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January and February seem to be packed with activities. Faculty and students were involved with the Plant Phenome conference in Tucson, AZ, Beltwide Cotton Conference in New Orleans, LA, the American Association for the Advancement of Science meeting in Washington D.C., Sports Turf Managers Association meeting in Phoenix, AZ, PAG in San Diego, CA, the Texas Seed Trade Association meeting in Austin, and more. CAST has been active with rollouts of publications for Congress on three topics recently that are important to us. I also had the opportunity to get to D.C. for the rollout of the paper on the depletion of our aquifer and Dr. Seth Murray was actively involved in the paper on data.

Here in College Station we conducted several workshops and meetings in the past few months. We hosted the Soil Survey and Land Resource Workshop, the Turfgrass Ecology and Management Short Course, and the Plant Breeding Symposium. (see stories and photos inside) Extension personnel also conducted Texas Watershed Stewards meetings at several locations across Texas.

I have been busy traveling to the centers to conduct annual performance evaluations and attending many of the meetings. A big project with which I have been involved for the last several years is approaching the final stages with a recent workshop, “Plant Summit” at the Biosphere in Oracle, AZ.

Students have just enjoyed spring break while the teaching faculty and staff were busy preparing for the rest of the semester, to make sure the students have all the information they need. Scholarship deadlines are approaching, as is the deadline for submitting a thesis or dissertation to the thesis office. Our staff does an outstanding job of keeping the students informed.

We had two faculty members recognized by the Texas A&M Board of Regents just after the last newsletter went out. Congratulations to Amir Ibrahim and Qingwu Xue for those awards (see story on page 3).

We have finally had a few rain free days, which should help researchers get crops in the ground and allow the fields to dry out a bit. Our turfgrass faculty may be in high demand this spring as the extremely wet conditions may cause higher than usual instances of disease and turf rot in urban landscapes.

We have had several new staff members join us in College Station during the last quarter. Welcome to you all. A short introduction can be found inside. We encourage those at the centers to let us know of any new staff or faculty there. We would love to highlight them as well.

We are looking forward to the Bennett Trust Land Stewardship workshop in Kerrville, and Ranch Management University in April, and remind faculty that mid-term dossiers are due to the P&T committee. We are also looking forward to our undergraduate awards banquet, which will be held April 11. It is always fun to see the many accomplishments accrued by our students.

You can support Soil and Crop Sciences research, teaching and extension outreach with your tax-deductible donations.

More Information can be found at: http://soilcrop.tamu.edu/giving/
Two members of the soil and crop sciences faculty, Drs. Amir Ibrahim and Qingwu Xue were recently honored by the Texas A&M Board of Regents in College Station.

Ibrahim, a tenured professor and AgriLife Research wheat breeder, was named a Regents Professor, and Xue, an assistant professor and AgriLife Research crop stress physiologist in Amarillo, was recognized as a Regents Fellow.

The Regents awards recognize employees who have made exemplary professional contributions which will provide lasting benefits to Texas and society around the globe.

Ibrahim's research at Texas A&M has led to the release or co-release of 18 winter wheat and three oat cultivars. He served as the lead breeder on ten of those releases. His most recent release, TAM 305 hard red winter wheat, is recognized for its superior disease resistance and is in demand worldwide.

He participated in the development of genetic markers that enhanced and improved his breeding efforts. Among his collaborative efforts are molecular markers for greenbug, Hessian fly, wheat curl mite and wheat streak mosaic virus resistance. He has also validated and adopted 20 high-value KASP-based markers into the breeding program.

The impact of his breeding efforts are widespread. According to his nomination, 10 of the released wheat cultivars were planted on almost 1.3 million acres in seven states during the 2017-18 growing season.

Ibrahim also manages and leads the Uniform Disease Nursery at Castroville. This nursery serves both the private and public wheat breeding communities, ensuring that wheat cultivars available to producers are resistant to the latest biotypes of wheat leaf, stripe and stem rusts, as well as oat crown and stem rusts.

More about Ibrahim’s career and award can be found at: http://soilcrop.tamu.edu/ibrahim-regent-prof/.

Xue is improving yield, water-use efficiency and stress resistance/tolerance in major crops in the Texas High Plains through research focused on crop physiology, abiotic stress, drought tolerance and water management strategies for corn, wheat, sorghum, cotton, potato and vegetables.

According to his nomination his recent research on high throughput field phenotyping has been highly significant for researchers and producers. Xue and his students have been evaluating ground and aerial remote-sensing tools to characterize wheat and corn genotypes for drought tolerance.

He has demonstrated that remote-sensing tools have the ability to screen a large number of field plots, providing phenotypic information to breeders with significantly lower inputs of labor and time.

Xue has been a key team player in research collaborations with scientists from throughout Texas A&M AgriLife, the U.S. Department of Agriculture, West Texas A&M University, Texas Tech University and Kansas State University.

As an off-campus faculty advisor his graduate training has been outstanding, the nomination said. In the last nine years he has chaired/co-chaired two doctoral and six master’s students, and served on the committees of 14 more. He also has supervised two doctoral and one master’s student from China Agriculture University, four post-doctoral researchers and four visiting scientists.

More about Xue’s career and award can be found at: http://soilcrop.tamu.edu/xue-regents-fellow/.
Students shine at Beltwide

Several students from Texas A&M University’s Department of Soil and Crop Sciences traveled to the Beltwide Cotton Conferences in New Orleans, LA., earlier this year, and they represented the department well.

Jeffrey Siegfried topped the competition presenting his research monitoring crop growth and stress using proximal and unmanned aerial remote sensing technologies. He is an agronomy Ph.D. student under Dr. Nithya Rajan. Jeffrey also placed second in the Ph.D. student poster competition at the American Society of Agronomy Southern Branch meeting.

Joseph Burke, a Ph.D. soil science student under Drs. Katie Lewis and Julie Howe, placed 2nd in the Cotton Agronomy, Physiology and Soil Conference oral presentation competition with his presentation on evaluating soil health in semi-arid Texas cotton production.

In the Master’s student division, Christian Hitzelberger, right, placed second with Wenzhou Wu, left, taking third.

Christian, a plant breeding student under Dr. David Stelly, presented his research on the development and characterization of chromosome segment substitution lines.

Wenzhou, a plant breeding student under Dr. Steve Hague, presented her research on high-throughput phenotyping improving efficiency in a cotton breeding system.

In the Ph.D. division of the Cotton Improvement Conference, Luis De Santiago claimed first place with Drutdaman Bhangu placing third.

Luis, center, is a genetics student under Dr. David Stelly. His presented his research into recombination rates in interspecific and intraspecific cotton mapping populations.

Daman, 2nd from left, is a plant breeding student under Dr. Wayne Smith. He presented his research comparing gene based breeding versus field based breeding in cotton.

Turfgrass students compete in Phoenix

Turfgrass Science students participated in a competition at the Sports Turf Managers Association conference in Phoenix, AZ, earlier this year. The team placed fifth out of 24 teams.

Pictured from left to right are: Brett Martin, Ryan Earp, Andrew Healey, Jonathan Wolf, and Jose Diaz.
The newest state turfgrass specialist for the Texas A&M AgriLife Extension Service aims to inspire sustainable management of safe sports fields and other turfgrass applications.

Dr. Chrissie Segars’ office is at the Texas A&M AgriLife Research and Extension Center at Dallas.

Her focus is coaching field managers on a system of approaches where primary goals are user safety and healthy turfgrass. Segars’ extension outreach efforts cover aeration, fertilization, irrigation, variety selection, pests, weeds and a wide array of other practices.

“It’s so important to educate about how all these disciplines work together to cultivate safe playing surfaces and healthy fields,” she said.

Segars cited several field characteristics that determine safety, which are affected by proper management. They include surface hardness and foot traction among others.

The South Carolina native, in addition to her outreach initiatives, aims to find solutions that support better sports fields across the socioeconomic spectrum. As such, Segars will conduct research at the nexus of best management practices for turfgrass health and field safety.

“My research in Dallas will give me a great opportunity to take the science right to the public and to industry,” she said. “I’m excited to see how this work can improve the field.”

Segars holds a bachelor’s degree from Clemson University and masters’ degrees in kinesiology and horticulture from Louisiana State and Oklahoma State universities, respectively. She earned her doctorate in crop science from Oklahoma State.

Segars joins Dr. Becky Grubbs as AgriLife Extension’s second turfgrass specialist for Texas.

“I’m excited to begin working with all the people involved in the turfgrass industry across the state,” Segars said. “I want to make a strong impact in Texas, keeping turfgrass sustainable, starting with Dallas-Fort Worth.”

Dr. Segars can be reached at: Chrissie.segars@ag.tamu.edu

Open Source Data article published as CAST Commentary

Dr. Seth Murray, Department of Soil and Crop Sciences Associate Professor and Butler Chair for Corn Breeding and Genetics, is part of a group of scientists exploring big data in agriculture research. The group recently published a commentary in the Council for Agriculture Science and Technology newsletter that addresses open sourcing of research data.

The commentary’s stated purpose is to document the need for and the anticipated benefits of developing data sharing standards, incentivizing researchers to share data and building a data-sharing infrastructure within agricultural research.

It was motivated by the idea that information, including all data, collected from publicly funded scientific activities belongs to the public and should be freely available and usable.

“Agriculture’s pathway forward requires dedicated partnering among domain researchers, data scientists, science administrators and agencies, professional societies and private publishing entities”, the article states.

The article is available for download from the CAST website:
http://www.cast-science.org/download.cfm?PublicationID=285022&File=DC4A13004565DEA66ED7E052F8795A70.cfusion

Dr. Seth Murray
At this time of the year, producers spend significant time selecting corn hybrids and cotton varieties as well as herbicide programs. But another important annual consideration is planter maintenance, a Texas A&M AgriLife Extension Service specialist said.

“When we talk about planter maintenance, it’s important to realize we are talking more than just about greasing chains,” said Dr. Jourdan Bell, AgriLife Extension agronomist, Amarillo.

“We are talking about stand establishment and how it is affected by the mechanics of the planter, including down pressure, row cleaners, coulters, gauge wheels, opening discs and other mechanical components.”

Proper seed placement can affect the environment of the seed in the planting furrow as well as seedling vigor, she said.

“Failure to set a planter properly can cause a yield loss in corn and cotton,” she said. “Poor seed placement can cause seedlings to quickly die after germination or have poor root establishment. Generally, the variety or hybrid is blamed for yield drag, but in fact, it could be affected by the planter.”

Bell said this year she and Dr. Murilo Maeda, AgriLife Extension cotton specialist, Lubbock, are doing something new to address the growing issues with planters and planting by bringing in a private consultant, Missy Bauer with B&M Crop Consulting in Coldwater, Michigan, to discuss the various maintenance and mechanical areas that can impact crop yields.

The Texas High Plains Planter Clinic will be from 8 a.m.-1 p.m. March 29 at the Castro County Expo Center, 403 SE 4th St., Dimmitt. There will be hands-on demonstrations. The program is free, and lunch will be provided. Sponsors include Texas Corn Producers Board, Plains Cotton Growers, Channel Seed, BASF, PhytoGen Cottonseed and Pioneer Brand Seeds.

Maeda said with the rising cost of cotton seed, many producers are interested in reducing planting populations, however, unfavorable weather conditions and poor seed placement due to improper planter setting often lead to “skippy” stands.

“While cotton has an outstanding ability to compensate for the extra space between plants, that tends to delay maturity and ultimately impact fiber quality and crop yield, especially in areas north of Lubbock where season length may become limiting,” he said.

During lunch, Maeda will discuss considerations for cotton planting and Bell will discuss corn planting considerations.

Bell said while the only clinic this year is planned in Castro County, the training is needed by and intended for producers across the High Plains.

She explained down pressure, for instance, is important to help maintain a constant seeding depth. Adjustments could need to be made for individual fields according to soil texture. If the pressure is too much, the seeds could be too deep, and the seedling may not have sufficient energy to break the soil surface.

Worn disc openers could result in soil backfilling into the seed furrow, which leads to incorrect seeding depth as well as poor seed-to-soil contact. Under dry West Texas conditions, Maeda said, shallow seeds either do not germinate or germinate and die if moisture is not available to maintain growth.

Poor crop stands can be caused by planter malfunctions. (Texas A&M AgriLife photo by Dr. Jourdan Bell)
Welcome to the department!

Several new staff members have joined the Department of Soil and Crop Sciences during the last few months. Katherine Quinonez-Gonzales, Darren Chevis, Kelsey Hoegenauer and Yamina Pressler will each be working with soil science faculty in College Station.

Katherine Quinonez-Gonzales joined the department in mid-December as a Research Associate. She will be working with Dr. Peyton Smith. Katherine received her Master of Science in Soil Chemistry from the University of Puerto Rico.

Darren Chevis also joined us in late December. He is a Postdoctoral Research Associate in Dr. Youjun Deng’s lab. Darren earned his Ph.D. in Environmental Geochemistry from Tulane University.

Kelsey Hoegenauer joined the department in January as a visiting scholar from the Soil Health Institute. She will be conducting research in the soils lab that was previously used by Dr. Cristine Morgan.

Yamina Pressler is our most recent staff member, arriving on March 1st. She will be working as a Postdoctoral Research Associate with Dr. Peyton Smith. Yamina earned her Ph.D. in Ecology from Colorado State University.

More about each member of our faculty and staff can be found on the department’s website: http://soilcrop.tamu.edu/

Say Howdy! to our student workers

Courtney Simpson
Courtnety is the old hand in our business office, having joined us in May of 2018. Many of you already know her well! She is a senior in Agriculture Leadership and Development, and will be graduating this December.

Mary Katherine Vinson
Mary is one of the new faces in the business office. She joined the staff this January. Mary is a senior Agriculture Leadership and Development major on track to graduate in December.

Hannah Turner
Hannah is the other new face in our business office. She began working with us in January. Hannah is a freshman Business major, but she is on track to graduate early. Hannah expects to graduate in May 2020.

Delaney Britt
Delaney is another who has been with us a while. She has been working in our teaching office since November 2017. Delaney is a senior Health major from Waco, TX. She will be graduating in December.
More than 50 soil scientists and soil science students gathered at Rudder Tower in February for the 56th annual Soil Survey and Land Resource Management Workshop. This event gives scientists an opportunity to share the current research and discuss advances in the field. It also gives graduate and undergraduate students an opportunity to highlight their research and build their professional network.

In the student oral presentation competition, award winners were Marie Schirmacher, 1st, Cody Bagnall, 2nd, and the three way tie for third included Dianna Bagnall, Kade Flynn and Lauren Selph.

Schirmacher is working toward her Master of Science in Soil Science under the supervision of Dr. Paul DeLaune and Dr. Terry Gentry. Her research explores the soil health and yield benefits of intensifying winter wheat systems.

Cody Bagnall is a Ph.D student in Biological and Agricultural Engineering at Texas A&M University under the supervision of Dr. Alex Thomasson and Dr. Cristine Morgan. His research focuses on the development of a field-deployable MRI to visualize roots without plant disturbance.

Dianna Bagnall is pursuing a Ph.D in Soil Science, also under the supervision of Dr. Cristine Morgan. Her research is showing the effect of management thru 3-D scanning.

Flynn is currently an sophomore pursuing his Bachelor of Science in Geology. He presented his research on SLAKES - a smartphone application to monitor the affect of management practices on soil aggregate stability.

Selph is a Master’s student from Tarleton State University under the supervision of Dr. Donald McGahan. Her research focuses on the physiochemical impact of Biochar on bermudagrass.

Winners of the student presentation contest included Marie Schirmacher, Lauren Selph and Dianna Bagnall (l to r, front row). With them are Dr. Cristine Morgan (back left) and the contest judges: Kelsey Hoegenaur, Visiting Scholar from the Soil Health Institute; Carlos Villareal, NRCS; and Bill Hockaday, Associate Professor - Baylor University. Two contest winners not pictured - Cody Bagnall and Kade Flynn.

TAMU Soil and Crop Sciences Professor Emeritus Dr. Tom Hallmark spoke about the future of licensure of geoscientists in Texas during the workshop.

Dr. Haly Neely, Assistant Professor of Soil Science at TAMU, discussed novel techniques for root phenotyping using GPR.

Above: Dr. Jake Mowrer, Assistant Professor and AgriLife Extension Soil Nutrient and Water Resource Management Specialist, discussed the national soil survey and it’s impact for Extension.

Above right: Dr. Peyton Smith, Assistant Professor of Soil Chemistry at TAMU, discussed her research on Matrix and microbial mechanisms of carbon stabilization.

Below right: Graduate student Cody Bagnall placed second with his oral presentation.
Turfgrass and landscape professionals gathered at the Scotts Miracle-Gro facility in late February for the 2019 Turfgrass Ecology and Management Short Course.

Attendees included professionals across several industries, including professional landscape management, athletic field management, parks and recreation, public school districts, golf courses and sales.

The four-day course is designed as a comprehensive overview of turfgrass ecology and management for those who are newer to the turfgrass industry and those who wish to continue their education in the latest on turfgrass management, according to organizers.

Much of the instruction was provided in a classroom setting, augmented by some hand-on instruction in soil testing and sprayer calibration, and tours of a local golf course and the Texas A&M University athletic facilities.

“I thought the course was a success,” said Dr. Becky Grubbs, AgriLife Extension Turfgrass Specialist and one of the organizers. “It was very rewarding to see how engaged our attendees were in the curriculum and how much knowledge they felt they gained by the end of the week.”

One thing the attendees found particularly beneficial was the wide range of speakers, each with their own unique area of expertise and style of teaching, Grubbs said.

Dr. Ben Wherley, Associate Professor of Turfgrass Science at TAMU, kicked off the course with a discussion of turfgrass physiology.

Dr. Tony Provin, Professor and Extension Soil Chemistry Specialist, discussed the principals of soil science, soil and water testing and pre-plant soil preparation during the short course. In spite of the rain, attendees got a chance to get their hands dirty with various soil testing tools.

Several methods of sprayer calibration were discussed during the short course. Above, a participant determines the time it takes him to hand spray an area. Right, Reagan Hejl and Bob Chang demonstrate calibrating a boom sprayer.

Extension Program Specialist Matt Matocha discussed how herbicides work and common reasons weed control fails.

Dr. Jaquiline Aitkinhead-Peterson presented environmental considerations in turfgrass management, including displaced nutrients and pesticides.
Soil and Crop Sciences and Horticulture graduate students teamed up once again to host the Texas A&M University Plant Breeding Symposium at the Memorial Student Center February 21.

This is the fourth year for student-run symposium, and the event keeps getting bigger and better. Since its inception the symposium has been attended by 1,200 scientists and graduate students either in person or via the live webinar broadcast.

Plant Breeders, Assemble! was the theme for this year, with a focus on how interdisciplinary teams are working together for plant improvement. Keynote speakers included Dr. Tabare Abadie of Corteva, Dr. Matthew Rouse of the USDA-ARS, Dr. Jose Crossa of CIMMYT, and Dr. Bill Rooney, TAMU Professor and Borlaug-Monsanto Chair for Plant Breeding and International Crop Improvement.

Three travel scholarships were provided by Corteva to bring students from other universities to present their research posters at this symposium. The winners of those scholarships were Gina Sideli, a Ph.D. student in Horticulture and Agronomy at the University of California-Davis; Bal Maharajan, a Master’s student in Plant Biotechnology at the University of Arkansas at Pine Bluff; and Alexander Susko, a Ph.D. student in Plant Breeding at the University of Minnesota.

Three Texas A&M students were given the opportunity to speak at the symposium in addition to presenting their research posters. Those speakers were April DeMell a Master’s student in Plant Pathology; Ammani Kyanam, a Ph.D. student in Plant breeding under Dr. Bill Rooney; and Ranjita Thapa, a Ph.D. Plant Breeding student under Dr. Michael Thomson.

Winners in the poster competition were Stephany Toinga, 1st; Aditi Raju, 2nd; and Lauren Fedinia 3rd.
Department News and Highlights

Dr. Patrick Stover, Vice Chancellor and Dean of the College of Agriculture and Life Sciences and Vice Chancellor of Agriculture - Management for Texas A&M AgriLife Research, visited with Soil and Crop Sciences faculty and staff this month.

“We are looking at the infrastructure needs to allow TAMU faculty to be leaders in agricultural research,” Stovar told faculty. “We are in the process of identifying needs and finding partners to move forward.”

“We want to make sure that the faculty believe that this is the very best place for them to be and to do their research. We are not focused on being IN the news, but LEADING the news,” he said.

Dr. David Baltensperger, Department Head, TAMU Soil and Crop Sciences, recently attended Plant Summit 2019, a group of scientists working together to help direct the future of plant science research.

Baltensperger was part of the organizing committee which has been holding workshops over the last five years to discuss plant research, and to prioritize that research. The Plant Summit was the culmination of those meetings.

In the coming months, articles will be published regarding those areas of research. Each article will be a vision to present to Congress to help guide the prioritization of plant science research funding for the next decade, 2020-2030.

The workshops were funded by the National Science Foundation and the Plant Science Research Network.

Plant Science Research Network

Graduates join AgriLife Extension

Two of our graduates, Haley Kennedy and Brady Arthur, have recently been hired as Texas A&M AgriLife Extension Agents.

Haley has been hired as the integrated pest management (IPM) agent for Runnels and Tom Green Counties.

“I knew I wanted a job where I could be out in the field working and interacting with growers, so this position felt like a good fit for me,” Kennedy said. “I hope to educate and help local growers and the community on ways to solve problems – without causing new ones in the future.”

She earned her Bachelor’s in Plant & Environmental Soil Science in 2016 and her Master of Science in Plant Breeding under Dr. Steve Hague in 2018.

Brady has accepted a position as the ag and natural resources and IPM agent for Lubbock County.

“I chose extension because it is an opportunity to work directly with producers in the area to help them better their operations,” Brady said. “As ag and natural resources agent I will ensure that producers complications and successes are relayed to those conducting research, and that results of research are relayed back to producers to make their business as successful and profitable as possible.”

Brady earned his Master of Science in Agronomy under Dr. Gaylon Morgan in 2018. He earned his Bachelor’s at Texas Tech University.
Texas A&M University Weed Science students put on their traveling shoes in February to attend conferences and present their research. They attended the Southern Weed Science Society (SWSS) annual meeting in Oklahoma City and the Weed Science Society of America (WSSA) meeting in New Orleans. Cynthia Sias, a Master’s student under Dr. Muthu Bagavathiannan, placed second in the Master student poster competition at SWSS, and third in the Master’s student oral competition at WSSA. She also was the Graduate Travel Award winner at WSSA. Spencer Samuelson, a Ph.D. student in Bagavathiannan’s program, placed second in the Ph.D. poster contest in at SWSS.

At WSSA, Seth Abughho placed second in the Ph.D. oral contest and Bishwa Sapkota placed second in the Ph.D. poster contest. Both are students under Bagavathiannan.

### Calendar

#### March
- 30 - Big Event - College Station
- 30 - Turfgrass Club Elder Aid

#### April
- Multiple Dates - Small grains field days - check website [http://varietytesting.tamu.edu](http://varietytesting.tamu.edu) for your county
- 1-5 - Ranch Management University, College Station
- 2 - Northeast Panhandle Cotton Conference
- 4 - President’s Excellence Fund Symposium
- 6 - Geronimo/Alligator Creek Clean Up Event, New Braunfels contact Ward Ling, wling@tamu.edu
- 11 - Soil and Crop Sciences Undergraduate Awards Banquet, 6:00 p.m.
- 13 - Lawn Irrigation Workshop - Bushland
- 25-26 - Bennett Trust Resource Stewardship Conference, Kerrville
- April - Mid-term dossiers to committee

#### May
- Multiple Dates - Small grains field days - check website [http://varietytesting.tamu.edu](http://varietytesting.tamu.edu) for your county
- 2 - midterm dossiers due to Judy Young
- 10 - Graduation, 9:00 a.m. Reed Arena
- 15 - Midterm P&T Meeting
- 20 - Full P&T dossiers due to mentor committee

#### Save the Date
- June - Stiles Farm Field Day
- July 22-25 - Cotton Breeders Tour
- July 23-25 - Southern Region Water Conference
- Aug. 19 - Soils Critique, College Station
- August 28-29 - Small Grain Workers Meeting, College Station
- Oct. 9 - TAMU Turfgrass Field Day, College Station