

# Regulatory Services News

Vol. 50, No. 1

Feed – Fertilizer – Milk – Seed – Seed Testing – Soil Testing

Spring 2006

## Message from the Director

*As prefaced in previous newsletter editions, “Goal I: Reach for National Prominence” is the first segment of the Division of Regulatory Services’ Strategic Plan, which follows closely the strategic plans developed by the College of Agriculture and the University of Kentucky. The complete document, which influences all divisional operations can be found on the Division’s website at: <http://www.rs.uky.edu/other/about/StrategicPlan.pdf>.*

## Division of Regulatory Services Strategic Plan

### Goal I: Reach for National Prominence

The Division of Regulatory Services has a reputation for excellence in its feed, fertilizer, seed, and milk regulatory programs; and, its soil and seed testing services. This excellence was achieved through the commitment of program coordinators, inspectors, and support personnel to enlightened service to its clientele. Common to each program is the philosophy to provide educational opportunities for and work cooperatively with clients.

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## **Connie Williams 2005 Poundstone Award Winner**

Connie Williams was presented with the Division's Poundstone Award in December, 2005. She has worked at the University of Kentucky for a significant portion of her lifetime, in the College of Agriculture (Plant Pathology, Biosystems and Agriculture Engineering) and in departments on UK's main campus (Purchasing and Admissions). She has been employed at Regulatory Services since August of 1999. She is a native of Lexington and a graduate of Lafayette High School (19??).

Connie is an outgoing and personable co-worker in the Division. She is responsible for all purchasing of equipment and supplies for the department. Her knowledge of regulations on purchasing and payment procedures is phenomenal as well as her accuracy in completing orders. She portrays a wonderful image to the folks she works with across campus and to all vendors she works with throughout the world. Connie organizes maintenance orders through campus physical plant as well as off-campus contractors to maintain analytical and business operations of the Division. She always has a kind word for everyone and even on last minute projects, she always accomplishes the task in a very efficient and precise manner.



*Connie S. Williams and Eli Miller, Director,  
Division of Regulatory Services*

She is an asset to our Division and is very worthy to be selected for the Poundstone Award, which is presented to an outstanding employee of the Division each year.

Congratulations, Connie!

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### **History of the Poundstone Award**

The Poundstone Award was created to honor an outstanding employee in the Division of Regulatory Services. The award is named in honor of Bruce Poundstone, who was Director of Regulatory Services for many years. He was nationally renowned for his leadership and innovations in the feed, fertilizer and seed regulatory arena. He was founder of the Feed Microscopy Association, started the AAFCO Feed Control Seminar, and was a participant in the development of the GMP concept for feed manufacturing. Mr. Poundstone was a distinguished leader in the Association of

*continued on pg. 19*

### **Previous Poundstone Award Winners:**

Sue Stone - 2000  
Ellen Marshall - 2001  
Ed Hill - 2002  
Beth Nichol - 2003  
Debie Sipe - 2004

## 2005 Inspection Review

The inspection staff for the Division of Regulatory Services consists of 10 full time employees. Seven inspectors regulate agricultural feed, fertilizer, and seed commodities. One inspector regulates the specialty feed, fertilizer, and seed markets. One inspector works specifically with the milk program, while another spends time in the milk program, specialty market as well as the agricultural market.

### Feed Inspection Program

The inspection staff conducted 1,825 inspections of feed manufacturers and dealers of commercial feed and pet feed products. Official samples were obtained from over 3,600 lots of feed to determine label accuracy by laboratory analysis. Over 200 custom mix samples were obtained for analysis. Good Manufacturing Practices (GMP) inspections were conducted on 7 feed mills which hold FDA licenses. 50 GMP's were also conducted on medicated and non-medicated feed mills. The feed program accounted for 32% of the inspector's time during 2005.

### Fertilizer Inspection Program

1,769 inspections of fertilizer manufacturers and dealers were conducted in 2005. Over 3,400 fertilizer samples were obtained for laboratory analysis. Of these, almost one-half were bulk custom mix samples. The fertilizer program accounted for 20% of the inspection staff's time during 2005.

### Milk Inspection Program

Two inspectors work in the milk program conducting routine milk hauler inspections, pay record audits, lab inspections, reload station inspections, and milk handler schools. 546 milk hauler inspections were conducted in 2005, creating over 4,500 letters to area producers on milk quality. The milk program accounted for 11% of the inspection staff's time during 2005.

### Seed Inspection Program

The inspection staff conducted 1,756 official visits to seed processors, distributors, and dealers in 2005, collecting over 2,400 official samples to verify label accuracy by laboratory analysis. 463 seed stop sales were issued by the inspection staff, most stop sales were issued for out of test date lots of seed. The seed program accounted for 19% of the inspection staff's time during 2005.

*S. McMurry  
Inspection Program*

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## Seed Testing Update

The Seed Testing program is committed to providing accurate and timely seed quality analysis to the regulatory program, producers, agribusiness firms, researchers and others based on scientific principles and common sense. In 2005, the Seed Lab tested more than 5250 service samples and nearly 2500 regulatory samples. Analysts completed more than 20,000 individual tests and the single most requested test was a germination test. The most frequently tested seed kinds included tobacco, wheat and soybeans as well as forage and lawn grasses; however, the lab is equipped to test any seed kind.

In the past year, the seed group hosted a Seed School focusing on native species, implemented new software to better communicate test results to customers and added a new method to test for the presence of endophyte in seeds and tillers. Future goals include decreasing sample turn-around time and adding additional tests. For more information on tests and services, please contact the Seed Lab at 859-257-2785 or [Cindy.Finneseth@uky.edu](mailto:Cindy.Finneseth@uky.edu)

*C. Finneseth  
Seed Testing Program*

## Roundup Ready® Alfalfa

Roundup Ready alfalfa varieties were commercially released during 2005. Forage Genetics International is the sole licensed seed producer for the Roundup Ready varieties. Seventeen Roundup Ready varieties were included in the release. Some of these products will be in the Kentucky market this spring. These products will have 90% or greater tolerance to Roundup WeatherMAX or Roundup UltraMAX II. It is important that everyone understands what 90% means in terms of tolerance.

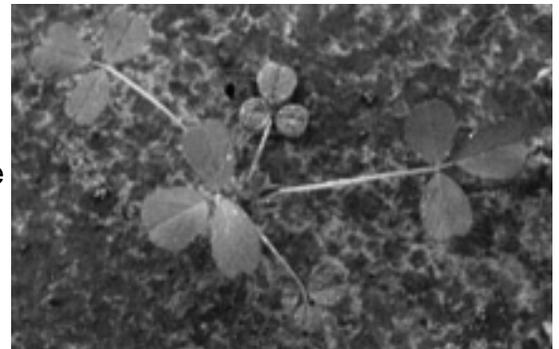


[www.alfalfa.okstate.edu](http://www.alfalfa.okstate.edu)

We are all familiar with Roundup Ready technology in soybeans and corn and have not experienced any noticeable stand loss upon application of a glyphosate chemical over the top. Corn and soybean seed labeled as Roundup Ready will have a tolerance level of 98% or greater. We have observed this from testing of regulatory samples in our laboratory and a lot of these samples will exhibit 99% tolerance.

Information with regard to the expression of tolerance for the new Roundup Ready Alfalfa can be found on page 33 of the Technology Use Guide (TUG) that seed dealers are required to furnish to the purchaser. The explicit language is as follows; **NOTE: Due to the genetic diversity of alfalfa, up to 10% of seedlings are susceptible and will not survive the first application of Roundup WeatherMAX or Roundup UltraMAX II.** It is possible that a stand loss of up to 10% will be experienced when the new Roundup Ready varieties are treated with the products named.

An examination of the variety descriptions provided with the alfalfa varieties does indicate  $\geq 90$  for the expression of the Roundup Ready trait. The symbol means greater than or equal to. Most of us are familiar with “variance” when it comes to the description of a soybean variety. In terms of soybeans this “variance” is used to describe the appearance of off color hilum in the sample. If a variance of 5% off color hilum are observed in a particular soybean variety and the variety description does specify a 5% variance, then it is accepted that the observed variance is a part of the variety. One must apply the same standard to the Roundup Ready Alfalfa varieties to be consistent.



[www.alfalfa.okstate.edu](http://www.alfalfa.okstate.edu)

The information with regard to stand loss that may occur when the Roundup products are applied to these new Alfalfa Varieties apparently will not appear on the labeling attached to or printed on the seed container. The information is presented in the Technology Use Guide. The observation of some stand loss is to be expected for these new varieties. This character of these new alfalfa varieties needs to be communicated to those that use the product.

*D. Buckingham  
Seed Regulatory Program*

## Actions of the 2005 NCIMS to impact haulers and milk receiving stations this fall

The National Conference of Interstate Milk Shipments (NCIMS) meets biannually to review the dairy industries' guiding protocols for sanitary practices. Included in this review is the Pasteurized Milk Ordinance (PMO) and supporting documents. Conference participants include state and federal regulators, processors, producers, allied dairy industry personnel and academia. The main thrust of the Conference is to deliberate proposals submitted to modify these guiding protocols.

Over 300 registrants convened at the 30<sup>th</sup> NCIMS held in May 2005 to review 134 proposals. Of these proposals, 80 were adopted either as submitted or as amended during the meeting. Conference procedures provide the Food and Drug Administration (FDA) the opportunity to review Conference actions for up to 90 days. After this period, FDA meets with the NCIMS Executive Board in an effort to reach a mutual consensus regarding proposals of concern. Following this meeting, an "IMS-a" memo is issued by FDA to outline the actions of the Conference. Generally, the actions outlined in this document become effective one year from its electronic publication.

FDA issued "IMS-a-45" on October 1, 2005. Below are several items that will impact milk haulers and receiving station operations when these actions take effect in October of 2006.

Proposal #	Brief Description	Explanation
233	Allows the use of the Anderson Instruments Model PSU automatic in-line sampler for obtaining PMO "regulatory" milk samples.	The in-line sampling device may be used with direct load tanker situations ( <i>no farm tank present, typically referred to as cow to truck loading</i> ) after specified sampling protocols have been cooperatively developed by the state regulatory agency, equip. mnfr., milk buyer, producer and FDA.
234	The "elapsed time" requirement for re-sanitizing milk tank trucks to be extended from 72 to 96 hours.	A milk tank truck will still be required to be cleaned and sanitized prior to its first use. The cleaning and sanitizing process will be valid for 96 hours from the date and time recorded on the tank wash tag until the first milk is loaded into the tank.
235	Develops a readily accessible list of approved milk tank truck cleaning facilities to better enable verification that truck tanks have been washed and sanitized at approved facilities.	Many approved cleaning facilities are readily identified within the IMS list. However, a number of states have approved cleaning facilities that are non-IMS listed. These facilities will be able to be found at <a href="http://www.ncims.org">www.ncims.org</a> . This process should enable receiving stations to more readily determine if incoming trucks were washed at approved facilities. ( <i>Note: select states are already posting these facilities on the website.</i> )
238	Requires the bulk milk hauler/sampler to record additional information on the farm weight ticket (typically referred to as "barn card") and clarifies the requirements for checking the accuracy of farm tank indicating and recording thermometers.	Additional information to be recorded on the barn card includes the bulk milk hauler/sampler's name (full and legible) and license/permit number. Also, the accuracy of farm tank recording thermometers shall be checked monthly against a standardized thermometer and recorded. ( <i>*Note: please see the following for a full explanation of these requirements.</i> )

*continued on page 8*

# The Fertilizer Regulatory Program

## Introduction

The first fertilizer law in Kentucky was passed by the General Assembly in 1880 and designated the Commissioner of Agriculture as the administrator. In 1886 the law was repealed and the new law designated the director of the newly organized Kentucky Agricultural Experiment Station as the administrator of the law. The law was amended in 1898 to allow the director to charge \$0.50 per ton to support the program where it has remained to this day. In 1904 the law was again amended and this time included most of the elements of our current law which was passed in 1985 and modeled after The Association of American Plant Food Control Officials' (AAPFCO) Model Fertilizer Bill.

The purpose of this article is to give a brief overview of the essential functions of the Kentucky Fertilizer Law.

## “It’s the Label, Stupid!”

This title of this sub-section is modeled after a campaign slogan used in a presidential election a few years ago. I do not want to imply that anyone is “stupid” but it emphasizes the importance of the label in our fertilizer regulatory program. The fertilizer law is essentially a labeling law and most all of our actions is associated with and revolve around the label. In the accompanying chart “The Label” is placed in the center of the illustration that depicts our program. Each of the major components of the program is shown revolving around “The Label”.

## Registration/Licensing

Registration initiates the cycle. All fertilizers must be registered prior to being offered for sale in the state by the company whose name appears on the label. This process is fairly simple and involves completing a form, attaching a label, and mailing to the Division. A registration fee of \$50 is due for each specialty product and, if the product is sold in packages of 10 pounds or less an additional “annual inspection fee” of \$50 is also due. There is no registration fee for “farm” fertilizers. Before the registration of a fertilizer is approved the label must be acceptable; therefore, it is important that the prospective registrant know how to produce a label in the proper format with associated claims that are scientifically based and are not misleading. All registrations expire on December 31<sup>st</sup>.

If you mix custom blends for farmers or specialty users you must obtain a “license” prior to manufacturing the custom mixes. There is a \$100 licensing fee per blender for “specialty custom blends. Specialty custom blenders are those persons who manufacture custom mixes for specialty use, such as, golf courses, highway right-of-ways, etc. There is no license fee for “farm” custom blenders. Labeling of custom blends is just as important as registered grades. Our inspectors will visit the custom blenders in their territory, inspect the labeling of custom blends, and offer assistance to the blender where necessary for acceptable labels.

## Sampling and Analysis

We have inspectors assigned to specific territories within the state who inspect fertilizers offered for sale for correct labels and labeling and will take “official” samples to evaluate label guarantees. The sole purpose of the official sample is to verify the label claims. The sample is taken by “official” sampling methods using approved tools and analyzed in our laboratory using “official” analytical methods.

If the analytical result falls below the guarantee by more than the “investigational allowance” then the sample is declared “deficient” and a “Stop Sale” is issued or, if the sample was from a custom mix, a deficiency report will be issued. Again it is the “label” that is the driving force behind the sampling and analysis procedures.

## Tonnage Reporting

This function is not as directly related to the label and the other two, but each registrant/licensee must make quarterly reports of all fertilizer sold during the reporting period. The report must show the grade (which comes from the label), a fertilizer material code (if it is a material as opposed to a mixed grade), the county in which it was distributed, the quantity in tons, and whether it was for “farm” or “non-farm” use. These reports form the basis of all estimates of fertilizer use in the state and are distributed to all registrants/licensees and anyone who requests a copy; and, nationally. They are also posted on the Division’s website: [www.rs.uky.edu](http://www.rs.uky.edu).

## Summary

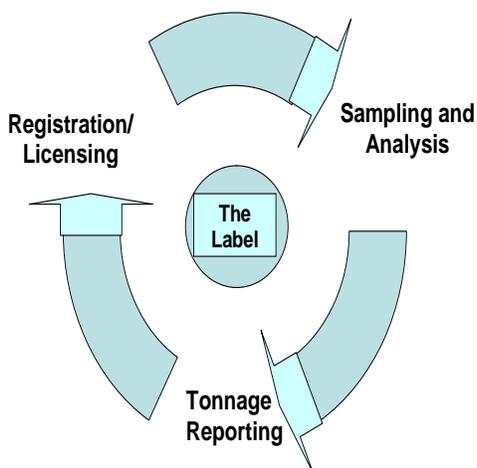
The fertilizer regulatory program’s goal is to assure all fertilizer consumers and fertilizer distributors of a “level playing field” in the market place. Users of fertilizers, persons who recommend fertilizers to users, and banks who lend money to users to purchase fertilizers can all do so without any concern as to whether the fertilizers will meet the guarantee on **THE LABEL**.

## **Epilog**

The registration/licensing process is about complete for 2006. If you have not completed your registration and/or licensing then you must do so immediately to continue to legally sell fertilizers in Kentucky. For help anytime with any problems with any aspect of the Fertilizer Regulatory Program in Kentucky, please call 859/257-2668.

*D. L. Terry  
Fertilizer Regulatory Program*

# The Fertilizer Regulatory Program



## NCIMS Actions

*continued from page 5*

*\*Proposal 238 more readily provides regulatory agencies the ability to determine whether or not the bulk milk hauler/sampler performing milk sampling and weighing activities on a particular farm is properly licensed/permitted. It also clarifies the need for the bulk milk hauler/sampler to determine the accuracy of tank thermometers at least once per month.*

- Whenever the tank's "factory installed" indicating thermometer is used to obtain the milk temperature, it must be checked for accuracy on a monthly basis.*
- For tanks that utilize a recording thermometer, the recording device must be checked for accuracy on a monthly basis.*

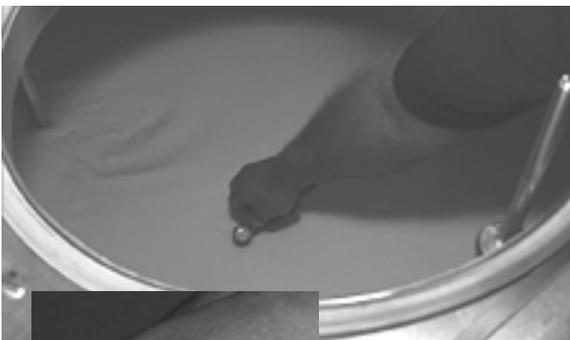
*Each of these farm bulk tank thermometers should be checked with a standardized (calibrated) pocket thermometer. This monthly check must be documented. This documentation is typically written on the producer's "barn card".*

After the new version of the PMO takes effect in October 2006 (combined with applicable state requirements), the producer's "barn card" should have the following information recorded on it:

- Producer identification (with tank ID if more than one farm tank present)
- Date and Time (military or AM/PM) of milk pick-up
- Milk temperature
- Milk stick or tube gauge reading
- Converted milk weight
- Bulk milk hauler/sampler's signature and license/permit number and
- Documentation that the farm tank thermometer has been checked at least once per month.

The above information is a general summary of select PMO changes that will be taking effect in October. To examine the detailed changes, as well as other changes to the PMO, you can view the FDA memo "IMS-a-45" at the milk program's website at [www.rs.uky.edu](http://www.rs.uky.edu).

*C. Thompson  
Milk Regulatory Program*



*Monthly, the milk hauler should use a standardized pocket thermometer to check the bulk tank indicating or recording thermometer to ensure it is accurate. This monthly check should then be documented on the producer's "barn card".*

## **New Feed Registration Specialist**



Meagan Davis joined the Division of Regulatory Services this December as Feed Registration Specialist. Originally from Houston, Texas, Meagan found her way to Kentucky by way of Murray State University's Pre-Veterinary Medicine program. As things go, her attention changed from small animal medicine to large animal nutrition and Meagan completed her thesis study comparing the economical efficiency of feeding commodity vs. commercial feeds to stocker calves.

Meagan graduated from Murray State University with her B.S. degree in Agriculture in 2003 and again in 2005, receiving her M.S. degree in Agriculture with an emphasis in beef cattle nutrition. She was an active Charter Member of the Alpha Upsilon chapter of Sigma Alpha, the professional agriculture sorority, and also an active member of Block and Bridle for six years.

As the Feed Registration Specialist, Meagan will thoroughly review submitted applications and labels for commercial feed products offered for sale or distribution within the state of Kentucky.

*S. Traylor  
Feed Coordinator*

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## **New Fertilizer Program Staff Member**

Kenita Turner joined the Fertilizer Regulatory Program in December. She is a native of Lexington and a Bryan Station High School Graduate (1999). She earned an Associate's degree from Central Kentucky Technical College in Business Technologies in 2003. She came to us from Community Reinvestment Alliance of Lexington (CRAL) where she was an Administrative Assistant for three years.

She loves UK basketball - Go Cats! Her other hobbies are cooking, reading, singing, playing sports and gardening in the spring. Kenita is "happy to be on board with Regulatory Services. I have learned a lot in the three months I have held this position. Everyone is very friendly and accommodating and I am looking forward to many years working with the Division of Regulatory Services in the College of Agriculture."

## Diamond Pet Food Recall

Dec 21<sup>st</sup>, 2005: FDA received notice of high levels of aflatoxin in dog and cat food products manufactured and distributed by the Diamond Pet Food facility in Gaston, South Carolina. Aflatoxin is a toxic chemical by-product from the growth of the fungus *Aspergillus flavus* on corn and other crops. It has been determined the high levels of aflatoxin present in the products is from South Carolina grown corn. Aflatoxin levels of 20 parts per billion or greater will cause liver failure in dogs and the affected Diamond products had levels between 200 and 300 parts per billion.

Over 20,000 tons of the Gaston, South Carolina, product were effected and 19 varieties of Diamond Pet Food products have been recalled by the company. Close to 80 confirmed deaths of dogs have been reported and no deaths of cats have been reported. To date, none of the aflatoxin associated deaths have been confirmed in the state of Kentucky. Diamond Pet Foods will reimburse pet owners for veterinarian bills and other costs associated with illnesses contracted from consuming the affected products.

The University of Kentucky Division of Regulatory Services took immediate action to protect the consumer. Field inspectors were informed to be aware of Diamond Pet Food products found at local suppliers. The investigation of product throughout the supply chain revealed that the majority of Kentucky businesses received products manufactured products at one of the other facilities operated by Diamond. Inspectors in Eastern Kentucky paid special attention to manufacture codes to determine the origin of the product. Samples were taken at random of all dry Diamond Pet Food products in order to ensure aflatoxin levels did not exceed the FDA established action level of 20 parts per billion.

The Division of Regulatory Services pays special attention to specialty extruded products to monitor aflatoxin levels as well as other guarantees in all products, including pet foods. For further information pertaining to the recall, Diamond Pet Foods has created a website specific to the recent occurrences. Please visit <http://www.diamondpetrecall.com>.

*M. Davis*  
*Feed Regulatory Specialist*

### **Reminder: Renewal of Seed Permits and Registrations**

Any firm labeling agricultural, vegetable, flower seed, or combination seed, mulch and fertilizer products must obtain a permit. Also, dealers that sell seed in containers of 40 lbs. or more need to register with the Seed Regulatory Program. More information about permit and registration categories and necessary applications are available online at [www.rs.uky.edu/seed/permits.htm](http://www.rs.uky.edu/seed/permits.htm).

## 2006 Kentucky Quality Dairy Producer Award

The Dairy Products Association of Kentucky (DPAK) will be presenting the Kentucky Quality Dairy Producer Award at the Kentucky State Fair's Dairy Recognition Dinner in August. Last year's dinner was the highest attended dairy dinner on record and the awards ceremony was a great success. The purpose of the award is to recognize the Kentucky dairy producer who best portrays the production of high quality milk.

The 2006 award's criteria are to be based on producer data derived from April 1, 2005 through March 31, 2006. All nominees are required to possess valid permits from the Cabinet for Health Services, Milk Safety Branch throughout this period. Nomination forms should be postmarked or delivered to DPAK no later than June 15, 2006.

Applications may be submitted by producers themselves or by professionals who serve the dairy industry such as dairy field representatives, veterinarians, extension personnel, milk haulers and others. These individuals should work closely with producers to help ensure the accuracy of the information reported on the nomination form. Copies of the nomination form can be obtained at Regulatory Services Milk Program web-site at [www.rs.uky.edu](http://www.rs.uky.edu) or by contacting David Klee, Executive Director of DPAK at (502) 867-7843.

Now is the time to start thinking about who you feel will be a good candidate for this prestigious dairy producer award. Be sure to nominate the Kentucky dairy producer who you feel best exemplifies the production of high quality, wholesome milk!

*C. Thompson  
Milk Regulatory Program*

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### New Release:

## ***Sampling and Testing Seed***

Many variables contribute to crop establishment and seed quality is perhaps the most important. Two primary factors of seed quality are purity and germination percentage, both determined through traditional laboratory tests. Lab tests are accurate when conducted on a sample that is representative of the entire seed lot. This video introduces the viewer to these concepts and demonstrates how to sample various seed kinds to submit for testing.



Copies of this video are available at no charge to Kentucky seedsmen in either VHS or DVD formats. To request a copy, please contact the Seed Program at 859-257-2785 or by email at [Cindy.Finneseth@uky.edu](mailto:Cindy.Finneseth@uky.edu). Copies can be purchased from Ag. Communications online at: <http://dept.ca.uky.edu/agc/distrib/index.asp> (Order number VGN-1544 or DGN-0041, depending on format; keyword search: seed). The Ag. Communications Video Library has a lending program through which the video can be requested. Contact your local county agent for information about requesting this title.

*C. Finneseth  
Seed Testing Program*

*Thanks to Clore Distributors, Shelbyville; Miles Seed, Owensboro; Roundstone Native Seed, Upton; and Southern States, Somerset for assistance with this production.*

## UK Beef IRM Mineral Recommendations

The University of Kentucky Beef Extension Specialists recently reformulated the UK Beef IRM mineral recommendations. There are currently three formula recommendations; (1) basic cow-calf formula, (2) a pre and early lactation high magnesium formula for use when conditions for grass tetany exist and (3) a monensin containing formula for stocker calves. These formulas were developed by Dr. Roy Burris and Dr. John T. Johns. The purpose of these recommendations is to help beef producers across the state of Kentucky ensure that their cattle are getting the proper minerals in their diet.

On the following pages are example labels of the new formula recommendations, an information sheet providing detailed information on understanding and evaluating a mineral label and information pertaining to specific key minerals in free-choice mineral supplements. These materials were forwarded to feed manufacturers and County Extension Agents.

The Division Regulatory Services worked in conjunction with the Extension Service in the development process of these recommendations to ensure that the products meet federal and state regulatory requirements. These products should be available in local feed outlets and beef producers are required to be members of a local purchasing alliance to gain access to these products. The University of Kentucky is not manufacturing this product but offering the formula recommendations as a specific guideline for companies to manufacture these beef minerals. These products can be identified in the market place by the following statement "This mineral meets the University of Kentucky Beef IRM recommendations" and/or by the mention of the University of Kentucky mineral in the product name. Some manufacturing firms have elected to use the following example labeling; however, other products in the marketplace might also meet the requirements provided in the recommendations. For the firms that elect not to use the labeling recommendations, the animal producer will need to further evaluate the free-choice mineral product to ensure the product meets the recommendations.

Feed manufacturers, dealers and animal producers who have any concerns about specific cattle nutrition or would like information pertaining to the new mineral recommendations, information is available at county UK Cooperative Extension offices or on the UK Beef IRM website.

*S. Traylor  
Feed Regulatory Program*

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### Feed/Fertilizer Analytical Laboratory Update

The lab recently added a new microscope to enhance monitoring activities for feeds. Feed materials are evaluated using microscopy to verify the ingredients. Feeds are also evaluated to identify any prohibited material. The new microscope provides higher magnification than other scopes that have been used by the lab and it has ability to use polarized light to view the sample components. The unit can be used to analyze feed to aid in the prevention of the spread of BSE (Bovine Spongiform Encephalopathy, or "mad cow" disease). Feed microscopy is considered the standard method for this type of analysis, but this approach requires significant training and practical experience to be a valuable analytical tool in feed laboratories. The lab will be implementing this new microscope to detect prohibited protein materials and the microscope is currently being used for more accurate identification of other ingredients.

*M. Bryant  
Feed /Fertilizer Laboratory*

**UK Beef IRM Mineral Recommendations**  
**(free-choice supplements for grazing beef cattle)**

Date: December 9, 2005

<i>Level</i>	<i>Basic Cow-Calf Mineral<sup>1</sup></i>	<i>High Magnesium Mineral<sup>2</sup></i>	<i>Stocker Mineral with Monensin<sup>3</sup></i>
Salt,	22 - 25	15	24.5
Mg, % (from MgO)	2	15 <sup>4</sup>	0.15
Ca, % (minimum)	12	12	9
Ca, % (maximum)	13	13	10.5
P, %	6	6.5	6
K, %	0.5	0.1	0.8
S, % (maximum)	0.8	0.8	0.8
Cu, ppm <sup>5</sup>	1,600	1,400	1,500
Zn, ppm	3,200	3,000	3,000
Se, ppm <sup>6</sup>	35.2	26.4	35.2
I, ppm	65	50	60
Co, ppm	15	10	15
Manganese, ppm	4,500	3,500	3,000
Fe (iron) Added <sup>7</sup>	None	None	None
Vit A, IU/lb	250,000	200,000	300,000
Vit E, IU/lb	250	200	250
Monensin, grams/Ton <sup>8</sup>	None	None	1,620
Nutritional adequacy based on intake (oz/hd/day)	3	4	3

<sup>1</sup>Distillers dried grains (40 lb/ton), wet molasses (20 lb/ton), and mineral oil (20 lb/ton).

<sup>2</sup>Distillers dried grains (100 lb/ton), wet molasses (20 lb/ton), and mineral oil (20 lb/ton). To be fed when conditions for grass tetany exist. Formulated for cows during pre- and early lactation.

<sup>3</sup>Contains Monocalcium phosphate 29.49%, Dried cane molasses 20%, Ground limestone 13.75%, cane molasses 3%, Distillers dried grains 5%, Mineral oil 1%.

<sup>4</sup>Minimum one-third of magnesium oxide in the prilled form. All magnesium shall be from magnesium oxide. No other forms of magnesium shall be used such as dolomitic limestone or magnesium mica.

<sup>5</sup>Minimum one-fourth of copper in an "organic" (chelate, proteinate, etc.) form. No copper oxide shall be used.

<sup>6</sup>Three oz. supplement intake at 35.2 ppm or 4 oz. intake at 26.4 ppm equals 3 mg of selenium per head daily.

<sup>7</sup>No iron oxide for coloring.

<sup>8</sup>Three oz. supplement intake equals 152 mg of Monensin per head daily.

**NOTES:**

If an additional ingredient is needed to meet the 2,000 lb formula, we specify distillers dried grains with solubles.

These products are not recommended for sheep, goats or Jersey cattle due to potential copper toxicity.

Please note, the University of Kentucky has formulated these recommendations specifically for otherwise healthy cattle based upon National Research Council (NRC) guidelines for animal requirements, average forage analyses in Kentucky and research on mineral availability in forages. Actual forage levels may vary. If you have any concerns about the health or special needs of your herd, you should contact the Extension Service or your veterinarian. While the University provides these recommendations based upon currently available data, it assumes no responsibility for any errors on the part of the supplier or producer, including but not limited to mixing, handling, or other formulation errors.

# Understanding and Evaluating a Free-Choice Mineral Label

All feed products sold in Kentucky must be labeled with specific information. The feed label is the fundamental basis for providing consumer information and protection, equitable competition, and regulation. Effective feed labeling is essential to accomplish these objectives. Regulatory efforts continue to assist manufacturers in order to provide informative labeling that promotes the safety and usefulness of feeds for pet owners and livestock producers.

## What information is required on a bag and how does this help you?

On each label basic information about the feed should appear along with a guaranteed analysis and feeding directions. The basic information required includes the product name, product purpose statement, guaranteed analysis, ingredient statement, feeding directions, manufacturers name and address, and net weight statement.

**Product Name** – The name of the product should describe the product that is being purchased.

**Product Purpose Statement** - A statement that provides the consumer with information on the specific species and animal class for which the feed is intended.

**Guaranteed Analysis** – Guarantees are required for all feed products. The nutrients that must be guaranteed varies with the intended use of the feed. Guarantees provide the purchaser with realistic levels of essential nutrient for normal growth, development, and maintenance of the animal.

**Ingredient Statement** – Every branded feed product label must have a section which lists the name of each ingredient or its collective term used in the manufacture of that feed.

**Feeding Directions** – Directions for use should provide basic information on how to feed the product safely and to provide the nutrients required by the animal.

**Manufacturers Information** – Who is responsible for the feed product, company, or corporation labeling the feed product, must have their name and address listed on the tab. These individuals must be registered in the state and are the responsible party.

**Net Weight** – Each package, container, or bulk lot label must contain an accurate statement as to the net quantity. The statement's terms of weight or measure must be expressed in ounce-pound units and must include the appropriate metric unit, such as 1 lb. (0.45 kg) or 1 gallon (3.78 L).

<i>Product Name</i>	<b>UK Beef IRM Basic Cow-Calf Mineral</b>	<i>Product Purpose Statement</i>
	A Free Choice Mineral for Pasture Cattle	
	<b>Guaranteed Analysis</b>	<i>Guaranteed Analysis</i>
	Calcium, minimum .....	12.0%
	Calcium, maximum .....	13.0%
	Phosphorus, minimum .....	6.0%
	Salt, minimum .....	22.0%
	Salt, maximum .....	25.0%
	Magnesium, minimum .....	2.0%
	Potassium, minimum .....	0.5%
	Sulfur, minimum .....	0.3%
	Copper, minimum .....	1600 ppm
	Selenium, minimum .....	35.2 ppm
	Zinc, minimum .....	3200 ppm
	Manganese, minimum .....	4500 ppm
	Iodine, minimum .....	65 ppm
	Cobalt, minimum .....	15 ppm
	Vitamin A, minimum .....	250,000 IU/lb
	Vitamin E, minimum .....	250 IU/lb
	<b>Ingredient Statement</b>	<i>Ingredient Statement</i>
	Monocalcium Phosphate, Salt, Calcium Carbonate, Distillers Dried Grains with solubles, Magnesium Oxide, Manganese Sulfate, Cane Molasses, Mineral Oil, Potassium Chloride, Zinc Sulfate, Copper Sulfate, Copper Proteinat, Cobalt Sulfate, Sodium Selenite, Ethylenediamine Dihydriodide, Vitamin A Acetate, Vitamin E Supplement	
	<b>Feeding Directions</b>	<i>Feeding Directions</i>
	Feed free choice to beef cattle on pasture in a covered feeder to keep mineral dry. Consumption should be 3 oz per head per day and will provide the maximum daily intake level of 3 mg of selenium per head per day. This 50 lb bag will feed 20 head for 13 days. Minerals should be located near a clean source of drinking water.	
	Feed only according to label directions. This mineral is designed for a specific use in pasture cattle.	
	<b>This mineral meets the University of Kentucky Beef IRM recommendations for a Basic Cow-Calf Mineral.</b>	
<i>Manufacturer Information</i>	<b>Company Name Street Address City, State, Zip Phone Number (optional)</b>	<i>Net Weight Statement</i>
	Net Wt 50 LB (22.67kg)	

## ***What commercial feed products are regulated?***

The commercial feed law regulates materials offered for sale as feed or for mixing in feed with the exemption of whole unprocessed grain, raw meat, hay, straw, stover, silage, cobs, husks, and hulls when unground and not mixed with other materials. Typical products regulated include pet foods, complete and concentrate feeds for livestock and poultry, soybean meal and other feed ingredients, drug premixes, vitamin and mineral supplements, liquid feed and protein blocks.

## **Understanding of Key Minerals in Free-Choice Mineral Supplements**

### ***Magnesium***

Forage magnesium content can be quite variable with legumes generally containing higher levels than grasses. Deficiencies are likely to occur in spring because of insufficient availability of magnesium from the forage content. High levels of potassium and nitrogen present in early spring forages will greatly reduce magnesium absorption. Excessive dietary levels of iron, phosphorus or calcium will also reduce magnesium absorption.

A product that is labeled, represented or intended to provide a substantial amount of magnesium to cattle shall be formulated utilizing magnesium ingredients with a biological value (BV) of seventy (70) percent or greater when compared to standard reference of feed grade magnesium oxide. Dolomitic limestone shall not be an acceptable source of magnesium unless data substantiates the source has a BV of seventy (70) or greater.

### ***Copper***

Copper is deficient in most grazing cattle diets. The absorption of copper from fescue by cattle is quite low. Just like magnesium, other minerals can interfere with copper absorption. High levels of molybdenum (>2 to 3 ppm), iron (> 250 to 500 ppm) and sulfur (>0.25%) based on dry matter intake increases the dietary copper requirement. Copper source and other mineral concentrations in the ration must be evaluated when supplementing copper in the ruminant diet.

For livestock feeds, we have no alternative other than to accept the registration of feeds that contain copper oxide. However, for cattle feeds and mineral products we are advising feed manufacturers about the limited bioavailability of copper supplied by copper oxide and suggest that they may want to consider an alternative form of copper.

### ***Iron***

Most Kentucky grown forages contain more than adequate amounts of iron to meet or exceed the iron nutrient requirement for cattle. Rarely would one observe a "true" iron deficiency in grazing cattle. The major contributor of iron in mineral feeds is contributed by the phosphate source. As a general rule of thumb, a one percent phosphorus level in the diet will also contain approximately 500 ppm of iron. The availability of iron from ferric oxide is extremely low and it is generally believed that it will affect absorption of copper. There is little, if any, nutritional benefit of additions of additional iron to cattle mineral supplements.

For more information about commercial feed (pet food and animal feed), contact the Feed Program Coordinator, Division of Regulatory Services, 103 Regulatory Services Bldg., Lexington, KY 40546-0275 or visit the Division's website ([www.rs.uky.edu](http://www.rs.uky.edu)).

## UK Beef IRM High Magnesium Mineral

A Free Choice Mineral for Beef  
Cattle on Pasture Where Conditions  
for Grass Tetany Exist.

### Guaranteed Analysis

Calcium, minimum .....	12.0%
Calcium, maximum .....	13.0%
Phosphorus, minimum .....	6.5%
Salt, minimum .....	14.5%
Salt, maximum .....	15.5%
Magnesium, minimum .....	15.0%
(33.3% of the Magnesium is in the Pilled form)	
Potassium, minimum .....	0.1%
Sulfur, minimum .....	0.3%
Copper, minimum .....	1400 ppm
Selenium, minimum .....	26.4 ppm
Zinc, minimum .....	3000 ppm
Manganese, minimum .....	3500 ppm
Iodine, minimum .....	50 ppm
Cobalt, minimum .....	10 ppm
Vitamin A, minimum .....	200,000 IU/lb
Vitamin E, minimum .....	2 00 IU/lb

### Ingredient Statement

Monocalcium Phosphate, Magnesium Oxide, Calcium Carbonate, Salt, Distillers Dried Grains with solubles, Manganese Sulfate, Cane Molasses, Mineral Oil, Potassium Chloride, Zinc Sulfate, Copper Sulfate, Copper Proteinates, Cobalt Sulfate, Sodium Selenite, Ethylenediamine Dihydriodide, Vitamin A Acetate, Vitamin E Supplement

### Feeding Directions

Feed free choice to beef cattle on pasture in a covered feeder to keep mineral dry. Consumption should be 4 oz per head per day. This will provide 17 grams of supplemental magnesium and the maximum daily intake level of 3 mg of selenium per head per day. This 50 lb bag will feed 20 head for 10 days. Minerals should be located near a clean source of drinking water.

Feed only according to label directions. This mineral is designed for a specific use in beef cattle on pasture.

This mineral meets the University of Kentucky Beef IRM recommendations for a High Magnesium Mineral.

**Company Name**  
**Street Address**  
**City, State, Zip**  
**Phone Number (optional)**

Net Wt 50 LB (22.67kg)

## UK Beef IRM Basic Cow-Calf Mineral

A Free Choice Mineral for Beef  
Cattle on Pasture

### Guaranteed Analysis

Calcium, minimum .....	12.0%
Calcium, maximum .....	13.0%
Phosphorus, minimum .....	6.0%
Salt, minimum .....	22.0%
Salt, maximum .....	25.0%
Magnesium, minimum .....	2.0%
Potassium, minimum .....	0.5%
Sulfur, minimum .....	0.3%
Copper, minimum .....	1600 ppm
Selenium, minimum .....	35.2 ppm
Zinc, minimum .....	3200 ppm
Manganese, minimum .....	4500 ppm
Iodine, minimum .....	65 ppm
Cobalt, minimum .....	15 ppm
Vitamin A, minimum .....	250,000 IU/lb
Vitamin E, minimum .....	250 IU/lb

### Ingredient Statement

Monocalcium Phosphate, Salt, Calcium Carbonate, Distillers Dried Grains with solubles, Magnesium Oxide, Manganese Sulfate, Cane Molasses, Mineral Oil, Potassium Chloride, Zinc Sulfate, Copper Sulfate, Copper Proteinates, Cobalt Sulfate, Sodium Selenite, Ethylenediamine Dihydriodide, Vitamin A Acetate, Vitamin E Supplement,

### Feeding Directions

Feed free choice to beef cattle on pasture in a covered feeder to keep mineral dry. Consumption should be 3 oz per head per day and will provide the maximum daily intake level of 3 mg of selenium per head per day. This 50 lb bag will feed 20 head for 13 days. Minerals should be located near a clean source of drinking water.

Feed only according to label directions. This mineral is designed for a specific use in beef cattle on pasture.

This mineral meets the University of Kentucky Beef IRM recommendations for a Basic Cow-Calf Mineral.

**Company Name**  
**Street Address**  
**City, State, Zip**  
**Phone Number (optional)**

Net Wt 50 LB (22.67kg)

## UK Beef IRM Free Choice Stocker Mineral with Monensin Medicated

For increased rate of weight gain; and for prevention and control of coccidiosis caused by *Eimeria bovis* and *E. zuernii* in pasture cattle (grower, stocker, feeder, and dairy and beef replacement heifers)

### Active Drug Ingredient

Monensin . . . . . (50.6 mg/oz) 1620 g/ton

### Guaranteed Analysis

Calcium, minimum	9.0%
Calcium, maximum	10.5%
Phosphorus, minimum	6.5%
Salt, minimum	24.2%
Salt, maximum	27.0%
Magnesium, minimum	0.1%
Potassium, minimum	0.8%
Sulfur, minimum	0.3%
Copper, minimum	1500 ppm
Selenium, minimum	35.2 ppm
Zinc, minimum	3000 ppm
Manganese, minimum	3000 ppm
Iodine, minimum	60 ppm
Cobalt, minimum	15 ppm
Vitamin A, minimum	300,000 IU/lb
Vitamin E, minimum	250 IU/lb

### Ingredient Statement

Monocalcium Phosphate, Salt, Dried Cane Molasses, Ground Limestone, Distillers Dried Grains with solubles, Magnesium Oxide, Manganese Sulfate, Cane Molasses, Mineral Oil, Potassium Chloride, Zinc Sulfate, Copper Sulfate, Copper Proteinate, Cobalt Sulfate, Sodium Selenite, Ethylenediamine Dihydriodide, Vitamin A Acetate, Vitamin E Supplement

### Feeding Directions

For free-choice feeding to pasture cattle at a rate of 50 to 200 milligrams of monensin per head per day. During the first 5 days of feeding, cattle should receive no more than 100 milligrams per day. Consumption should be 3 oz per head per day and will provide the maximum daily intake level of 3 mg of selenium per head per day. This 50 lb bag will feed 20 head for 13 days. Minerals should be located in a covered feeder near a clean source of drinking water. Feed according to label directions. This mineral is designed specifically for the above livestock animal.

**Caution:** Do not feed additional salt or minerals. Do not mix with grain or other feeds. Monensin is toxic to cattle when consumed at higher than approved levels. Stressed and/or feed- and/or water-deprived cattle should be adapted to the pasture and to unmedicated mineral supplement before using the monensin mineral supplement. Do not feed to lactating dairy cattle. The product's effectiveness in cull cows and bulls has not been established. Consumption by unapproved species may result in toxic reactions.

This mineral meets the University of Kentucky Beef IRM and CPH recommendations for a Stocker Mineral.

**Company Name**  
**Street Address**  
**City, State, Zip**

**Phone Number (optional)**

Net wt 50 LB (22.67kg)

## Kentucky

### Feed & Grain Association

The Kentucky Feed and Grain Association will hold its annual meeting March 9-11, 2006 at the Galt House Suites in Louisville. The meeting will begin Thursday afternoon, March 9 with registration and welcome reception. On Friday morning the session opens with committee meetings followed by membership and Board meetings. The program has the following list of outstanding speakers with timely topics:

LEGISLATIVE UPDATE - Caleb O Brown, Project Director, "Kentuckyvotes.Org"

THE ENERGY CRISIS- Ron Sheets, President of the KY Association of Energy COOPS

THE MARKET OUTLOOK- Ed Ebert, Commodity Manager, Bunge Corporation, Morristown, IN

LUNCH with "HUMOR FROM HARRY"- Harry Houston

BIOTERRORISM RECORD KEEPING REQUIREMENTS & BSE FEED RULE CHANGES, LESSONS LEARNED FROM KATRINA & RITA-Randall C. Gordon, Vice President, Communications Government Relations, National Grain & Feed Association

GRAIN HANDLING AND MILLING IN DEVELOPING COUNTRIES- David Mueller, President, Fumigation Service & Supply and Insects Ltd.

REACTING TO CONSUMER COMPLAINTS- Bob Broyles, Feed Consultant

Banquet Friday Night

For additional information please contact Buena Bond, Secretary-Treasurer, at 859-254-0294.

## Strategic Plan

*continued from front page*

The goal of achieving national prominence requires:

- Effective leadership from all employees in the performance of their jobs.
- The employment of qualified and well-trained personnel.
- A willingness to work effectively and cooperatively with the regulated industries and others; and,
- Up-to-date facilities with modern laboratories and technology to provide accurate and timely analysis of samples.

The Division has established six objectives for this goal:

- Maintain and improve its state, regional, and national prominence and impact of its regulatory and service programs on Kentucky agriculture.
- Hire highly qualified personnel at all levels.
- Enhance its outreach and service to its clients.
- Keep abreast with the new technologies and innovations adopted by its clients.
- Encourage continued strong financial support for its activities; and,
- Promote an integrated inspection plan for its regulatory programs.

The Division has identified the following strategies to accomplish these objectives:

- Encourage personnel to actively participate in state, regional, and national associations and seek leadership roles that influence national policies and promote recognition of the Division's reputation for excellence. Encouragement will include flexible work schedules.
- Aggressively recruit and retain highly qualified personnel, maintain excellence through required continuing education in subject matter area, and prompt recognition of achievements.
- Promote the Division's role in all program areas through public relation activities, such as, publications, seminars and participation in trade shows; agricultural extension activities; and, interactions of inspectors and other Division personnel with manufacturers, retailers, producers, and other Kentucky consumers.
- Encourage participation in workshops, trade shows, seminars, and other continuing education activities where new technology and innovations are taught and exhibited; and, add appropriate qualified staff.
- Engage clients and other constituents for support in maintaining adequate funding for Division programs based on program excellence through fee structure adjustment, increased state funding, and fiscal responsibility.
- Integrate the goals of each regulatory program, looking for ways to improve efficiency.

*continued on following page*

## Strategic Plan

*continued from previous page*

The Division will consider the following areas in measuring its progress in achieving national prominence:

- The number of personnel serving on state and national committees and boards of directors, training seminars conducted or participated in, judging contests held, publications distributed, laboratory methods developed and published, and other contributions.
- Strong positive support from the regulated industries as evidenced by general feedback from advisory boards, regulatory committees, trade associations and other entities.
- Participation in promotional activities will include staffing the booth at Kentucky State Fair, industry trade shows, and other similar meetings; providing support for agricultural extension programs; conducting training seminars for the regulated industries; distributing educational and informative publications via Regulatory Service News, College and University news releases, and web site; contacts with clients by inspectors and other regulatory personnel; representation on advisory boards and committees; and, attendance at meetings conducted by the Division's clientele.
- Adoption of new laboratory test methods required to support regulatory and service programs and have these methods adopted by standards organizations, such as, AOACI, etc.; and, publication of methods in refereed journals.
- Support for legislative initiatives by industry and consumer groups.
- Implementation of an integrated inspection management plan that increases the efficient use of inspector time, equipment, and laboratory facilities.

This goal clearly recognizes the desire of employees in the Division for maintaining excellent programs to serve the feed, fertilizer and seed industries, purchasers of these products, dairy farmers and milk processors, and users of the seed and soil testing services.

*E. Miller*  
*Director, Regulatory Services*

### **Thank you to the organizations providing support that made the 2005 Poundstone Award possible:**

AgriBusiness Association of Kentucky

Dairy Products Association of Kentucky

Kentucky Feed and Grain Association

Kentucky Seed Improvement Association

### **Poundstone Award**

*continued from page 2*

American Feed Control Officials, the Association of American Plant Food Control Officials and the Association of Southern Feed, Fertilizer and Pesticide Control Officials. The Regulatory Services building is named in his honor.

*Thanks to the Poundstone Committee chaired by Frank Sikora, and members Debie Sipe (2004 award recipient), Tony Benge, David Terry, Chris Thompson, and Mel Bryant.*

**UK** Division of Regulatory Services  
University of Kentucky—*College of Agriculture*

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