Even more than usual, this issue of the Plant Sciences Quarterly provides many opportunities to see just how outstanding our faculty, staff and students really are. Our Division was very well represented at the recent CAFNR Celebration of Excellence ceremony with major awards received by Gary Stacey (Mumford Award), Debbie Finke (Early Investigator), Gene Stevens (Burch Award), and Christa Smith (Staff Recognition). Heidi Davis and Kara Riggs received state- or national-level student awards based on their scholarship and leadership. Lee Miller received the campus-level Provost Award for Creative Extension Programming by New Faculty and Bob Sharp received the Gold Chalk Teaching Award. You can see details on pages 2 & 3. This great recognition requires outstanding people and performance but it also requires us to take the initiative to put together competitive award packets. I encourage you to identify deserving colleagues and consider nominating them for an award this year.

The Around the Division section in this issue highlights some of our Regional Extension Specialist colleagues who are critical to providing effective Extension programs for the state. Matt, Jim and Wayne are among the more than fifty Natural Resource, Horticulture, Livestock and Agronomy Regional Specialists who work closely with the State Extension Specialists here on campus to deliver programs to the clientele. They are an invaluable source of science-based information for producers, commercial representatives, and the general public. Together, they form a network that extends throughout Missouri.

Make a point of meeting two new additions to the Division, Brent Myers and Nathan Treloar (page 4). Brent is the new State Extension Specialist for Grain Crops and is located in Waters Hall. Nathan recently joined our staff group and is located in the Agriculture Science Building where Rita had been located.
2 Awards & Honors

Plant Sciences Faculty and Staff shine at CAFNR’s Celebration of Excellence Award Ceremony

Mumford Outstanding Faculty Award
Gary Stacey received the Mumford Outstanding Faculty Award. Stacey is the Missouri Soybean Merchandising Council Endowed Professor of Soybean Biotechnology and Associate Director of the National Center for Soybean Biotechnology. The award recognizes a CAFNR faculty member for a sustained record of excellence in teaching, research and/or extension/outreach.

“Gary is a renowned leader in the field of plant biology and plant-microbe interactions,” said CAFNR Dean Tom Payne. “In addition to receiving three elected fellowship awards, the far-reaching impact of his research achievements is evident in numerous patents and highly cited refereed publications, in addition to worldwide invitations to lecture.”

Early Investigator Research Award
Deborah Finke, Assistant Professor in the Division of Plant Sciences, was presented the Early Investigator Research Award. Nominees must have outside letters attesting to their research accomplishments and their potential to become leaders in their chosen field and a summary statement addressing their research accomplishments and qualifications for this award.

“Dr. Finke was among the first insect ecologists to explicitly investigate the relationship between predator diversity, herbivore abundance and plant yield from a mechanistic perspective,” said Xi Xiong, Assistant Professor in CAFNR turfgrass science. “Her record definitely shows that Dr. Finke is a prominent national figure in an evolving new area of predator-prey ecology.”

J.W. Burch State Specialist Award
Gene Stevens, Extension Professor based at the Jake Fisher Delta Research Center, was presented the J.W. Burch State Specialist Agriculture and Natural Resources Extension Award. The J.W. Burch Award for exceptional extension program leadership recognizes state specialists for their effectiveness of program leadership with field staff, quality of extension publications, presentations and other educational materials, and recognition by state and national peers for their program quality.

“Stevens’ hands-on research and relentless thirst for knowledge on rice production has given him a tremendous and deep background for his presentations and publications,” said Steven Melvin, irrigation application specialist for the Lindsay Corporation. “This background also makes him the one-stop shop for all questions relating to pivot-irrigated rice. To me, the essence of being an Extension specialist is having both the in-depth scientific knowledge and the hands-on experience on a subject. This combination facilitates the development of wisdom to teach clientele how to apply the scientific knowledge in the real world.”

Staff Recognition Award
Christa Smith, Executive Staff Assistant in Plant Sciences was awarded the Staff Recognition Award. Staff recognition award recipients must demonstrate outstanding ability and performance in productivity, quality of work, congeniality, judgment, dependability, initiative, leadership and dedication to the mission and values of the College.

“The large number of important responsibilities Christa has keeps her extremely busy and yet she is always courteous and pleasant, a good test of an employee’s character,” said Division Director Mike Collins. “When an error does happen, which is rare, Christa is quick to say so and then to think about how we might change our procedures or policies to avoid the same issue in the future.”
Awards & Honors

Miller recognized as 2013 Provost Award for Creative Extension Programming by New Faculty

Lee Miller was awarded the 2013 Provost Award for Creative Extension Programming by New Faculty. This award was developed to recognize faculty with a current extension assignment who have made exceptional accomplishments in their first four years of service to MU in the field of extension or continuing education.

Lee utilizes an array of unique methods for extension delivery, and is involved in a variety of different extension programs. Lee worked with the fantastic IT team to create a program website (www.turf-path.missouri.edu), which has over 11,000 visits since its inception in March 2011. Lee posts bimonthly pest information reports on weather patterns and pest problems to the site, and drives clientele to the information with Twitter and an email listserv of nearly 600. Current ground truth for these reports comes from the Mizzou turfgrass diagnostic lab, which is also under Lee’s direction. Aside from traditional sample submission of problematic turf, site visits are made with the Mobile Turfgrass Diagnostic Laboratory; a Sprinter Van modified with electricity for microscope operation, a chair, and bench space to provide diagnoses on the go. He also serves as the coordinator of the Turf and Ornamental Field Day, which hosts 150-200 turfgrass professionals a summer to South Farm to view the latest turfgrass research trials and learn of new developments. Lee is also heavily involved in providing training for the Master Gardener program, and co-instructing the turf and ornamental portion of Missouri’s pesticide applicator training program.

Golden Award: Bob Sharp earns MU’s Gold Chalk teaching award

Bob Sharp, CAFNR professor of plant sciences and director of the Interdisciplinary Plant Group, received the MU Graduate Professional Council’s Gold Chalk Award for 2013. The GPC Gold Chalk Awards are designed to recognize professors who have made significant contributions to the education and training of graduate and professional students. Only nine Gold Chalk Awards are presented each year.

Davis recognized as Outstanding Student

Every year, top-notch undergraduate seniors are selected for the National Student Recognition Award based on their scholarship, leadership, and involvement. Heidi Davis, Plant Sciences senior, was one of the recipients of this award in February. Davis is graduating with her bachelor’s degree in Plant Sciences- Crop Management and will begin her master’s degree in Crop, Soil and Pest Management under Plant Sciences. She then plans on either pursuing a Ph.D. or directly going into an agronomist position.

Riggs takes 2nd place in Research and Creative Activities Forum

Kara Riggs won 2nd place in the biological sciences division for her oral research presentation in the Research and Creative Activities Forum hosted by the MU Graduate Professional Council. This event offers an invaluable opportunity for students to showcase their academic projects in front of an audience of their professors, mentors, research colleagues, and visiting faculty from other institutions in Missouri.
New faculty member, Brent Myers joins Plant Sciences

Dr. Brent Myers joined the College of Agriculture, Food and Natural Resources in the Division of Plant Sciences as Assistant Professor effective December 1, 2012. Brent serves as State Extension Specialist for Cereal Crops with a 75% Extension / 25% Research appointment. Brent performs needs analyses and develops focused extension and applied research programs to address those needs. He has primary responsibility for Extension education programming on the production of corn, wheat, and other cereal crops in Missouri with emphasis on sustainability and profitability of production systems, cultural practices, stress management, and grain quality and use, and other areas. In addition, Brent will develop active relationships with other faculty, regional Extension specialists, cereal grain producers, and industry and participate in appropriate interdisciplinary programs and projects.

Prior to joining Plant Sciences, Brent earned MS and PhD Degrees in Soil, Environmental, and Atmospheric Science at the University of Missouri. His dissertation was entitled “Sensor driven methods for soil landscape models.” Most recently, Brent has worked as Research Soil Scientist with the USDA-ARS group in Columbia. Before that, he served as postdoctoral research associate at the University of Florida, Gainesville, for two years. Recent research includes mapping continuous depth fluctuations of subsoil potassium, modeling soil electrical conductivity, associations between soil carbon and ecological landscape drivers, and several other topics. Brent has broad expertise in geospatial assessment of corn/soybean yield risk, crop profitability modeling, soil landscape models, digital soil mapping and other areas that bring the power of modern technologies to application in Missouri’s crop production systems.

Myers receives Endowed Chair Appointment

Dr. Rob Myers, Adjunct Associate Professor of Plant Sciences, has been selected for a one-year term as an Endowed Chair of Agricultural Systems with the University of Minnesota beginning in April 2013. While he will remain in residence in Columbia as part of the University of Missouri faculty, he will also hold the title of Senior Fellow with the Minnesota Institute for Sustainable Agriculture and will periodically travel to Minnesota to consult on cover crops and other living cover projects with the University of Minnesota's Green Lands Blue Waters program.

Dr. Myers currently serves as Regional Director for extension Programs for the North Central Sustainable Agriculture Research and Education program, and will continue those duties while holding the Endowed Chair appointment. Dr. Myers has prior connections to Minnesota, having obtained Ph.D. and M.S. degrees in agronomy from the University of Minnesota. Individuals selected to serve in the Endowed Chair are expected to be catalysts for innovation and progress on agricultural issues within the University of Minnesota’s College of Food, Agricultural and Natural Resource Sciences and throughout the state of Minnesota.

Plant Sciences Open Positions

More information on all of the faculty positions can be found at: http://plantsci.missouri.edu/employment/

Faculty:
- Research Assistant/Associate Professor of Viticulture
- Assistant Professor of Forage Physiology
- Research Assistant Professor of Entomology
- Viticulture Assistant Extension Professor
- Assistant/Associate Professor of Biomass Feedstock Molecular Physiology and Breeding

Academic:
- Research Associate of Weed Science (Delta Center)
- Research Associate in Soybean Molecular Breeding

New Division Staff Member, Nathan Treloar

Nathan Treloar joined the Division of Plant Sciences administrative team on April 29, 2013. His primary duties are to manage shipping, receiving, and mail for the Ag Building. Over time, Nathan will be trained on multiple administrative functions to be able to support or fill in for staff as needed. Nathan comes to Plant Sciences from SOS Temporary Staffing where he has worked as a Certified Office Associate since September 2012. His office is located across from the Ag Building mailroom in 1-40A; his phone is 882-7511.
DPS Staff visits Warm Springs Ranch

Employees of the Division of Plant Sciences enjoyed a unique opportunity on Friday, May 17, as they went for a tour of the Warm Springs Ranch near Booneville. The ranch houses the breeding operation of the world famous Budweiser Clydesdales and was the setting for an immensely popular Super Bowl ad featuring a newborn foal that was later named, Hope, as part of a social media campaign. Set on 300-plus acres of rolling hills and pastures, the farm is home to more than 100 Clydesdales.

The tour began in the foaling barn (where the magic happens) with a video and introduction from Warm Springs Ranch handlers. Guests were then guided through the veterinary lab, stables, grooming stalls, and a peek inside the 50-foot tractor-trailers used by Budweiser’s traveling eight-horse hitches. It being springtime, the tour was capped by a visit to the private stall of a mare and her two-week old foal. The operation mates about 40 mares each year with the 150+ pound newborns arriving after 340 days. Guests were then taken back to the foaling barn for photos with a six foot at the shoulder, 2000 pound Clydesdale and the iconic 1903 Studebaker-built beer wagon.

The group of 10 administrative and support personnel concluded the outing with lunch at Abigail’s, a delectably charismatic restaurant on Central Street in Rocheport.

2013 Spring Graduates

Graduate Students
Luke Barnett, MS, Crop, Soil & Pest Management, R. Kallenbach
Ji Chul Nam, MS, Plant Biology and Genetics, W. Gassmann
Audrey Davis, MS, Horticulture, M. Warmund
Katherine Hagely, PhD, Plant Biology and Genetics, K. Bilyeu
Elizabeth Long, PhD, Entomology, D. Finke
Eric Riley, MS, Crop, Soil & Pest Management, K. Bradley
Spencer Riley, MS, Crop, Soil & Pest Management, R. Smeda
Kristin Rosenbaum, PhD, Crop, Soil & Pest Management, K. Bradley
Doug Spaunhorst, MS, Crop, Soil & Pest Management, K. Bradley
Sarah Zukoff, PhD, Entomology, B. Hibbard

Research Summit held April 5

The University of Missouri hosted 30 representatives from the Monsanto Company for a research summit Friday, April 5th. More than 50 MU administrators, faculty and staff participated in the day-long session aimed at fostering awareness of the two organization’s mutual research and academic interests and to identify areas for continued and increased collaboration.

The summit began with a welcome by University administrators Tim Wolfe, Rob Duncan, and Tom Payne. Delivering an overview for Monsanto were John Raines, Integrated Farming Systems Commercial Lead, and Sam Eathington, Vice President of Global Plant Breeding. Attendees then divided into breakout sessions for focused discussions in seven areas: Intellectual Property/Confidentiality/Research Agreements, Plant Stress Biology, Weed and Pest Control/Resistance Management, Biotechnology Developments, Integrated Farming Systems, Plant Pathology, and the Talent Pipeline that develops graduates for careers with agricultural companies.

New Addition to the Angotti Family

Plant Science staff member Jeremy Angotti and wife, Mary Hannah, welcomed their first child December 31, 2012. Their son, Thad Austin Angotti, weighed 5 lbs. 5 oz. and was 19 inches long.

Thompson elected as Treasurer

Hallie Thompson has been elected to the position of Treasurer of the MU Graduate Professional Council. Her responsibilities will include serving as co-chair of the Student Fee Review Committee and as chair of the finance review committee, which makes student travel awards.
IT ANNOUNCEMENTS

EDUROAM: The University of Missouri has joined the eduroam community to provide Wi-Fi access for visiting scholars. MU faculty, staff and students can use their MizzouWireless username and password to access wireless networks on eduroam-affiliated campuses.

A list of participating institutions can be found at: https://www.eduroam.us/eduroam_us_institutions
For more information on this service please visit: http://doit.missouri.edu/network/eduroam.html

Microsoft Office 2013 is now available for Windows users. If you are interested in upgrading please contact me or Gary.

Graphics Lab new location: Over winter break the graphics lab was moved to 1-31 Agriculture, this is the previous home of the Plant Sciences fiscal offices. Gary Tyler’s office was also relocated to the attached 1-30 Agriculture.

Division Technology Policy: Division faculty recently reviewed and approved a new technology policy for the division. The new policy covers technology purchases, inventory, equipment relocation, disposal of equipment, loss or theft of equipment, graduate student computers, retired personnel, network requirements, and personal computers. The new policy may be reviewed at: http://plantscionly.missouri.edu/pol_proc/ITpolicy.pdf.

SPRING CLEANING YOUR COMPUTER

Backup: External hard drives and jump drives are inexpensive and easy to use. Take a few minutes to back up your files.

Monitor: Spray computer screen cleaner or a mixture of equal parts distilled water and vinegar onto a microfiber cloth and wipe down your monitor. DO NOT spray directly on the screen, use any product containing alcohol or ammonia or press too hard.

Keyboard, Mouse and CPU: This is probably the grossest part of your computer and you should consider wiping them both down on a weekly or monthly basis.

1. Turn off your computer
2. Flip your keyboard over and gently shake it over a trash can.
3. Spray out between the keys with a can of compressed air.
4. Clean the keyboard and mouse with the cleaner or the vinegar-water solution you used on your monitor. You don’t need to use a microfiber cloth on these devices, but they do work really well. When cleaning your mouse be sure to clean the pads on the underside of your mouse.
5. Finally, wipe off your CPU case. If you feel there is a lot of dust built up on any exhaust area of your computer please contact me or Gary for removal.

Windows 7 Maintenance: Run Windows update from the start menu. Be sure all critical updates are installed.

Microsoft has a built in Disk Cleanup tool that will help you delete unnecessary files from your computer. Directions and a video how-to can be found at: http://windows.microsoft.com/en-us/windows7/Delete-files-using-Disk-Cleanup

Another quick and easy way to improve the performance of your computer is to run Disk Defragmenter. Defragmenter is scheduled to run by default but if your computer is not on at the time it is scheduled to run you may be missing out. To manually run the program open Disk Defragmenter by clicking the Start button, clicking All Programs, clicking Accessories, clicking System Tools, and then clicking Disk Defragmenter. Click Defragment Now.

MAC OSX users: Select Software Update from the Apple menu and install all applicable updates. It is very likely a reboot will be required after you update your software.

Run the Mac built-in Disk Utility program. Select your hard drive from the column on the left, make sure you are viewing the First Aid tab and then click the Repair Disk Permissions button. Following that process you may also want to verify your disk, if problems are found select Repair Disk from the same screen.
KNOW YOUR COLLEAGUES:  
Extension Regional Specialists

Matt Herring  
Agronomy/Natural Resources Specialist

Matt Herring grew up on a diversified farm west of Elsberry in Lincoln County. On his family’s farm they raised corn, wheat, alfalfa, soybean, cattle and hogs. He took an active daily role in the farm. He was involved in 4-H and FFA. His parents still farm and he tries to help out when time allows. His involvement in 4-H and his parents’ involvement in University of Missouri Extension programs including serving on the Lincoln County University of Missouri Extension Council encouraged him to consider a career in Extension.

Matt graduated from the University of Missouri-Columbia in 1989 with a Bachelors of Science degree in Agriculture majoring in Agronomy. He went on to receive his Masters of Science degree in 1991 from Purdue University in Agronomy where his focus was applied soil physics looking at preferential flow of atrazine and alachlor.

Three internships while in college gave him a perspective on industry. In 1987 he spent a summer doing product development field research in northwest Missouri. In 1988 and 1989 he worked for ICI Americas as a sales intern calling on pesticide dealers and farmers in Missouri.

Since 1991 he has worked as an Agronomy/Natural Resources Specialist with University of Missouri Extension based in Union in Franklin County. Franklin County is part of the East Central Region which includes 17 counties in east central Missouri. As an Agronomy/Natural Resources Specialist he has developed agronomy, natural resource and horticulture related educational programming to meet needs identified by locally elected Extension Councils.

Agronomy educational programming in these east central Missouri counties is designed to meet the diverse needs of the farmers and landowners. Crops grown in the East Central region include corn, soybean, wheat, grain sorghum, alfalfa and other forages. Livestock including cattle, hogs, horses and a growing number of goats are raised in the East Central region. Soils vary tremendously in the region and as a result so do their productivity. Over 600,000 people live in the East Central Region. People find the counties that are near St. Louis are great places to live.

Matt’s educational programming includes crop production, soil fertility, integrated pest management, forage management and private pesticide applicator training. In addition to agronomy programming he has also developed active Master Gardener and Master Naturalist programs in Franklin County. These programs educate people to become volunteers and extend the efforts of University of Missouri Extension. The Missouri Rhine Valley Association developed as a result of University of Missouri Extension efforts to develop regional identity for producers of agricultural products.

In 2012 probably the most important educational programming Matt worked on was drought management. The 2012 drought was record breaking in many ways and affected both crop and livestock producers. Education through meetings and one on one consultation helped farmers make good choices about how to proceed with drought ravaged crops and forages.
James Quinn grew up in Northern Iowa on a typical ‘corn and bean (soy) farm’ that also raised beef cattle (now a century+ farm). As with many farm kids, he enjoyed the ‘farm life’ and in his early teens became fascinated with how plants grew. First he had houseplants and then a vegetable garden, which led to enrolling at Iowa State University in Horticulture (1977). James liked ISU but their selection of ‘fruit and vegetable classes’ was limited. He transferred to UC Davis and completed his BS in Plant Science (1983).

While in California he interned with Spice Islands on their 600 acre herb farm and then became active in the herb industry for the next 15 years. Jobs and education included working for Campbell Soup Company, obtaining a MS in Horticulture (Purdue University, 1987), managing a wholesale greenhouse in Michigan and finally coming to Missouri for a project for growing medicinal herbs in 1996. James drifted into the educator role beginning in 1998, first working with a nonprofit on alternative agronomic crops and then joined MU’s Horticulture Department as an Extension Associate in 2003. For three years he ran the grant treadmill with integrated pest management projects on greenhouses, vegetables, and high tunnels.

James has been a Regional Horticulture Specialist for University of Missouri Extension since 2006. He is based in Cole County and has responsibilities in 6 others around mid-Missouri, including Callaway, Miller, Moniteau, Morgan, Osage, and Boone, where he lives.

Horticulture programming by a regional specialist is wide ranging and varied as one responds to various requests and needs. A sample of some of the main program areas are:

- The Missouri Grown program focuses on assisting commercial vegetable and fruit growers through a variety of outreach efforts. In 2007 James felt MU was lacking the resources and teamwork needed to assist a rapidly increasing producer group, growers supplying produce auctions. These growers are primarily Amish and Mennonite and are spread across SW, WC, NW and Central Missouri. For over 4 years the EPA provided over $120,000 for 13 regional and state specialists from MU and Lincoln University to reach these producers with outreach efforts like workshops, farm tours and an IPM newsletter, the latter continuing to be mailed at no charge to over 350 growers. The funding afforded educating and engaging with these producers beyond IPM, to broadly address vegetable, fruit and ornamental crop production. This programming effort received the 2012 MU Extension ‘Teamwork Award’.

- James is active in Master Gardener Training, from presenting on a variety of topics, to assisting with the development for it to be offered on line, to authoring the chapter on vegetable gardening. But he is most proud to serve as local coordinator for one of the most active and successful groups in the state, the Central Missouri Master Gardeners. Their volunteers own and staff a greenhouse from which an annual plant sale is supplied. The proceeds (typically $30,000 or more) fund over a dozen of their community and beautification projects. Their annual Spring Garden Seminar educates over 150 individuals in and around Jefferson City. For a 3rd year in 2013 a Garden and Grow program will be held at the Boy’s and Girl’s Club. New this year, they have started a Garden Hotline to serve Cole County and Mid-Missouri residents.

- Home horticulture requests run the gamut, from soil testing, to tree pruning, garden pest control or lawn maintenance. Responding to repeated detailed questions on fruit care, James started a ‘Hand’s On Fruit Care Workshop Series’ in 2010 that is conducted annually in Columbia and with 20 to 25 attendees at each of the 3 classes. These classes focus on fruit tree pruning, organic fruit growing, and conventional disease and insect pest control. In 2012 a 3 year comprehensive evaluation, 93% responding felt the classes will help increase the fruit production for their family’s consumption.
Around the Division

Wayne Flanary
Agronomy Specialist

Wayne Flanary is a native of northwest Missouri, growing up on a diversified farming operation located between Maryville and Savannah. He started farming when he was 15 with his father by renting additional land. Wayne’s father advised him that there was not enough land for both so he recommended that Wayne go to college and find a career.

Wayne received a Master of Science in agronomy in 1980 from the University of Missouri. His research looked at the effect of Vesicular Arbuscular Mycorrhiza on soybeans. After graduation, he worked for Farmland Industries and then left in 1983 to work for the MU Extension in Holt County.

He worked for the Extension Service for ten years and then returned to Farmland Industries to work in their Agronomy Services Department as a staff agronomist. In 2000, he was named the manager of training and technical services for AGRILANCE. In 2004, he rejoined the University of Missouri Extension Service at the same location, Holt County. He has responsibilities in 6 other counties around mid-Missouri as well, including Atchison, Nodaway, Andrew, Buchanan, DeKalb and Clinton Counties.

The programs that Wayne focuses on are Extension named programs; Plant Protection for the 21st Century, Missouri Crop Management Systems, Forage Production and Management and Nutrient Management Planning. To localize these programs, county Extension councils and the advisory boards of Graves Chapple and Hundley-Whaley provide advice on content and delivery of education efforts. Growers are adopting new technology quicker than ever and are better educated creating the need to blend Extension named programs and local grower needs.

Wayne’s major program activity is focused on using the delivery of programs using field demonstrations. At Graves Chapple, row spacing, corn planting populations, nitrogen fertilizer rates, nitrogen products and additives, fungicides and insecticides are examples of field demonstrations. He also partners with state agronomy staff to place research trials at the Graves Chapple site. Forage demonstrations are conducted at Hundley-Whaley with local Extension staff working as a team combining livestock, agronomy and ag Business specialists expertise to deliver research and teaching. At Graves Chapple and Hundley-Whaley, the focus is practical applied types of research and demonstrations.

Cover crops are the “hot-button” with local growers. Questions are being asked and the team of Extension staff have worked together to provide educational demonstrations to growers. Currently, we have 240 plots dedicated to single and mixed species of cover crops in a corn and soybean rotation at Graves Chapple.

Other delivery methods include Ag Updates which are county meetings where a team of specialists provide and update of the latest research from MU to local farmers. Electronic newsletters deliver pertinent information to local growers in a cost effective means and a weekly column is sent to local newspapers and radio stations.

Schools are another way of delivering programs. Typically each year, Wayne conducts a meeting which ranges from one to two days in length on forages, soil fertility, corn, soybean, wheat, and alfalfa. Extension now has a priority of classroom learning and this is one way to achieve this objective.

The latest project is the tile drainage demonstration located along Highway 159 in Holt County. Six tile lines spaced at 20 and four tile lines spaced at 60 were laid into two different soil types. The labor and tile were all donated which is over $20,000.

Local growers expect the latest research from the University of Missouri Division of Plant Sciences and Wayne works hard to deliver this research to area growers.
Events & Activities

**FIELD DAYS**

**First International Symposium on Elderberry**
June 9-14, 2013 - Stoney Creek Inn, Columbia, MO

**Bobwhite Quail & Native Pollinator**
June 20, 2013 - Bradford Research & Extension Center

**Southwest Center Dairy**
June 20, 2013 - Mt. Vernon, MO

**IPM/Weed**
July 11, 2013 - Bradford Research & Extension Center

**Crop Injury & Diagnostic Clinic**
July 23-24, 2013 - Bradford Research & Extension Center

**Turfgrass and Ornamental**
July 30, 2013 - South Farms, Columbia, MO

**Organic Field Day**
August 1, 2013 - Bradford Research & Extension Center

**Greenley Center**
August 6, 2013 - Novelty, MO

**T.E. “Jake” Fisher Delta Research Center**
August 29, 2013 - Portageville, MO

**Forage Systems Research Center**
September 25, 2013 - Linneus, MO

**UPCOMING MEETINGS:**

- **American Society for Horticultural Science**
  July 22-25, 2013
  http://www.ashs.org/
  Palm Desert, CA

- **American Society of Plant Biologists**
  July 25-26, 2013
  http://my.aspb.org/page/Rhodeland2013
  Providence, RI

- **ESA 98th Annual Meeting**
  August 4-9 2013
  http://www.esa.org/minneapolis/
  Minneapolis, MN

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The **First International Symposium on Elderberry** (Sambucus), to be held in Columbia, Missouri, June 9–14, 2013. This will be the world's first gathering of international scientists from multiple disciplines studying all aspects of the elderberry plant and fruit, and its use as a food and dietary supplement. Learn more about the symposium at:
http://muconf.missouri.edu/elderberrysymposium/

The annual **IPM/Weed Field Day** will be held at the Bradford Research and Extension Center on July 11, 2013. This event provides an opportunity for farmers, agricultural retailers, crop consultants, and others to view thousands of research plots pertaining to the management of weeds, insects, and diseases in corn and soybeans.

The MU **Crop Injury and Diagnostic Clinic** will be held July 23-24, 2013 at the Bradford Research and Extension Center. This clinic is designed to train or update agricultural professionals in the management of crop health and field crop diagnostics. Participants will have the opportunity to fine tune their skills in diagnosing crop production and pest problems.

The annual **Turf Field Day** will be held July 30, 2013 at the University of Missouri South Farms. The field day will show the latest in research and basic information surrounding the green industry, from golf courses and sports fields to lawn care and landscapes.
## Recent Grants

<table>
<thead>
<tr>
<th>Investigators</th>
<th>Title</th>
<th>Sponsor</th>
<th>Amount of Funding</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Bailey, W.</td>
<td>Agrisure Duracade: Corn Rootworm Larval Movement Study in Corn</td>
<td>Syngenta Seeds Inc.</td>
<td>$30,000</td>
<td>04/08/2013-04/30/2015</td>
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<td>Hibbard, B.</td>
<td>Dual-Dual 5307 Selection Intensity Tent Study (De-Regulated)</td>
<td>Syngenta Seeds Inc.</td>
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<td>03/11/2013-04/30/2014</td>
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<td>Bailey, W.</td>
<td>Evaluation of the Behavioral Evolution of the Western Corn Rootworm in Response to the Presence of B+ Corn</td>
<td>ARS</td>
<td>$20,000</td>
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<td>Hibbard, B.</td>
<td>IRM Field Studies for MS-RV1 (APHIS Regulated Trial)</td>
<td>Syngenta Seeds Inc.</td>
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<td>Fritschi, F.</td>
<td>Carbohydrate Dynamics in Cotton: Impacts on Early Vigor and Translation to Yield</td>
<td>Cotton Incorporated</td>
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<td>Fritschi, F.</td>
<td>Development of Soybean Lines with Improved Tolerance to Heat and Drought</td>
<td>United Soybean Board</td>
<td>$250,929</td>
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<td>McKendry, A.</td>
<td>Improving Barley and Wheat Germplasm for Changing Environments</td>
<td>University of California-Davis</td>
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<td>Miller, L.</td>
<td>Evaluation of Fertilizer Application Strategies for Preventing or Recovering from Large Patch Disease of Zoysiagrass</td>
<td>USGA</td>
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<td>Mitchum, M.</td>
<td>Application of Biotechnology to Control of the Soybean Cyst Nematode: SCN Parasitism Genes</td>
<td>Iowa State University</td>
<td>$95,481</td>
<td>10/01/2012-09/30/2013</td>
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<td>Investigators</td>
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<td>Nguyen, H.</td>
<td>Collection and Evaluation of New Soybean Landraces and Germplasm Accessions in Northern Regions</td>
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Craigmyle, B. D., J. M. Ellis, and K. W. Bradley. 2013. Influence of herbicide programs on weed management in soybean with resistance to glufosinate and 2,4-D. Weed Technol. 27: 78-84.


