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The View *from* LU Cooperative Extension

Missouri Fescue: Two Disadvantages

Tall fescue is popular in central Missouri because it grows green earlier in the spring and later in the fall than other grasses. This low maintenance grass forms a dense sod, useful on slopes prone to soil erosion. However, tall fescue has two main disadvantages.

First, tall fescue is a poor food source. It limits the movement of wildlife, such as quail, rabbits, turkey and deer. The very thick growth of fescue prevents most other plants from growing. This makes many kinds of seed unavailable as food sources for wildlife; fewer plants mean fewer insects as food sources. Young small-bodied animals have great difficulty traveling through the thick sod to collect enough food for their daily needs. Many central Missourians remember when the 60-acre farm held a small flock of quail and countless rabbits; few recall that it was before fescue became widespread.

Secondly, for livestock owners, tall fescue is not the best choice because nearly all fescue is infected by a mold. This mold protects the plant, causing animals not to eat it. Studies show that livestock eating mostly fescue gain little weight, have higher body temperatures and lower milk production, lose appetite and might abort fetuses. Fescue should be part of a rotational grazing system, not used exclusively. ■ *Adrian Andrei, Wildlife Science*

Aquaculture Research Cultures Crappie on Prepared Fish Diets

A new Lincoln University Cooperative Extension (LUCE) Aquaculture project is, for the first time, culturing crappie in cages. Crappie hybrids (black by white and white by black) have been stocked in eight 4-foot by 4-foot by 4-foot cages in a small lake near campus.

The researchers have been working on domesticating black and white crappie to develop culture methods that produce food-sized crappie. Crappies have now been cultured on prepared fish diets, which has never been done before. Past researchers reported that when crappies reached a certain size, they would revert to eating live animals rather than feed on the prepared diets. However, our researchers have achieved new results by using a selection program to develop a specialized strain of crappie; they also used different culture methods.

Results will be reported in the fall of 2014 when the cages are harvested. This project is based on research conducted by Lincoln University Cooperative Research (LUCR) specialists. ■ *Charles Hicks, Aquaculture*

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USDA United States Department of Agriculture National Institute of Food and Agriculture

Plant Pathology Program Holds ISE on Vegetable and Small Fruit Disease Identification

Lincoln University Cooperative Extension's (LUCE) Plant Pathology program coordinated a two-day train-the-trainer workshop entitled "Diagnosis and Identification of Diseases Affecting Vegetables and Small Fruits in Missouri." Missouri's Sustainable Agriculture Research and Education (SARE) office sponsored this event. The program took place at Lincoln's George Washington Carver Farm on Wednesday, June 25, and Thursday, June 26, 2014. There were more than 40 people in attendance. Dr. Zelalem Mersha, LUCE State Extension Specialist – Plant Pathology and event coordinator, invited Extension plant pathologists, educators and plant diagnosticians from the University of Missouri (MU), Purdue University, Kansas State University, University of Arkansas, and Agdia, Inc. (a leading global company specializing in plant diagnosis and disease detection).

Patricia Wallace, director of MU's diagnostic laboratory and Dr. James Schoelz, a plant virologist at MU, facilitated the training and running of successful virus inoculations on tomatoes. This workshop was designed to teach other Extension specialists how to show large and small growers what might be wrong with plants that die prematurely, wilt or change color. Up-to-date information was given through presentations and hands-on activities to help growers make informed decisions to save their crops from various ailments.

LUCE Plant Pathology staff members Martha O'Connor and Marya Liberman, and two students, Nadia Harriot and Tyler Frank, helped with registration. They also collected sample displays for the hands-on activity and managed the research/demonstration plots that were visited. ■ *Zelalem Mersha, Plant Pathology*

Composting Workshop Co-sponsored by the Kansas City Urban Impact Center

Out of all the food produced in the US, only about half is eaten. Therefore, waste management is increasingly important to control food waste. On Saturday, June 7, 2014, Lincoln University Cooperative Extension's (LUCE) Kansas City Urban Impact Center (KCUIC) and the Westside Community Action Network offered a composting workshop at the Switzer Neighborhood Farm. Topics included a hands-on activity—building economical composting bins, both aerobic (aboveground, using air) and worm. Participants learned all about compost, including waste mixing tips, monitoring, quality and uses, and problems and solutions. For beginner composters, layering "greens" (nitrogen) and "browns" (carbon) was a new concept.

Vermicomposting (worm composting) is becoming a popular, easy method of keeping food waste out of landfills by recycling it into black gold (castings or worm manure). The castings are then used to fertilize plants. The nutrients in vermicompost are often much higher than traditional garden compost. Dr. Hwei-Yiing Johnson, LUCE State Extension Specialist – Plant Science, made compost tea (a brew that is used for fertilizer) and explained its benefits.

The red wigglers (worms) were a favorite of the participants. They learned how important it is to take proper care of a worm bin to get maximum production and product. It was explained that worms are like any other livestock—they should be cared for like any other animal.

■ *Tina Wurth, KCUIC*

Plant Science Activities

On Monday, June 16, 2014, Dr. Hwei-Yiing Johnson visited two young small farmers who operate worm composting in the St. Louis area. Johnson provided one-on-one consultation to help improve their worm composting operation.

Johnson made three presentations/demonstrations on Tuesday, June 17, 2014, about worms, worm composting and compost tea brewing in Sikeston, Missouri, to three classes for a total of 100 youth from K-8th grade. The youth were attending the Summer Enrichment Camp organized by the Lincoln University Cooperative Extension's (LUCE) southeast Missouri office in Sikeston.

Johnson traveled to Liberia as a volunteer to train farmers about worm composting from Thursday, June 19 through Monday, July 7, 2014. Because worms have a high protein content and low cost, Liberian farmers plan to use them as a fish feed ingredient. The farmers also want to use worm castings to fertilize vegetable gardens.

From Tuesday, July 8 through Thursday, July 10, 2014, Johnson helped with LU's environmental science K-12 science teacher training workshop; she educated teachers about compost on Wednesday, July 9. Teachers also learned about waste management, aquaculture, water quality, wildlife and natural resources, GIS and mapping, and soils and fertility. Classes were taught by faculty in Cooperative Extension and Research. Dr. Samson Tesfaye, project director, oversaw the event.

■ *Hwei-Yiing Johnson, Plant Science*

Grant Program Paves New Roads for Small Farmers

Jefferson City, MO-A federal grant project led by Lincoln University Cooperative Extension (LUCE) will provide new opportunities for small farmers in southeast Missouri. Representatives from the Missouri Agricultural Products Cooperative (MAPC), located in Sikeston, Missouri, will pick up a refrigerated truck from the Lincoln University campus on Monday, July 14. The truck, which was purchased with funds from a USDA Rural Business Enterprise Grant, will allow small farmers to travel greater distances to deliver fresh produce to major markets.

As part of research that dates back to 2000, Project Investigator Dr. Emmanuel I. S. Ajuzie found that with five acres of land to farm, fruit and vegetable producers have the potential to earn higher profits than a row crop producer with 125 acres. Ajuzie, the State Extension Specialist for the Agricultural Economics and Marketing Program contends for this to happen, producers must have access to defined larger markets, which are traditionally only open to corporate operations, such as Walmart and Schnucks. The MAPC truck will allow producers to travel to the larger markets to sell their goods in bulk, creating the opportunity for a consistent profit.

The MAPC was incorporated in 2010 by Lincoln University. The purpose of the cooperative is to address the greatest needs of those in agriculture in the rural communities, which are to find economic empowerment and to maintain their family farms.

For more information, please visit http://www.lincolnu.edu/web/programs-and-projects/agricultural-economics-and-marketing or contact Dr. Emmanuel I.S. Ajuzie at AjuzieE@LincolnU.edu or phone (573) 681-5635.

■ *Emmanuel Ajuzie, State Extension Specialist - Agricultural Economics; Pamela Donner, LUCER Media Center Coordinator, Misty Young, Director, Office of University Relations* [Press release distributed July 10, 2014]

Summer Enrichment Programs Offered in Southeast Missouri

Lincoln University Cooperative Extension (LUCE) in Southeast Missouri offered summer enrichment programs in three locations: Sikeston, Caruthersville and Charleston. Over 300 students in grades K-10 were served. The summer programs focused on teaching a variety of content. Students learned about leadership skills, computer skills and physical fitness. They also studied arts and crafts, dance, stepping (step dance) and nutrition.

An agriculture camp was also held for students in grades 6-10. The youth were exposed to a wide array of opportunities in agriculture. These included robotics, engineering, and animal, physical and plant sciences. The camp was held Monday, June 2 through Tuesday, July 17, 2014. On the last day, the students showcased their talents. Over 200 parents and community members attended the event. Twelve students were identified to take part in 4-H Youth Futures College Within Reach program; this program prepares students for college.

■ *Brenda Robinson Echols, Souheast Missouri*