforcement is necessary, we will follow the laws and regulations and start with education and a cooperative approach. We believe a truly level playing field gives all businesses equal opportunity to succeed.

Dr. G. Alan Harrison,
Director of Feed and Milk Programs

New Seed Stop Sale Notice and Tip Sheet for Resolving

In an effort to make the seed stop sale paperwork more efficient and easier to read and resolve, the seed department created a new stop sale notice over the past few months. Below is an example of the Notice of Violation and Stop Sale which would be issued from our office. The new format more clearly lays out the product name, lot number, package size, number of packages and the type of violation and if the violation is eligible for a relabel.

Notice of Violation and Stop Sale

You are hereby notified NOT TO SELL, OFFER FOR SALE, REMOVE OR PERMIT REMOVAL FROM YOUR PREMISES, UNTIL RELEASED BY THIS DIVISION, the following item that has been found to be in violation of the Kentucky seed law.

Date Issued:	4/25/2022	**Product:**	Bad Seed
Lab Number:	A2022XXXX	**Lot Number:**	ABC Lot
Inspection Number:	22-SWM001	**Package Size:**	50 lbs
		Number of Packages:	200

Retailer:

Seed Regulatory Company, Inc.
103 Regulatory Services Bldg.
Lexington, KY 40546

Wholesaler: 000XXX

Seed Regulatory Company, Inc.
103 Regulatory Services Bldg.
Lexington, KY 40546

Type of Violation	Component(s)	Statute	Eligible for relabel?
Prohibited noxious weed seed	Canada Thistle	250.071(7)(b)	No

Release Request

To request a release complete the section below and return to our office via email mm.smith@uky.edu or fax (859) 257-7351.

I request the release of this Stop Sale for disposition by: (check one)

_____ Returned to Wholesaler; credit memo will be available.

_____ Replaced label; copy of revised label is attached.

_____ Sold prior to receiving stop sale notice.

_____ Destroyed.

_____ Other: _____

_____
Signature

_____
Name (Please Print) Date

_____
Company Name

Resolving a Seed Stop Sale

Seed lots placed under stop sale cannot be legally offered for sale, sold, or removed from a location until a proper release has been obtained.

Seed stop sales come from two sources:

Field issued stop sales: Stop sales may be issued by field staff when seed is found in violation of the Kentucky Seed Law. These often involve seed lots that are mislabeled, have expired test dates or lots distributed by firms not permitted to sell in Kentucky.

Office issued stop sales: Stop sales may be issued by the office after an official sample has been obtained and our laboratory analysis indicates the seed lot is mislabeled.

A stop sale order from either of the above sources will contain a form that identifies important details about the seed lot including the seed kind, variety, lot number and number of seed containers. The bottom portion of the form can be used later to request a release on the stop sale, thus resolving the violation.

How to Obtain a Proper Stop Sale Release

Seed stops sale orders may be resolved by a number of options including:

- Relabeling the seed lot with a correct label
- Returning the seed lot to the distributor or seed labeling firm
- Discarding the seed

Regardless of how the stop sale order is resolved, **the retail location is responsible for obtaining a proper release.**

- After a violation has been corrected, complete the bottom section of the "Notice of Violation and Stop Sale" and submit to our office.
- If a corrected label has been used to resolve a violation, it should accompany your release request.
- To expedite a release, email to mm.smith@uky.edu or smcmurry@uky.edu, or fax the form (and label if appropriate) to our office at (859) 257-7351. If the proposed solution is acceptable, we will fax or email you a proper release.

Stephen McMurry,
Director Fertilizer and Seed Programs

Marilyn Smith,
Seed Program Staff Support Associate

Princeton Soil Test Laboratory Rebuilding Plans

The devastating tornado that destroyed the Princeton Experimental Station this past December has caused several adjustments in the Soil lab's activities. All soil samples are currently being sent to the Lexington laboratory for testing. The Lexington lab weathered the increase in samples satisfactorily during our busiest time in March and April with minimal impact on turn-around times.

Plans are moving forward for rebuilding the Experiment Station in Princeton with meetings on the design for the main building and other buildings supporting the mission in education and research. The new building may not be completed for a couple years in the future. In the meantime, temporary office and laboratory space is being prepared with installation of trailers. Installation of temporary office trailers began a couple months ago. Installation of temporary lab trailers will begin in mid-May with tentative plans for them to be available mid-summer.

We do have two Princeton employees currently working out of the Caldwell County Extension Office. They are currently helping with sending out soil reports and receiving walk-in samples from local county extension offices. Paula Hill is a temporary employee serving as supervisor. She was the lab supervisor in the past and she came back from retirement. Debbie Morgan is the other employee. We were in the process of hiring for the vacant supervisor position and a vacant technician position but put those positions on hold until temporary lab trailers are in place.

When the temporary lab trailers are in place, we plan to conduct all the activities of preparing soil samples and testing except for analyzing soil extracts with an inductively coupled plasma (ICP) spectrophotometer. We plan on transporting the extracts to Lexington for analysis. Plant tissue testing which began in Princeton last summer will be discontinued until we are in the new building.

Dr. Frank Sikora,
Director of Laboratories

Personnel News –New Hires

Alysia Conner started as in Inspector for our far western territory on February 14, 2022. Alysia has a B.S. degree in Agri-Business and M.S. degree in Agriculture from Murray State University. She spent the last nine years as Equine Facility Manager and as an Instructor in the Equine program at Murray State. Alysia lives in Benton and her territory includes the following counties: Ballard, Calloway, Carlisle, Christian, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, McCracken, and Trigg.

Victoria (Tori) Embry started as an Inspector in our central territory on March 1, 2022. Tori has a B.S. degree in Animal Studies from Eastern Kentucky University and M.S. degree in Animal Science/Dairy Health and Well Being from the University of Tennessee. She spent the last three years as a Flock Advisor for Perdue Farms. Tori lives in Leitchfield and her territory includes the following counties: Barren, Edmonson, Grayson, Green, Hardin, Hart, Larue, Meade, Metcalfe, Monroe, and Nelson.

Personnel News –Retirements

Debie Dahn will retire from our Division on June 10, 2022. Debie has worked as a Research Analyst in our Feed and Milk laboratories for over 46 years. Her primary responsibilities have been analyses of fat, fiber and Vitamin A plus assisting with milk analyses. She has also served as our main safety officer. We appreciate her many years of service and wish her well in retirement.

Rajna Tosheva-Tounova will retire from Regulatory Services on June 10, 2022. Rajna has worked as a Research Analyst in our Feed laboratory for a little over 28 years. Her primary responsibilities have been in the analyses of mycotoxins and medications. We appreciate all she has done for our Division and hope she enjoys her retirement.

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