Variation in weather is a Texas tradition, but it is especially interesting to note the diversity from spring to spring in planting conditions as a soil and crop science department. Not long ago we were dealing with prevented planting because it was too dry to plant cotton in the coastal bend region; this year we are dealing with delayed planting due to high soil moisture.

As I travel the state each spring to participate in annual reviews it is also amazing to see the changes across the state. We still have areas of Texas dealing with severe drought and other areas that really could use a few sunny days. We are rapidly approaching maturity of our first wheat for the year and harvest is expected to get started in May. At the same time, field preparation has begun for our cotton crop around Lubbock. It is no wonder that our departmental Extension specialists are going full throttle.

Congratulations to our annual scholarship recipients. A huge thanks to the teaching office for providing the leadership for another great awards banquet. It is always wonderful to hear the accomplishments of our undergraduates as they walk across the stage. A special thanks to all our generous scholarship donors. A big Whoop! to all, and special thanks, to Dr. Elsa Murano for providing the keynote speech.

This past month we completed a new multi-year agreement with Scotts Miracle-Gro for service and are continuing to work toward completion of a new research agreement. Congratulations to Richard White and the team for making this happen. We also met with representatives from Syngenta, Monsanto, Pioneer, Climate Corp, and Limagrain. Our commodity groups continue to be a big part of our planning process and we had an opportunity to meet with representatives of peanuts, corn, sorghum and cotton this month.
We have three events to chart the future of soil science coming up as we celebrate the International Year of Soils. The first is an internal conference on April 24th and the second is an International Global Soil Security Symposium on May 19-21. Dr. Morgan is facilitating/hosting both. We also have the annual Soils Critique scheduled for June 16-17 hosted by Anil Somenahally at Overton. We expect our Texas A&M soils faculty will be heavily engaged in these as we both celebrate the International Year of Soils and prepare for the future.

Larry Redmon will be hosting the Bennett Trust field day in Kerrville on April 24-26. Congratulations to The RMU (Ranch Management University) team on another educational event. A great group and especially pleased to see Extension Agents involved.

Annual performance reviews for your staff need to be completed by mid-May to get them through the complete process by the end of May. Appreciate those who got an early start. Don’t forget that mid-term evaluations are due to the department by April 30. Promotion lists, including preliminary reviewers and draft documents, are due by June 1. Thanks to all for getting set up with google scholar to facilitate the tracking of our publications. If you have not yet completed this and have questions, Terry Gentry has a great sheet of instructions for completing the process.

Our faculty retreat is scheduled for August 5-7 (noon-to noon) 2015, to prepare for our Academic Program Review, which is scheduled for March 6-9, 2016. We have a great review team and the Faculty Advisory Committee is getting our planning process moving. Our future is bright and this is an opportunity to define it more clearly. Thanks to everyone for engaging to make a great review process happen and special thanks to Terry Gentry for his leadership in it.

Welcome aboard Dr. Emi Kimura upon your arrival at Vernon!
Welcome to the Department!

Dr. Emi Kimura has been hired as the new Texas A&M AgriLife Extension Service agronomist to serve the Rolling Plains area, and she will office at the Texas A&M AgriLife Research and Extension Center south of Vernon.

Kimura was raised in Hokkaido, Japan and later moved to Kyoto, Japan, where she finished high school. She earned her bachelor’s and master’s degrees from the University of Wyoming and doctorate from Washington State University. She recently completed her postdoctoral work with the Washington State University department of crop and soil sciences. During her graduate and postdoctoral work, she specialized in forages and crop management. Kimura has helped conduct cultivar trials with cool-season grasses and small grains, and multiple studies on nutrient management, cover crops, specialty crops and germination. She also has worked with switchgrass, potatoes, canola, silage and corn.

Her work in the Rolling Plains will focus on cropping systems, cotton, sorghum, wheat, peanuts, and alternative crops. She will also work with ESSM on rangeland control and invasive species.
Congratulations to Sewwandi Rathnayake for her selection to the Schlumberger Faculty for the Future fellowship program! Sewwandi is a soil science Ph.D student in the department advised by Dr. Paul Schwab.

Congratulations to Amanda Hulse! She was selected as a 2015 Distinguished Graduate Student! Amanda is a master’s student in plant breeding with Dr. David Stelly.

Congratulations to our extension turfgrass specialist, Matthew Elmore, for receiving the The Musser International Turfgrass Foundation’s Musser Award of Excellence!

Musser International Turfgrass Foundation President Frank Dobie said, “The application qualifications are very high for the doctoral candidates that apply for the Foundation’s Award of Excellence so all of the applicants are of the highest caliber.”
2015 Awards and Recognition Banquet

Congratulations to all of our students and scholarship recipients honored at this year’s awards ceremony and banquet, and a special thanks to Dr. Elsa Murano for giving the keynote address! We would also like to thank our scholarship donors for their generosity.

2015 Undergraduate Scholarship Recipients

Rory Tucker - Pat and Ed Runge
Future Leaders Endowed Scholarship

Kayla Howard with Gloria and Glen Conrad
Billy, Gloria, and Gerry Conrad Scholarship

Kevin Hejl with Bulinda and Jerry Ebanks
Keith Ebanks Memorial Scholarship
As only the second Stiles Farm Foundation manager in its history, Archie Abrameit says he has always viewed the 2,600-acre Stiles Farm as a “validation center” for Blacklands farmers in Central and South Texas.

The farm, owned by the Texas A&M AgriLife Extension Service, is located near Thrall, about 40 miles northeast of Austin. After 18 years of helping lead the Stiles Farm to employ such pioneering practices as conservation tillage, Abrameit retired on March 31.

The farm serves as a research and teaching platform for Texas A&M AgriLife Research and the Texas A&M AgriLife Extension Service.

Ryan Collett, currently AgriLife Extension agent for Hill County, became the new farm manager April 1. The Stiles Farm produces a variety of crops: corn, grain sorghum, wheat, oats, cotton and new alternative crops such as sesame. It also runs a cow-calf operation on both improved and native pastureland.

“The Blackland soils here are unique,” Abrameit said. “Some things that might not work in the northeast might work here. You’ve got to be open-minded and give it a try. The Stiles Farm is self-supported through sales of various commodities and livestock. We approach everything we do here as a commercial farmer and rancher seeking a return on investment. With new technology we ask ourselves ‘Can I get return from it?’”

Abrameit came to the Stiles Farm in 1997, taking over for longtime manager Calvin Rinn. Abrameit had previously spent 19 years leading the Luling Foundation farm. He said he has always enjoyed “growing things and working with animals” while growing up in Goliad County. He was one of eight children whose parents were children of the Great Depression.
CONFERENCE OVERVIEW

Soil security requires maintenance and improvement of the soil resource to meet global challenges to produce food, fiber, and fresh water, to contribute to sustainable energy production, adapt to climate changes, and to maintain biodiversity and human health. Those concerned with achieving soil security recognize that attainment involves scientific, economic, and political engagement to effectively and credibly inform political and legal frameworks and implement appropriate actions.

The conference will address five dimensions of soil security.

Capability—the intrinsic capacity of a soil to produce products and ecosystem services; 
Condition—the current state of the soil, including modification by human activities; 
Capital—economics of soil services to Health, Environment and Food production; 
Connectivity—the social connection of soil managers and custodians and users of soil products and services to the soil (and to each other); and 
Codification -- Policy frameworks: identification of policies that degrade soil security and those that secure soil.

FEATURED SPEAKERS INCLUDE:

Chuck Benbrook, Center for Sustaining Agriculture and Natural Resources, Washington State University
Helaina Black, The James Hutton Institute
Julie Borlaug, The Borlaug Institute
Johan Bouma, Prof. Emeritus Wageningen University
William Buckner, The Samuel R. Noble Foundation
Florence Carré, Industrial Safety and Environmental Protection INERIS
E. Dominati, AgResearch, New Zealand
Damien Field, University of Sydney
Mike Grundy, Research Director at CSIRO, Theme Leader, Landscape Systems and Trends
Wayne Honeycutt, Deputy Chief of Science and Technology, USDA NRCS
Andrea Koch, United States Study Centre
Alex McBratney, University of Sydney
Bruce McCarl, Regents Professor and Distinguished Professor of Agricultural Economics, Nobel Laureate, Texas A&M University
Rabi Mohtar, Texas A&M University
Elsa Murano, The Borlaug Institute
Jae Yang, Kangwon National University
The Texas A&M Crops Judging team recently competed at the North American College and Teachers of Agriculture (NACTA) judging competition. More than 800 students representing 36 universities and colleges gathered in Moline, Illinois, to participate in several agriculture contests hosted by Blackhawk College.

In the crops contest, students are tested on plant and seed identification; their understanding of insects, diseases and equipment related to crops; agronomy related math; and general agronomy management techniques. This year’s team members were Daniel Hillin, David Cottrell, Rory Tucker, and Matthew Wilhelm. The Texas A&M Crops Judging is coached by Dr. Steve Hague. On the way to competition site, the group also toured the Monsanto Research Center in Chesterfield, Missouri.
A ground-breaking Texas A&M AgriLife Research-led study on corn has identified useful gene variations for yield increases, drought tolerance and aflatoxin resistance that could make a real difference to Texas producers in the years to come, according to researchers.

The study, titled “Genome Wide Association Study for Drought, Aflatoxin Resistance, and Important Agronomic Traits of Maize Hybrids in the Sub-Tropics” was recently published in PLOS ONE, an international, peer-reviewed, open-access, online publication.

The study included the growing years of 2011, a drought year, and 2012, and was conducted on dryland and irrigated corn in College Station and in Mississippi, all with similar results, said Dr. Seth Murray, an AgriLife Research corn breeder in the soil and crop science department of Texas A&M University at College Station.

Murray said at this time all corn seed available to growers in Texas comes from commercial breeding conducted in the Midwest. As a result, there’s been no significant increase in corn yields in Texas for many years, as reflected in their previous publications.

Murray designed this recently published study to see if there was a genetic reason, possibly the use of Midwest-temperate rather than sub-tropical genetics, limiting production.

He was joined in his research by Dr. Mike Kolomiets, an AgriLife Research plant pathologist, and Dr. Tom Isakeit, a Texas A&M AgriLife Extension Service plant pathologist, both in College Station, along with students Dr. Ivan Barrero Farfan, Gerald De La Fuente and Pei-Cheng Huang.

Other researchers who also grew the test plots and contributed to the analysis were Dr. Marilyn Warburton, Dr. Paul Williams and Dr. Gary Windham, all U.S. Department of Agriculture-Agricultural Research Service researchers at Mississippi State University.

The study was funded by a USDA National Institute of Food and Agriculture, Agriculture and Food Research Initiative for Plant Breeding and Education grant. Additional support was given by the Texas Corn Producers and Texas A&M AgriLife.

Basically, Murray said, there are 2.4 million acres of corn planted in Texas, with each bag of seed costing at least $150 and covering over 2 acres, which equates to well over $180 million of sales in Texas for corn seed.

“The idea is if it is bred in the best conditions in the Midwest, it should survive in the not-so-good conditions we see here in Texas,” he said. “So we believe the private breeders for the commercial industry are trying to do the best for most producers, just not our producers.
There has not been an effort to develop corn that addresses the unique needs of southern locations, especially not in the way they have for the Midwest.”

Murray said addressing the needs of the southern locations is not as simple as adding more traits. “A lot of it will come from identifying and using the right native genetics,” he said. “Growers are smart and will find those companies that are selling adapted hybrids, which will improve both yield and aflatoxin resistance, ultimately improving everyone’s bottom line.”

He said in their search for genes or gene variants that improve corn for the southern U.S., most of the best diversity came from Mexico, where wild corn was domesticated, and South America, not the Midwest.

“There’s a lot of benefit to having the tropical material brought up and crossed with temperate material generally sold by commercial companies,” Murray said.

The AgriLife Research study used a diverse corn association mapping panel to identify genomic regions associated with grain yield, aflatoxin resistance and important agronomic traits in southern U.S. environments. This study also was one of the first in corn to test hybrids, he said.

“We are finding genes that can benefit temperate corn,” Murray said. “We looked at a number of traits, but the best advantage was found with three genes that improved production by about 15 bushels per acre under both irrigated and dryland conditions. They seem to work synergistically.”

He said this is only one study, but the results are exciting enough to follow up on because they were the same over multiple years and in multiple environments. The follow up will concentrate on the three genes.

“We don’t know if they will work in a producer’s corn field yet,” he said. “So we are validating in some new populations this summer and will see if they actually have an effect on yield. We’ve already advanced the crosses, made hybrids and the DNA markers have been collected on all of them. This summer we will get our yield data, and we should know if they are real or not.”

Murray said each of the three gene markers have two variants, one is good and one is bad. In the follow up to this study, he said they will look at other breeding material and select for the markers and screen for anything with bad markers and get rid of that, adding “just eliminating that bad variant should help overall production.”

Two of the three genes have not been associated with functions previously, so the next scientific step is to figure out what these genes actually do; how they change the biology of the plant, he said.

“We have absolutely no idea how it is affecting yield and why, but that is where the science will take us,” Murray said. “We are a lot closer to having a quality outcome. They appear to have effects in both dryland and irrigated conditions, so that is what is so exciting.”

He said this initial research and its continuation in the future is ground-breaking in a couple ways.

“There have been no studies for genes with adaptation in the south, and no one has ever looked at this much diversity, especially beyond the Midwestern temperate types,” he said. “We haven’t had access to this many tools in the past. We looked at 60,000 DNA marker variants and eventually there might be millions for breeders to consider.”

Murray said this research has provided additional guidance for improvement of corn in Texas and other southern states and will enhance Texas A&M AgriLife’s breeding programs, which have already resulted in several releases of new inbred lines available for use in hybrids by seed companies.
Results from Texas wheat producers who were surveyed in December and January regarding the number of acres of wheat planted and to be planted by variety for the 2015 crop year are now available. The survey was coordinated between the Texas A&M AgriLife Extension Service and the Texas Agricultural Statistics Service. Funding was provided by the Texas Wheat Producers Association, Texas Foundation Seed Service and Texas Seed Trade Association.

Survey results are provided in tables, with percentage of acres planted for the 2015 crop year by variety and broken out by AgriLife Extension district. The total list can be found at http://varietytesting.tamu.edu/wheat.

“There were no large swings in the major wheat classes grown in Texas, however, some changes occurred with spring wheat,” said Dr. Clark Neely, AgriLife Extension state small grains and oilseeds specialist in College Station. He said two things were noticeable this year.

“Spring wheat acres bumped up noticeably in the Coastal Bend district, while decreasing in the South district,” Neely said. “And, enough acres were reported in other regions of the state that they were recorded on the report, areas that are not typically known to grow spring wheat. The North district reported 4.1 percent this year.”

Two Texas A&M AgriLife Research-bred wheats continue to lead the acreage planted, according to the survey.

TAM 111 remains the leading variety planted in Texas, accounting for 15 percent of the state’s 2015 planted wheat acres, down from 16.7 percent in 2014. TAM 111 was released in 2003. TAM 112 remains second, accounting for 5.9 percent of acres planted for 2015, compared with 5.3 percent last year. TAM 112 was released in 2005. Drought tolerance, greenbug resistance, wheat streak mosaic virus tolerance, high yield and excellent bread-making quality are some of the reasons for this high rate of adoption, Neely said.

Finishing out the top 10 wheat varieties planted in Texas by percentage are:

- Duster, 4.1 percent compared with 4 percent in 2014.
- Fannin, about 3.5 percent.
- Greer, just under 3.5 percent, moving it down from fourth last year.
- TAM 105, 2.7 percent, compared with 2.8 percent the previous year.
- TAM 113, 2.3 percent, jumped three places from 2014.
- Weathermaster 135, fell three places from 2014 with 2.1 percent.
- TAM 401, 1.9 percent.
- Endurance, 1.7 percent, falling one place from 2014.

Neely said excluding the top 10 varieties, WB Cedar saw the greatest increase in acreage across the state from 0.2 to 1.3 percent from 2014 to 2015, while Coronado saw the greatest decrease from 2.8 to 1.2 percent.

Of the hard red spring varieties, he said, Express and Expresso remain the top two planted varieties, while TV 8861, Coker 9553 and Pioneer 25R30 remain the top three soft red winter wheat varieties.
CALENDAR

April 22    Faculty Meeting 11:45 a.m.
April 23-24   Bennett Trust Land Stewardship Program
April 24    Grand Challenges Mini Symposia - Soil Security
April 30    Mid-term evaluations due
May 2-5    CSSP
May 19-21    Global Soil Security Symposium
June 1    Initial P&T material due
June 2-3    NPGCC
June 4    NC-7
June 16    Stiles Farm Field Day
June 16-17    Soils Critique
Aug. 5-7    Faculty Retreat