

Regulatory Services News

Vol. 50, No. 2

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

Summer 2006

Message from the Director

Dr. Eli Miller will be retiring as Director of Regulatory Services at the end of June. As Director, Eli has been responsible for oversight of the Division's four regulatory programs – feed, fertilizer, milk and seed – as well as two service testing programs – seed and soil.



Dr. Miller is a native of Breckinridge County and graduated from Breckinridge County High School. Between school years, he worked for Olin Corporation in Brandenburg. He earned a bachelor's degree in Agriculture at Western Kentucky University, Bowling Green, followed by M.S. and Ph.D. degrees in ruminant nutrition at the University of Kentucky, Lexington.

After graduation in 1973, Dr. Miller was hired as the coordinator of the Feed Regulatory Program in the Division of Regulatory Services. Under his direction, the feed regulatory program became nationally recognized for innovations in feed labeling and monitoring of pet foods. Because of Eli's contributions to uniform labeling and consumer protection, he has been a recognized leader among state and national regulatory officials, while nurturing an excellent relationship with state indus-

continued on inside page

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What's inside....

Chicken Grain Scratch Policy	3
KDDC Milk Quality Barn Meeting Report	4
National Fertilizer Use Database	6
Commercial Feed Registration Reminder	6
Wilbur Frye - 2006 Distinguished Service to Agriculture Award	7
New Buffer to Determine Soil Lime Requirements	8
Reg. Services Hosts Chinese Scientists	8
Feed Quality Assurance Workshop	9
2005 Seed Bulletin Available	10
2005 Feed Bulletin Update	10
Employee News	11

Miller

continued from front page

try representatives, including members of the Kentucky Feed and Grain Association. Eli worked toward voluntary compliance in enforcing the provisions of the Kentucky Feed Law. The feed program also worked collaboratively with FDA to inspect mills and improve feed manufacturing practices across the state. The accomplishment of which he is most proud is the American Feed Control Officials (AAFCO) Model Labeling Requirements, a result of his insistence on labeling animal feeds based on nutritional value in accord with product's intended use.

As feed program coordinator, he was actively involved in AAFCO, serving as president, chairman of the feed labeling committee and as a member of the organization's Board of Directors. He also organized and hosted the annual AAFCO seminar in Lexington from 1974-1997. Dr. Miller was also involved in the Association of Southern Feed, Fertilizer and Pesticide Control Officials (ASFFPCO) and served as president as well as secretary and publication editor for that organization.

In October, 2000, Dr. Miller assumed the challenges of Director of Regulatory Services, which employs more than 60 individuals in Lexington, at the Princeton Research station and an inspection staff located across the state. Under his supervision, the regulatory and service programs have made significant updates to laboratory equipment and he worked toward improving employee compensation. Eli was able to present the Poundstone Award to five outstanding employees of the Division. Under his admin-

istration, the principles of regulatory compliance were furthered and communications with regulated industries and customers using web-based approaches was improved. Eli also coordinated development of the Division's Strategic Plan, which outlines the mission and direction of the unit, which was presented at the first Division-wide professional development day. During his term, he also served as advisor to the AgriBusiness Association of Kentucky Board of Directors and the Kentucky Feed and Grain Board of Directors.

Over his career, Eli enjoyed visiting the 48 contiguous states and other countries to observe agriculture production, feed mill operations and regulatory programs. He promoted the Kentucky feed regulatory program and state feed interests through presentations to many groups and publishing articles for various audiences.

Eli and his wife, Ann, plan to remain in Lexington. He is looking forward to a more flexible schedule and spending time with their three grandsons. Eli indicates that he will miss many aspects of his work at UK but mostly the interaction with friends and colleagues. For a person who enjoys people, the role of regulatory official has offered daily opportunities to assist individuals and provide assistance. The daily commute to campus that he has made for the past 39 years as a graduate student and employee will not be missed. Dr. Miller plans to remain actively involved in the agricultural industry utilizing his experience in animal nutrition, feed production and quality control, labeling and administration.

*C. Finneseth
Editor, Reg. News*

Chicken Grain Scratch Policy

Scratches are usually composed of a mixture of cereal grains (i.e., corn, grain sorghum, wheat, etc.) that cannot meet the nutrient requirements of chickens or other poultry when it is provided as the sole diet while complete and balanced feeds provide the right nutrient combinations to ensure optimum growth and productivity. All species and classes of chickens require between 15 to 20% crude protein; however, grain scratches generally provide 7 to 10% crude protein.

Guaranteed Analysis:

Complete and balance poultry diets are required to note specific guarantees.

These guarantees are as follows:

1. Minimum percentage of **Crude Protein**
2. Minimum percentage of **Lysine**
3. Minimum percentage of **Methionine**
4. Minimum percentage of **Crude Fat**
5. Minimum percentage of **Crude Fiber**
6. Minimum and maximum percentage of **Calcium**
7. Minimum percentage of **Phosphorus**
8. Minimum and maximum percentage of **Salt** (*if added*)
9. Minimum and maximum percentage of **Sodium** shall be guaranteed *only when total sodium exceeds that furnished by the maximum salt guarantee.*

Certain nutrient guarantees are not required for poultry grain scratches because it gives the false impression that these products are complete feeds. See example label below.

Feeding Directions:

Adequate directions would state that the product is to be fed free choice, preferably an amount that chickens can consume in 10 minutes. It should also be stated that the product should be fed in addition to a complete and balanced feed for poultry.

HOWEVER:

Some manufacturers produce a feed with variations that are other than a "simple" scratch feed. These products might require additional guarantees. ***The use of the word "scratch" in the product name does not necessarily mean that these additional guarantees are not required.*** Here are some following examples that would involve including extra guarantees on the product label.

- If additional ingredients are added to the product such as vitamins or minerals
- If the product purpose statement claims the product is a complete and balanced feed.
- If the feeding directions do not state that another feed source is needed to provide adequate nutrition.

For additional information, please contact the Feed Program at the University of Kentucky Division of Regulatory Services at (859) 257-2785.

M. Davis
Feed Registration Specialist

Tex's 4 Grain Scratch

A grain source for mature poultry

Guaranteed Analysis

Crude Protein (min.)9.0%
Crude Fat (min.).... 4.5%
Crude Fiber (min.)....4.0%

Ingredients:

Cracked corn, wheat, milo, white millet

Feeding Directions:

Hand feed amount that mature poultry can consume in 10 minutes.
Feed in addition to a complete feed.
Provide additional vitamins and minerals.
Provide adequate water supply at all times.

Manufactured by:

Tex's Feed, LLC.
Lexington, KY 40546
Net Wt. 50 lbs. (22.67 kg)

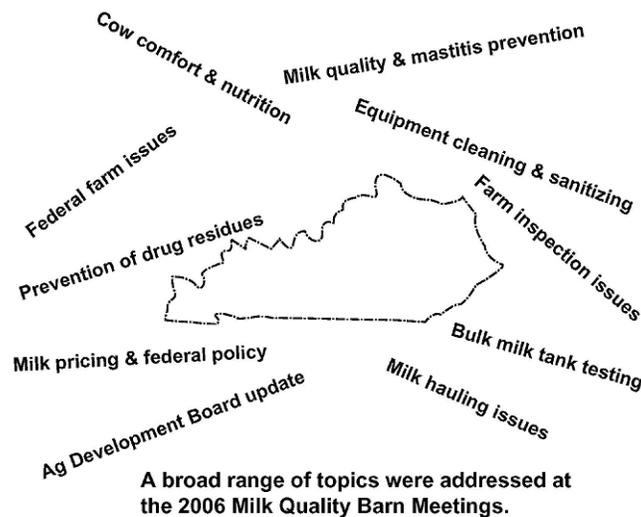
KDDC Milk Quality Barn Meetings a Huge Success!

The Kentucky Dairy Development Council (KDDC) embarked on an ambitious project last fall... to organize and host a series of educational dairy producer meetings in each of the KDDC districts. The KDDC along with university, state government and allied industry representatives pulled together with dairy producers in a cooperative effort to help make these meetings a success. Meeting and program planners put together a comprehensive agenda and host dairy producers, KDDC district directors and allied industry groups put on the finishing touches for all the local arrangements. Regulatory Services was pleased to be involved with this series of meetings.

The Barn Meetings were made possible by a generous statewide sponsorship from Alltech, Inc. of Nicholasville which was coupled with the support of many local sponsors. Due to the tremendous support of allied industry groups across Kentucky, producers were treated to tasty meals, fun dairy related door prizes and an abundance of valuable farm-related information.

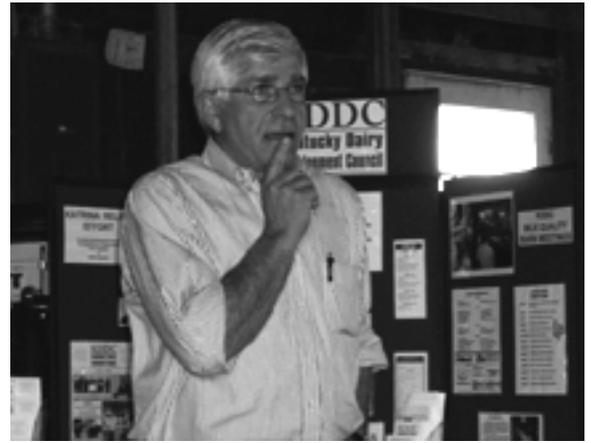
The meeting theme was "Bigger Milk Checks Through Quality Premiums and Higher Production". A summary of each meeting is found below. Everyone involved was pleased that each session was well attended by both dairy producers and allied personnel. Initial estimates are that over 400 dairy producers attended the series of meetings. By reaching approximately 1/3 of Kentucky's dairy producers during the KDDC's first attempt at holding a statewide series of meetings, organizers agreed, the Milk Quality Barn Meetings were a huge success!

*Chris Thompson
Milk Regulatory Program*





Excellent food provided at all barn meetings



*Roger Thomas
KDDC Executive Director*



An attentive crowd of local dairy producers attended each barn meeting

KDDC Milk Quality Barn Meeting Summary

(A special "thanks" to each host dairy producer!)

Date	District	Location	Host Producer	Attendance
January 10	3	Barren county	Bill Crist, Jr.	30
January 17	2	Warren county	Bill & Gail Ballance	60
January 18	1	Graves county	Ward Farms	25
January 19	1/2	Christian/Todd counties	Wayne Zimmerman	70
February 7	4	Green county	Jim Sidebottom	50
February 8	5	Adair county	Mitchell & Bernice Rooks	30
February 10	6	Russell county	Mike Rexroat	40
March 15	7	Casey county	Steve Martin	30
March 16	7	Mercer county	Larry Baxter	50
March 22	8	Pulaski county	Jerry Gentry	20
March 29	9	Mason county	Earl Lee Jones	30
April 11	10	Shelby county	John Kalmey	50
April 12	11	Marion county	O'Daniel and Sons	70
April 13	12	Grayson county	Embry's Longview Farm	25
Estimated Total Attendance				580

National Fertilizer Use Data Base Commercial Fertilizers 2005¹

The Commercial Fertilizers publication is a serial publication of fertilizer use statistics in the United States and Puerto Rico; and, is one of the oldest agricultural statistical publications in the US. It originally was published by the USDA (prior to 1985), but, more recently by TVA (1985-1994) and the Association of American Plant Food Control Officials (1995 to date). It contains data by state and region for a host of fertilizer products, some of which are:

1. Gross tonnage of fertilizers and of N, P₂O₅, and K₂O from 1960 through 2005
2. Consumption of fertilizers by state by various materials and grades
3. Comparisons with the 2004 data in most reported categories
4. Tonnage of major fertilizer materials and mixtures and of the primary plant nutrients, NPK ,by state
5. Top 100 grades in the US and the top 15 grades by state
6. Average analysis of materials and mixtures

For the fertilizer year 2005 (July 2004-June 2005), US nutrient consumption declined 5.2% to 22.15 million short tons. Nitrogen (N), Phosphate (P₂O₅), and Potash (K₂O) stood at 12.34, 4.64, and 5.17 million nutrient tons, respectively. Total gross tonnage, which includes single-nutrient materials, multi-nutrient materials, organics; and, secondary and micro-nutrients stood at 55.3 million tons.

Kentucky's gross tonnage for the same period was 833,172 tons compared with 994,620 tons for the 2004 FY, a decline of 16.2%. The NPK tonnage in KY for the 2005 FY was 192,487; 92,793; and 123,578 nutrient tons, respectively.

Commercial Feed Products Annual Registration Reminder

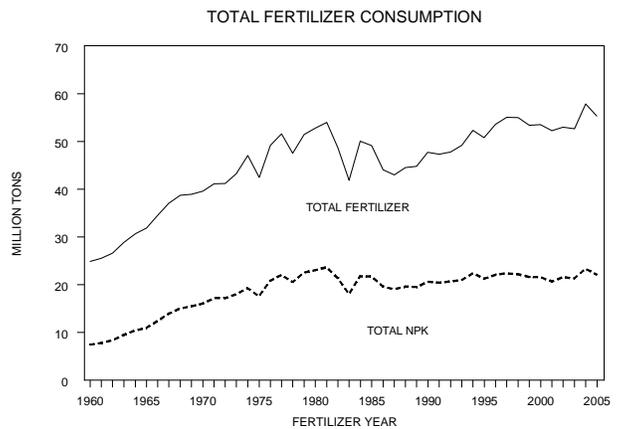
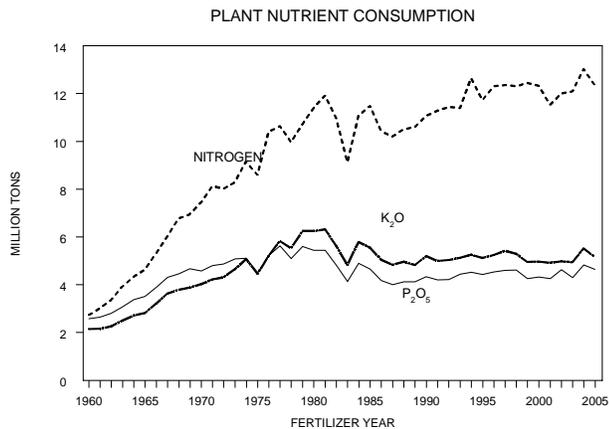


Annual Registration is due for commercial feed products distributed in Kentucky that are sold **exclusively in a package weight of 10 pounds or less.**

It is necessary for all firms to re-register their small package products for the
July 1, 2006 – June 30, 2007 fiscal year.

A registration packet of information, including a list of registered products and registration forms will be sent out on or before June 10, 2006.

M. Davis
Feed Regulatory Specialist



The above graphs show the distribution of N, P₂O₅, K₂O, and total fertilizer in the US from 1960 - 2005. There was a sharp increase in fertilizer use until about 1980 where the rate of increase decline for a more gradual increase from 1980 to 2005

Commercial Fertilizers 2005 is based on fertilizer consumption information submitted by state fertilizer control offices. The consumption data include total fertilizer sales or shipments for farm and non-farm use. Liming materials, peat, potting soils, soil amendments, soil additives, and soil conditioners are excluded. Materials used for the manufacture or blending of reported fertilizer grades or for use in other fertilizers are excluded to avoid duplicate reporting. Some states do not report final grades; therefore, basic materials including both single-nutrient and multiple-nutrient are reported.

¹ Terry, D. L. and Bill J. Kirby, Commercial Fertilizers 2005, Published by the Association of American Plant Food Control Officials and The Fertilizer Institute, Union Center Plaza, 820 First Street, NE, Suite 430, Washington, DC 20002, May 2005.

Wilbur Frye

2006 Distinguished Service to Agriculture Award



Wilbur Frye (left) accepting agriculture service award from GSD President Larry Wells of the College's Biosystems and Agricultural Engineering department.

Dr. Wilbur Frye, Director of Regulatory Services from 1992-2000, was recently awarded the Distinguished Service to Kentucky Agriculture Award at the College of Agriculture's Gamma Sigma Delta annual banquet. Accomplishments cited included his oversight of the four regulatory programs of our Division as well as the two service testing programs.

Dr. Frye is currently employed by the Kentucky Department of Agriculture as Executive Director of the Office of Consumer and Environmental Protection.

A NEW BUFFER FOR DETERMINING LIME REQUIREMENT ON SOIL

The laboratory test made on a soil sample to provide a lime recommendation involves measuring a soil pH and a buffer pH. The buffer used in Kentucky is referred to as the SMP buffer named after the scientists Shoemaker, McLean and Pratt. When the SMP buffer was created, laws that regulate the disposal of hazardous wastes were not yet developed. The SMP buffer contains toxic chemicals which now require special care and attention to ensure the safety of laboratory personnel and the environment. The toxic chemicals in the SMP buffer are chromium and paranitrophenol.

A new buffer has been developed in the University of Kentucky soil testing laboratory that does not involve the use of toxic chemicals. Removing the toxic chemicals from the laboratory removes the risk of employees being exposed to harmful chemicals and eliminates the extra time required for the lab to handle hazardous waste.

The University of Kentucky soil test laboratory in Lexington and Princeton began using the new buffer without toxic chemicals last summer. A buffer pH value reported on our soil test reports used to refer to the pH of the soil reacting with the SMP buffer. Now, the buffer pH refers to the pH of the soil reacting with the new buffer which does not contain hazardous chemicals. The pH obtained with the new buffer is the same value as the pH obtained with the old SMP buffer. Since the pH is the same, interpretations on how much lime should be applied does not change.

Other laboratories across the country use the SMP buffer that contains toxic chemicals. The innovation of a new buffer free of hazardous chemicals will help us and other soil test laboratories continue to perform the function of servicing agriculture while protecting employees and the environment.

*F. Sikora
Soil Testing Program*

Regulatory Services Hosts Visitors from Beijing, China

The Division recently hosted two visiting scientists from China. The visiting scientists were Chai Min and Ji Yan Qiu. Chai Min is a tomato breeder at the Beijing Vegetable Research Center and Ji Yan Qiu is a professor at the Beijing Academy of Agricultural and Forestry Science. The main purpose of the scientists' trip to the University of Kentucky was to learn more about Yellow Shoulder Disease in tomatoes, which is more prevalent in tomato plants growing in soil with not enough potassium. The disease manifests itself by producing yellowish splotches on the tomato fruit.

Frank Sikora, Soil Testing Coordinator, discussed how soil is tested for plant-available potassium and how a Hartz Ratio is calculated to determine the likelihood of Yellow Shoulder Disease occurring. The Hartz Ratio is a ratio of K to Mg in soil that is available to plants. If this ratio is too low, K is at too low of a concentration to compete with Mg for plant uptake and becomes deficient in the plant. After visiting the Soil Testing Laboratory, the two scientists had the opportunity to visit with Melton Bryant, Feed and Fertilizer Lab Coordinator, who showed them the Feed and Fertilizer laboratory, followed by a visit with Cindy Finneseth, Seed Testing Coordinator, who showed them the Seed Testing Laboratory. There was much discussion and interest on how we protect consumers of these agricultural products through our regulatory and testing activities.

*F. Sikora
Soil Testing Program*

Feed Quality Assurance Workshop

The Division of Regulatory Services in cooperation with the Kentucky Feed and Grain Association and the National Grain and Feed Association will hold a Feed Quality Assurance Workshop at Kentucky Dam Village on July 21 and 22, 2006. The Workshop will be held prior to the KFGA Summer Meeting. The KFGA will hold additional activities immediately following the workshop. For registration information contact Buena Bond Assistant Secretary Treasurer with the KFGA at 859-254-0294. Registration information can also be found at <http://www.kyfga.org/>.

The program is designed as an educational program for feed manufacturers and allied industries to assist in the understanding of feed and food safety related issues facing the industry today. The major goal of Kentucky's feed regulatory program is to safeguard the health of man and animals, provide consumer protection for livestock producers and pet owners and the regulated industry, and provide a structure for orderly commerce. This is accomplished through the use of label review, sampling, product analytical testing, feed mill inspections and educational programs.

The Kentucky Feed and Grain Association is a committed partner with the UK Regulatory Services in developing and implementing an educational program for feed manufacturers, ingredient, suppliers and allied industries for the production of safe feed products.

FDA Update: Animal Proteins Prohibited in Ruminant Feed

*Diane McDaniel Assistant to the Director
FDA Cincinnati District Office*

- **Topics**—FDA and State BSE inspection programs and status of revised regulations.

Purchasing and Receiving Procedures for Grains and Feed Ingredients

*David Fairfield, Director of Feed Services
National Grain and Feed Association*

- **Topics**—Feed Quality, Purchasing and receiving procedures and standards, model assay procedures, feed ingredient assay schedule, feed ingredient profile, model feed ingredient/animal drug storage procedures.

Bioterrorism Discussion

Diane McDaniel and David Fairfield

- **Topics**—Firm Registration and Paperwork Requirements

Feed Manufacturing and Process Control

David Fairfield, Director of Feed Services, NGFA

Feed Quality Assurance Programs and Regulatory Issues

*Steve Traylor, Feed Coordinator
Division of Regulatory Services*

- **Topics**—Animal Feed Safety Program, AAFCO Feed Safety Program, Kentucky Regulatory Program Overview.

Feed Labeling

*Meagan Davis, Registration Specialist
Division of Regulatory Services*

- **Topics**—State label requirements and available labeling aids

HAACP Principles: How They Apply to the Agricultural Industry

*David Fairfield, Director of Feed Services,
National Grain and Feed Association*

- **Topics**—What, why, and how to implement these principles.

KFGA Open Board Meeting

*S. Traylor
Feed Regulatory Program*

Workshop Sponsors

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Ed Johnson & Associates
Moody Packaging
Printex, USA
Walker Bag Manufacturing Company
Westway Feed Products

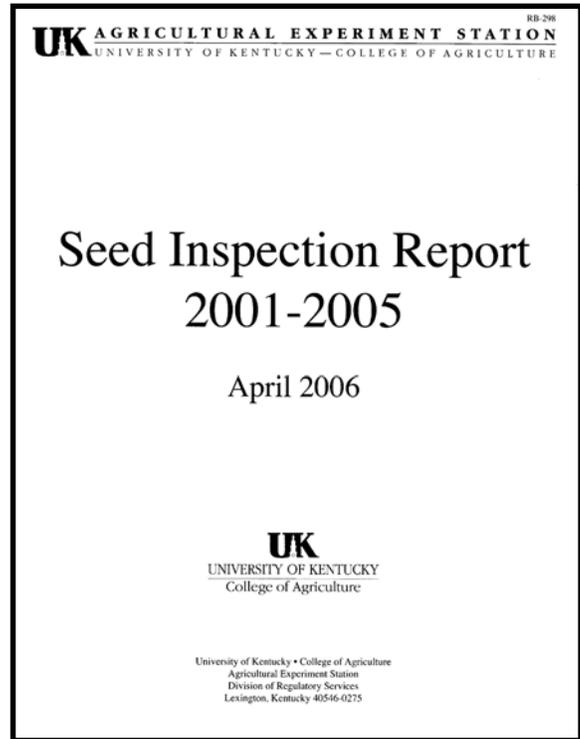
2005 Seed Bulletin Available

The Annual Seed Inspection Report (2001-2005) is now available. This report summarizes regulatory inspection and laboratory activities over the past year as well as a five-year history. Printed copies will be mailed to all registered dealers and are available from the Seed Regulatory Program. Contact David Buckingham (dbucking@uky.edu or 859-257-2785) for a printed report. The document is also available on the College of Agriculture's website (<http://www.ca.uky.edu/agc/pubs/rb/rb298/rb298.pdf>).

Table 1 is a five year cumulative report of all samples taken and the number found to be mislabeled as a result of laboratory analysis. Table 2 is a summary of analysis of official samples taken during 2005 which were found to be mislabeled after laboratory analysis. Table 3 is a summary of field issued stop sales issued by members of our inspection staff during routine inspection of seed stock being offered for sale across the state.

You will notice that most of the field issued stop sales were issued because the seed lots were offered for sale with an expired test date. The seed dealer is responsible for maintaining the test date of a seed lot.

*D. Buckingham and C. Finneseth
Seed Regulatory and Testing Programs*



2005 Kentucky Feed Bulletin

The 2005 Kentucky Commercial Feed Bulletin is being finalized for publication. The printed version should be available by June 1st. The bulletin provides valuable information to the regulated industry and consumers on the status of Kentucky's feed industry and compliance with the Kentucky Commercial Feed Law. The publication is sent to the county extension agents, veterinarians, livestock producers, and registered feed manufacturers and dealers. The bulletins for last several years can be found on the Division's web site. If you do not receive a copy by mail and desire to obtain a copy, please contact this office.

During the 2005 sampling year, 3,935 feed samples were analyzed from over 500 retail and manufacturing facilities to determine compliance with label guarantees. The compliance rate for label guarantees was around 87%. Crude protein violations totaled 233 for 3,471 samples analyzed for crude protein which equates to 6.7% of the samples analyzed for crude protein. Mineral violations totaled 58, 43 and 41 for zinc, copper and calcium concentrations, respectively.

*S. Traylor
Feed Regulatory Program*

Employee News

Praveen Devabhaktuni joined the Division of Regulatory Services this April as Technical Project Specialist. As Technical Project Specialist, he will be working towards upgrading and building new software systems with an emphasis on improving the efficiency and effectiveness. Earlier Praveen worked at Center for Visualization and Virtual Environments UK, developing software systems which support a medical research project.

Praveen holds a Bachelor's Degree in Computer Science. He graduated from University of Kentucky with a Masters Degree in Computer Science. He was an active member of Association for Computing Machinery. Currently he is also working part-time on an MBA program and attends evening classes at UK. His hobbies include reading, watching movies and listening music. He says "I like my new job which gives me many opportunities to directly talk to people, listen to their needs and help them solve their problems related to computers."

Roger Dasari joined the Division of Regulatory Services as a Research Analyst in April. He will be conducting analysis of drugs and antibiotics in feeds and mycotoxins in feeds and feed ingredients.

Pavan Dasari (Roger) grew up in Hyderabad, AP, India. He received a Bachelor's degree in Science from Osmania University, Hyderabad, India. Roger came to the United States a few years ago to pursue his higher education and completed a Masters in Chemistry degree from Eastern Kentucky University (EKU) in May 2006. His research study was based on metal oxide particles and the changes in morphology (sizes and shapes) based on pH, concentration, etc. Roger worked with University of Louisville personnel on these investigations by using instrumentation in those laboratories. He worked for Chem Pharma International in Richmond as a Research Chemist and is a member of the American Chemical Society. Roger was a member of the EKU Dance Theater for two years and enjoys this activity.



Roger has attended national and regional scientific conferences and presented posters as a graduate student. As a Research Analyst, Roger has the responsibilities for analyzing lysine, lasalocid, carbadox, mycotoxins and other substances present in feed samples using HPLC and/or HPLC-MS instrumentation along with other analytical techniques.

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Regulatory Services News is published quarterly for the feed, fertilizer, milk and seed regulatory programs and the seed and soil service testing programs of the Division of Regulatory Services. It is provided free to persons interested in these programs. For subscriptions or address changes, contact Cindy Finneseth either by email at cfinnese@uky.edu or by telephone at (859) 257-2785. You can also access Regulatory Services News on the Internet at <http://www.rs.uky.edu>.

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