# **Regulatory Services News**

Vol. 54, No. 1

Feed - Fertilizer - Milk - Seed - Seed Testing - Soil Testing

Spring 2010

## **Director's Digest**

Winter is always a busy time for meetings. For us it is a good time to listen. Our personnel have attended several meetings in the past few months and will continue to be present at others coming up. We find that attending meetings for the purpose of being good listeners is very important to our programs. Having our "ear to the ground" so to speak, in other words, carefully listening to what is happening in the areas we regulate or provide service is important to improving our programs for Kentuckians. We value the diversity in people with whom we contact daily whether someone is in agriculture, a manufacturer, a backyard gardener, or a pet owner. Asking questions of our people at these meetings to gain more information on what we do is strongly encouraged.

At the very least, we value your questions and input into what we need in the way of future program improvements. Our regulatory program coordinators (feed, fertilizer, milk and seed) will listen to your concerns related to improving our programs in monitoring product quality. Our service program coordinators (seed and soil) may seek your reaction to ideas they have and any suggestions for improving service. If you have suggestions, questions or ideas at any time, please contact me or others listened on the right side of the front page. We are here to serve you and we value your input at any time.

> Bill Thom Director

What's inside...Milk Sample Identification2New Method for Testing Soil pH3KY Seed Issues3Melamine Recall—3 years later4Commercial Fertilizer Values, 20106Mycotoxin Survey Results72009 Seed Lab Update7Inspection Program Update82009 Seed Bulletin82009 Poundstone Award10Amy Lentz Joins Seed Testing Lab11Announcements11

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College of Agriculture Division of Regulatory Services

The importance of obtaining a representative milk sample from a producer's farm tank is regularly emphasized to haulers. Use of sanitary equipment, as well as proper tank agitation and sampling technique are critical to ensure the accuracy of any official sample. Another essential step in the milk sampling process is proper sample identification. Whether samples are obtained for the milk marketing agency, USDA Market Administrator, or for additional quality testing, each must be properly identified.

At a minimum, milk haulers are required to obtain an official representative sample from each farm tank on the milk route. In some cases, milk marketing agencies may require multiple samples for each tank and additional samples may need to be obtained for the USDA Market Administrator. Regardless of the number of samples obtained from a producer's tank, each sample has the potential to be used for either payment or "regulatory purposes" and should be properly identified.

Let's briefly review Kentucky requirements for milk sample identification.

## **Milk Sample Identification**

All information recorded on the sample container should be legible and complete. A waterproof pen is required for hand recording information on the container so it will not fade or rub off easily.

Milk marketing agencies may require additional information to be recorded on sample containers, however all milk sample containers must at a minimum be identified with:

- Producer identification (ID) and tank ID if the producer has multiple tanks
- Date
- Military time (or time with AM/PM identified)
- Milk temperature
- Milk sampler's initials.

In most cases, proper sample identification is accomplished using a combination of bar coded labels accompanied by hand recording additional information on the container. Bar coded labels (often provided by the milk marketing agency and/or the USDA Market Administrator) typically identify the specific farm tank for each producer.

Always use a red ink marker if information is recorded on the bar code label. This prevents distortion of the bar code.



All milk samples in the hauler's sample cooler must be properly identified. If a bar code label is not available for a sample, print the information on the vial as seen above.

Be sure to evaluate each bar coded label to ensure it provides <u>complete producer and tank iden-</u> <u>tification</u>. If this information is incomplete or absent, it should be hand written on the container without distorting the bar code.

The temperature control or "TC" sample obtained at the first farm on the route should be identified with all the information listed above as well as the initials "TC". Additionally, any special samples or individual cow samples accompanying milk deliveries are required to be clearly identified.

Sample identification is important because several people involved in the dairy supply chain must have access to detailed sample information in order to perform proper sample transfer and laboratory procedures. Be sure to do your part to ensure that every sample you obtain is properly identified.

> C. Thompson, Milk Regulatory Program

2 — Regulatory Services News, First Quarter 2010

## A New Method for Testing Soil pH

During drought conditions, soil pH can be as much as one unit less than expected. The lower pH is due to greater salt accumulating in soil releasing hydrogen ions from soil solids. The lower pH most likely occurs during fall sampling compared to winter or early spring since dry conditions are more likely to occur in the fall before winter rains. The falls of 2007 and 2008 were particularly dry causing numerous questions regarding low soil pH.

A method has been developed at the University of Kentucky soil test laboratory to remedy the problem of low pH during drought conditions. Soil pH is normally determined in a mixture of one part water and one part soil. If soil contains variable salt concentration throughout the year, the pH in water can



pH testing, Lexington Soil Testing Lab

vary. To remove the variation in pH, soil pH can be measured in a high concentration of potassium chloride salt rather than water. The potassium chloride can swamp out any variation in pH due to variable salt concentration in soil.

The pH in potassium chloride is approximately one unit lower than pH in water. To avoid confusion on different pH values reported for soil, an equivalent soil-water pH will be reported as calculated from a potassium chloride soil pH. Measurement of over 200 soil samples has provided a good relationship between soil-water and potassium chloride pH for making such a calculation.

Soil buffer pH will be determined after potassium chloride soil pH as normally done with soil water pH. There is no difference in the soil-buffer pH after pH measurement in either water or potassium chloride.

The new method of determining pH was adopted January 1, 2010. This new method will help the lab make more accurate lime recommendations during drought conditions and avoid problems with growers questioning effectiveness of previous lime applications or the credibility of soil testing.

> F. Sikora Soil Testing Program

### **Kentucky Seed Issues**

The Seed Regulatory and Testing Programs have developed a monthly newsletter to distribute information of interest to individuals and firms using, buying or selling seed in Kentucky and the surrounding region.

Anyone is welcome to subscribe and individuals can remove themselves at any time. Email addresses will only be used internally and not distributed for any other purpose. To add yourself as a subscriber, send an email to ListServ@lsv.uky.edu with no subject. In the body of the message include the following line of text:

#### Subscribe KY-SEED-ISSUES

If you have a signature line, please remove this before sending the email. Feel free to send us any comments or suggestions that you may have regarding the newsletter or our programs. Your question may even be addressed in a future newsletter.

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## **Melamine Pet Food Recall: Three Years Later**

#### Updates on new food safety legislation and regulatory requirements for the future

In March 2007, pet food manufacturers began voluntarily recalling more than 100 brands of dog and cat foods after cases of kidney failure in both species were reported after eating affected products. Multiple state regulatory agencies and FDA's Center for Veterinary Medicine (CVM) worked quickly to remove the contaminated products from the shelves to limit the risk of animal injury and death and also to inform consumers of the dangers of feeding their animals the suspect products.

These agencies also worked to discover the contamination source by testing collected samples. Once the usual suspects, such as ethylene glycol (antifreeze) poisoning, toxic metals and mycotoxins were eliminated, it was discovered that wheat gluten, a common ingredient used in pet foods as a thickening agent for "gravies," was contaminated with melamine. Though there is little known research on the effect melamine in dogs and cats, the levels found proved to be the cause of illness in the animals.

The contaminated wheat gluten was traced back through a U.S. distributor to a supplier in China. At that point, all imported wheat gluten imported from China was sampled and analyzed for contamination.

Though the confirmed number of official deaths due to melamine contamination remained low, FDA recognized there may have been more associated animal illnesses and deaths than reported. As a result, FDA continues to perform research with affected tissue samples to understand how melamine contributed to the poor health and death of dogs and cats.

#### Post Recall Changes to Commercial Feed Regulations

The safety of animal feed has become increasingly important since the melamine recall. Food safety legislation, ingredient and processing standards and means of reporting adverse effects are currently being implemented or awaiting review prior to implementation.

#### FDAAA

In September 2007, the Food and Drug Administration Amendments Act (FDAAA) was signed into law. Title X of the document specifically addresses Food Safety.

#### It should be known that feed is considered food.

#### **Title X: Future Regulations**

Ingredient Standards and Definitions (drafted and under review outside of CVM) Processing Standards Labeling Standards (drafted and under review outside of CVM)

#### Memorandum of Understanding (MOU) between FDA's CVM and AAFCO

In November 2007, CVM signed an MOU with the Association of American Feed Control Officials (AAFCO) that allows FDA to formally recognize AAFCO's list of feed ingredients found in the Association's annual Official Publication (OP). This published list of ingredients has been reviewed by AAFCO and deemed suitable for use in animal feeds. Though the OP is not a regulatory document, it is the most complete and recognizable list of feed ingredients. The formal recognition by FDA's CVM of the feed ingredient definitions in the OP further ensures a long standing relationship and a shared common goal to improve food safety.

#### **Reportable Food Registry**

Title X also established the Reportable Food Registry (RFR) to provide a mechanism to report possible recall situations that may cause adverse health consequences or death to humans or animals. Since feed is food, feed manufacturers are required to be aware of this electronic portal. Since September of 2009, the Reportable Food Registry requires a "responsible party" to report these "reportable foods."

<u>*Responsible party*</u> is any person who submits registration information to FDA for a food facility that manufacturers, process, packs, or holds food for human or animal consumption in the U.S.

<u>Reportable food</u> is a reasonable probability that the use of, or exposure to, an article of food (feed) will cause serious adverse health consequences or death to humans or animals. *These are typically known as Class I recalls*.

#### **REQUIREMENTS FOR REPORTING\***

Must be reported no later than 24 hours after a "responsible party" determines that an article of food is a "reportable food" The responsible party's Bioterrorism Act Registration Number The date the food was determined to be "reportable" Description of the food (quantity affected, product codes, lot numbers, etc.) The extent and nature of the adulteration

\*Other requirements and instructions are available on FDA's Reportable Food Registry Guidance For Industry - http://www.fda.gov/Food/FoodSafety/FoodSafetyPrograms/RFR/default.htm.

Some examples of previous Class I Recalls that would now require the responsible party to report the reportable food: peanuts contaminated with salmonella, dog food contaminated with aflatoxin, horse feeds contaminated with elevated levels of Monensin, and pet foods contaminated with melamine.

Investigation into the reportable food occurrence may require additional information to be submitted to the Reportable Food Registry in an amended report.

#### EXEMPTIONS FOR REPORTING

If the responsible party recognizes that an adulteration of the reportable food originated within the possession of the responsible party and it is detected prior to transfer to another party and the problem is corrected or the reportable food is destroyed, the responsible party is not required to report to the RFR.

A failure to report a reportable food is a prohibited act under the Federal Food, Drug and Cosmetic Act.

"Registered Food Facilities that manufacture, process, pack, or hold food for human or animal consumption in the United States under section 415(a) of the FD&C Act (21 U.S.C. 350d) <u>are required</u> <u>to report</u> when there is a reasonable probability that the use of, or exposure to, an article of food will cause serious adverse health consequences or death to humans or animals." http://www.fda.gov/ food/foodsafety/foodsafetyprograms/rfr/default.htm

Continued on pg. 6

## COMMERCIAL FERTILIZER VALUES FOR 2010

Commercial fertilizer values are determined and published each year. A state-wide survey was conducted in December 2009 to determine the averages for 2010.

Under the provisions of Chapter 250.401 of the Kentucky Fertilizer Law, the following unit values are announced for use in determining and assessing penalties of deficient fertilizer. They represent the average of responses from throughout the state for retail value of bulk mixed fertilizers. The value of most nutrients has decreased since the survey conducted in 2008, the current values are listed in the table to the right.

If you have any questions, please call me at (859) 257-2785; or, email: smcmurry@uky.edu.

S. McMurry Fertilizer Regulatory Program

NUTRIENT	<b>DOLLARS/UNIT</b>
	(20 LBS.)
Total Nitrogen (N)	\$ 9.22
Avail. Phosphate (P <sub>2</sub> O <sub>5</sub> )	\$ 6.67
Soluble Potash (K <sub>2</sub> O)	
*Tobacco (low Cl)	\$ 15.76
*Non-Tobacco	\$ 9.04
Calcium (Ca)	\$ 12.43
Magnesium (Mg)	\$ 20.11
Sulfur (S)	\$ 7.44
Boron (B)	\$ 84.60
Copper (Cu)	\$ 88.74
Iron (Fe)	\$ 11.33
Manganese (Mn)	\$ 24.07
Molybdenum (Mo)	\$ 18.52
Zinc (Zn)	\$ 41.05

#### Calculation Notes:

(1) The *N* value for DAP & MAP was assigned from anhydrous ammonia (AA).

(2) The value of P from DAP and MAP was calculated using the assigned value of *N* from AA.

(3) The final values for *N* and P are weighted averages based on FY 09 (distributed) tonnage for ammonium nitrate, urea, DAP, TSP, MAP, and ammonium sulfate.

#### **Commercial Feed Regulations**

Continued from pg. 5

#### Animal Feed Safety System

Though the Animal Feed Safety System (AFSS) has been under construction since 2003, FDA has been working rigorously to finalize AFSS documents. The modernized AFSS will incorporate risk-based, preventative control measures for ensuring the safety of animal feeds. Though the framework document is not finalized, regulatory officials are waiting for the roll out of this new system to determine how it will affect the feed industry and the regulations of which it is subject.

The melamine pet food recall further stressed the importance of feed safety. Food safety legislation is a primary focus of the FDA. As feed is food, the feed industry can expect a multitude of changes in the future. There is documentation available on the FDA website concerning these changes: http://www.fda.gov/food/ foodsafety/foodsafetyprograms/rfr/default.htm

If you have any questions, please contact your area inspector or a member of the Feed Program of the Division of Regulatory Services.

M. Davis Feed Regulatory Program

## Mycotoxin survey results of new crop barley, corn, oats and wheat in Kentucky

Crop growing conditions in 2009 were favorable for potential development of mycotoxins in grains. Regulatory Services' field inspectors took samples at feed mills of barley, corn, oats and wheat intended to be used for making animal feeds. The laboratory analyzed all samples for aflatoxin, fumonisin and vomitoxin, and crude protein. The results can be found in Table 1.

Data suggest that in the 2009 crop, fumonisin in corn grain and vomitoxin in barley and wheat may be our greatest concern when using this grain for animal feed. Mean crude protein in corn grain was just above 7.0 % which was 0.2 % below samples from the 2008 crop, and 26 samples ranged from 6.6 to 7.4 % crude protein. Table 1. Number of positive samples with mycotoxin (aflatoxin, fumonisin and vomitoxin) level and percent crude protein in barley, corn, oats and wheat samples tested by the Division of Regulatory Services.

Grain	Number of Samples Tested	positive	Mean %		
Crop		Aflatoxin	Fumonisin	Vomitoxin	Protein
Barley	6	0	0	6 4.1 to 21.2 ppm	10.90
Corn	46	3 11.3 to 28 ppb	27 2.5 to 32 ppm	1 2.6 ppm	7.02
Oats	5	0	0	1 4.9 ppm	9.94
Wheat	7	0	0	5 2.6 to 4.8 ppm	10.57

Monitoring grain quality of incoming crops may be needed more than ever this year to reduce potential problems with mycotoxins and to correctly balance crude protein in feeds.

Feed Regulatory Program

#### 2009 Seed Lab Update

In 2009, the seed lab received more than 6500 service and 1900 regulatory samples. The majority were received in spring, summer and fall (Fig. 1). Kentucky firms and individuals submitted 95% of all samples. Much of the research testing in 2009 related to wheat and soybean seed quality as well as endophyte infection. The lab actively participated in College forage research programs, testing over 250 samples for endophyte infection. More than 175 different crop kinds were tested in 2009, with more than

More than 175 different crop kinds were tested in 2009, with more than 20,000 different individual tests conducted. The most common tests were germination and purity. Head scab (*Fusarium*) infection was present, so we hand -treated many small grain samples. At the request of producers, we now offer hand-treated germination for soybeans and have been working to become accredited for Liberty Link (Ignite) testing. As spring progresses, we will continue to monitor seed quality, especially in corn and soybeans that may have been exposed to extended wet periods during the fall.

Our staff continues to work on improving lab processes and methods to complete samples in an accurate and timely manner. Future activities include offering a seed school and an update of regulations, which will include a fee increase. As always, the lab is committed to supporting the state seed industry and we welcome your comments and suggestions. For more information about



Fig. 1. Monthly distribution of regulatory (top) and service (bottom) samples. Square (2009), diamond (10 year average).

our services or to schedule a visit, please contact us at 859-257-2785 or by email (Cindy.Finneseth@uky.edu).

C. Finneseth Seed Testing Program

## Inspection Program Update—Feed, Fertilizer, and Seed

#### 2009 Summary

In 2009, field inspectors collected 2528 feed, 2475 fertilizer, and 1969 seed samples. Feed samples include all livestock feeds from the agricultural industry as well as pet food samples from retail stores. Fertilizer samples include all samples from the agricultural industry as well as specialty products from retail stores. Seed samples include all seed from the agricultural industry for crops and pasture as well as specialty products from the retail stores including vegetable and lawn seeds. The field inspectors have done an excellent job obtaining a representative cross section of products for the laboratories to run for analysis.

#### 2010 Inspector Update

To start the year the inspectors that have responsibilities for specialty products have completed canned pet food sampling. The inspectors in the western part of the state have been able to obtain some custom blend fertilizer samples during the last couple of weeks when the ground was frozen. The other inspectors have been busy with feed sampling and completing BSE inspections for the FDA at feed mills.

#### **Inspector Territory Update**

Currently the Division has a field staff of 8 inspectors responsible for collecting feed, fertilizer, and seed samples across the state. We have made some territory changes in the past year and also changed some responsibilities for the four inspectors in the western part of the state. They will now include review and sampling of specialty products as part of their duties. Currently, we have one inspector who does specialty products inspection for the four territories in the eastern part of the state.

Specialty products include all pet foods (canned and dry), fertilizers for home use which include lawn, turf, flowers, trees, and gardens, and also seed products such as lawn and vegetable seeds. Inspectors visit retail stores to make sure these products are registered and labeled correctly.

The map of Kentucky on the following page shows the inspection territories. Contact information for the inspector responsible for your area is included. To contact any of these inspectors go to the Division of Regulatory Services Website at: http://www.rs.uky.edu/department/index.php or call 859-257-2785.

J. True Inspection Program

## **2009 Seed Bulletin**



The Annual Seed Inspection Report (2005-2009) is now completed. It 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 County Extension Offices. Copies are available, just contact David Buckingham (dbucking@uky.edu or 859-257-2785) for a printed report. The document is also available on the UK College of Agriculture's website (http://www.ca.uky.edu/agc/pubs/rb/rb310/rb310.pdf). Reports from previous years can be found online as well (http://www.ca.uky.edu/agc/pubs/).

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 2008 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.

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



Territory from map followed by inspector, general region and specific counties covered.

1 - John Flood:	Purchase, Pennyrile / Specialty Products <u>Counties:</u> Ballard, Calloway, Carlisle, Christian, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, McCracken and Trigg.
2 - Warren Pinkston:	Green River / Specialty Products <u>Counties:</u> Breckinridge, Caldwell, Crittenden, Daviess, Hancock, Henderson, Hop- kins, McLean, Ohio, Union and Webster.
3 - Mark Barrow:	Western Coal Fields / Specialty Products Counties: Allen, Butler, Logan, Muhlenburg, Simpson, Todd and Warren.
4 - Brad Johnston:	Mammoth Cave, Barren River / Specialty Products <u>Counties:</u> Barren, Bullitt, Edmonson, Grayson, Green, Hardin, Hart, Larue, Meade, Metcalfe, Monroe, Nelson and Spencer.
5 - Dave Mason:	Licking River, Northeast & Northern Kentucky <u>Counties:</u> Bath, Boone, Bourbon, Boyd, Bracken, Campbell, Carter, Elliott, Fleming, Floyd, Gallatin, Grant, Greenup, Harrison, Henry, Johnson, Kenton, Lawrence, Lewis, Magoffin, Martin, Mason, Morgan, Nicholas, Owen, Pendleton, Pike, Robertson, Rowan, Scott and Trimble.
6 - Terry Prather:	Bluegrass, Quicksand <u>Counties:</u> Anderson, Boyle, Breathitt, Clark, Estill, Fayette, Franklin, Garrard, Jack- son, Jefferson, Jessamine, Lee, Madison, Marion, Menifee, Mercer, Montgomery, Owsley, Powell, Shelby, Taylor, Washington, Wolfe and Woodford.
7 - Dewey Coffey:	Quicksand, Lake Cumberland, Wilderness Trail <u>Counties:</u> Adair, Bell, Casey, Clay, Clinton, Cumberland, Harlan, Knott, Knox, Lau- rel, Leslie, Letcher, Lincoln, McCreary, Perry, Pulaski, Rockcastle, Russell, Wayne and Whitley.

Jesse Whitehouse: State Specialty Products: Specialty feed, seed, and fertilizer <u>Counties:</u> General Vicinity East of I-65.

## **Employee News**

## Karen Nichol Receives the 2009 Poundstone Award

Karen Nichol, Staff Assistant for the Seed Regulatory and Testing Programs, is the recipient of the 2009 Regulatory Services' Poundstone Award. Karen has worked for the Division for 5 years, first in the soil testing lab and then in the seed program.

Karen supports both the regulatory and service activities of the Seed Program. In the course of her job, she promptly and graciously handles requests from regulated firms, service testing customers, Division staff, County Extension office staff, College researchers and KSIA personnel. She completes these duties with a positive attitude in a timely, efficient manner and the quality of her work is excellent. Karen sends and tracks all permit and registration information, inputs data into the field issue stop sale database and, she receives and processes all seed tag requests and many other non-routine tasks. Tasks specific to the service program are invoicing, payment tracking and dissemination of monthly billing statements, distribution of testing envelopes and distribution of sample reports. She handles a considerable volume of data entry and correspondence with accuracy.

Her "special projects" have included printing State Fair educational materials, organizing the laboratory herbarium and converting many publications and forms to electronic format. She also helps in the lab to ensure sample completion. Karen frequently enters sample information and prepares samples for analysis. She also has developed expertise in planting various seed kinds and has learned basic analytical skills for seedling evaluation. She is always willing to assist in the lab.

In addition to a full-time job, Karen recently completed an Associate's Degree and is involved in philanthropic activities including serving as the departmental representative for the United Way campaign and the College of Agriculture Blood Drive. She also personally raised in excess of \$5000 for the Leukemia and Lymphoma Society and completed the Society-sponsored marathon.



Award Recognition (I to r): David Buckingham, Seed Regulatory Program Coordinator, Bill Thom, Director, Regulatory Services, **Karen Nichol**, 2009 Poundstone Award Winner and Cindy Finneseth, Seed Testing Program Coordinator.

Karen was recognized at a departmental gathering in December and was presented with a plaque. Her name will also appear on the perpetual plaque in our building which notes previous Poundstone Award recipients including:

Sue Stone (2000), Ellen Bishop (2001), Ed Hill (2002), Beth Nichol (2003), Debie Sipe (2004), Connie Williams (2005), Cathy Buckingham (2006), Kay Phillips (2007) and Diane Hunter (2008).

## History of the Poundstone Award

The Poundstone Award was created in 2000 by former Division Director, Dr. Wilbur Frye, to honor a Regulatory Services staff member who has shown outstanding performance in their job. Bruce Poundstone was the Director of Regulatory Services from 1946 -1971. He was nationally recognized for his leadership and the contributions he made to advancements in the feed, seed, and fertilizer arenas. He founded the Feed Microscopy Association, began the Association of American Feed Control Officials (AAFCO) Feed Control Seminar, and was an active participant in developing the Good Manufacturing Practices (GMP) concept for feed manufacturing. He was a distinguished leader in AAFCO, the Association of American Plant Food Control Officials, and the Association of Southern Feed, Fertilizer, and Pesticide Control Officials. Because of Mr. Poundstone's contributions to the advancement of agriculture, locally, regionally, and nationally, it is befitting to name this award recognizing outstanding Regulatory Services staff members after him. The Regulatory Services building is also named in his honor.

## Announcements

## **Retirement Celebration**

The Division of Regulatory Services will be honoring David Buckingham, Seed Regulatory Program Coordinator, for his dedicated service to the Division and our regulated industries at a retirement reception on Tuesday, April 27 from 2-4 pm at the E.S. Good Barn on UK's Lexington campus.

All friends and colleagues are invited to attend. For more information, directions, or to RSVP, please contact Karen Nichol (859-257-2785 or kmnich4@uky.edu) by April 1. Cards or letters can also be directed to her attention for presentation at the program.

## Amy Lentz Joins Seed Lab

Amy Lentz recently accepted the position of Research Analyst in the seed testing laboratory. She is working in the germination lab and is responsible for planting and evaluation of the various seed kinds tested in the lab.

Amy is a graduate of the University of Kentucky, with an M.S. in Plant and Soil Science and a B.S. in Natural Resource Conservation and Management. Her graduate work focused on seed germination and propagation methods for spicebush and burning bush. Most recently, Amy worked in the fruit and vegetable extension program in the UK Horticulture Department. She is originally from Lawrenceburg, IN.



Amy Poston Lentz



## **Upcoming UK Events**

IPM Training—March 3 Princeton, Kentucky Email: plucas@uky.edu

Kentucky Grazing School—April 14-15 http://www.uky.edu/Ag/Forage/

UK's Turf Research Field Day—July 8 Lexington, Kentucky http://www.uky.edu/Ag/ukturf/

Mountain Ag Field Day—October 2 http://www2.ca.uky.edu/rcars/

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