In This Issue:

- Crop Replant Guide Released
- Tunisian Project Underway
- Turfgrass Program Highlighted
- Stiles Farm Foundation Field Day
- New Director for Dallas center
- O.D. Butler Forage Field Day
- Awards
- more .......

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These are exciting times in the field, with above average early growing season rain over much of the state. We have had some very showy field plots to take advantage of during our numerous crop tours.

There have been quality field events from rice to soybeans to wheat to corn and cotton. A big "Whoop" to those who prepared the plots, planned the tours and presented. While many units in the TAMU system are a bit slow around the 4th of July, it is a time that research hits high gear in our department.

Congratulations for many successful events - including the O.D. Butler Forage Field Day and Stiles Farm Field Day (see stories inside). Beaumont Rice Field day is taking place this week, following a successful field day in Eagle Lake.

Congratulations also to the AgriLife Research and Extension Center in Overton for 50 years of involvement in agriculture.

It now looks as though we will be able to begin filling some of our department’s positions which have been vacant for some time. We hope to wrap up the Extension Weed Science position by October 1 and to initiate filling our Extension Turf positions in the near future. We also expect to have a hybrid rice breeder joining our Beaumont team in the near future. While others are deferred in the short term we remain optimistic that they also can be filled. We continue to appreciate the efforts of the whole department pulling together to cover the gaps, but hope to reduce the gaps during the coming year.

We have three faculty members who are participating in the promotion and tenure process that we initiate in June of each year. We have made the requests for letters of evaluation from outside reviewers and the departmental committee will be reviewing these and the supporting material in August.

We have had many opportunities to share our experiences and learn from international visitors. We appreciate the interaction with scientists from Poland, Mexico, Brazil, Israel, Germany, India, Philippines, and Tunisia over the summer. We have also enjoyed establishing collaborations and potential collaborations with Indigo, Advanta, Inari, Cotton Inc., and other companies.

Research, education and extension partnerships with companies remains a large part of our effort.

I also had the opportunity to attend the Texas Turfgrass Association Summer Conference and the State Plant and Seed Board meeting.

Dr. Carol A. Fierke, a noted scholar and academic leader from the University of Michigan, has been named as our new Provost and will start in October. Thanks to those who participated in those interviews, and also to all who served on the search committee for our Dean and Vice-Chancellor. We expect initial interviews to begin in October. Welcome aboard to Dr. Jeanmarie Verchot as the Resident Director at Dallas.

Be safe as our summer field activities bring on long days and significant travel.
Dr. Julie Howe, Texas A&M University soil and crop science department’s newest hire, hopes her research can address some of the challenges to conservation practice adoption by Texas farmers, which seems to be behind other parts of the South.

Howe, associate professor of soil chemistry and fertility who will have a joint appointment with Texas A&M AgriLife Research, came from Auburn University where she held a similar position.

Howe explained that fertility is more than just providing sufficient nutrients for plant growth. It is important to provide those nutrients in a manner that is not contributing to environmental pollution. Timing of application, placement, different technologies or methods of application all play a role.

Howe said increased soil fertility of crop production is likely to lead to improved management of nutrients, which will result in better utilization of applied nutrients with less environmental loss.

“Thus, while it directly benefits producers, it indirectly benefits the world,” she said.
Dr. Jeanmarie Verchot, the new director of the Texas A&M AgriLife Research and Extension Center in Dallas, digs her bare hands into a clump of soil, ripping a potted canna lily apart by its roots and repotting each divided section in its own container.

The potting is part of Verchot’s work with plant viruses, which has spanned roughly three decades. Investigating canna lily viruses is one of two research initiatives she now leads in addition to fulfilling administrative roles at the AgriLife Dallas center at 17360 Coit Rd. in North Dallas.

Verchot left Oklahoma State University as professor of entomology and plant pathology following a 20-year career, joining Texas A&M AgriLife Research in Dallas on June 1. She now serves as the agency outpost’s public face, cultivating partnerships with peer organizations, regional policy makers, non-profits and private companies. Verchot is tasked with making the center integral to shaping North Texas’ literal and figurative landscapes. She is responsible for guiding the Dallas center’s overarching mission, agriculture for sustainable urban development.

“We’ve started engagement by reaching out to small businesses and local organizations that already see the center as an asset,” Verchot said. “Obviously we want to expand visibility and collaborative opportunities far into the future.”

Existing research programs at Dallas include: work to breed sustainable turfgrass varieties for home, commercial and sport applications; overarching studies on plant genetics, alongside biotic and abiotic plant stresses, for crop improvement and urban agriculture applications; mussel research for the preservation of freshwater systems across the state; and comprehensive public outreach programming for widespread knowledge delivery.

Verchot says she will maintain a “hands-on approach” to the directorship outside and within the Dallas facility. So far, she has personally undertaken setup of her own laboratory, greenhouse space and research specimens.

“As a fellow scientist, I can engage the faculty here with a perspective that a non-scientist administrator might not bring,” she said. “I want to use this to ensure program growth for the scientists here and to guide a culture of strong, long-term decision making.”

The New Jersey native’s own applied research program on canna lily viruses aims to address declines in outdoor crops, which continue to spur canna lily farm closures in Texas and Oklahoma – where she began her work with canna – among other producer regions, she said. Verchot noted that canna row crop farms have experienced downturn due to outdoor disease and a resulting movement toward greenhouse production.

“Canna farms are passed down from generation to generation, so when someone loses a farm they lose a culture, a family history,” she said. “It’s good as a virologist to be able to address something that’s socially important. We’re the only virology group (in the world) focused on bringing back canna as a row-crop industry.”

Aside from the cultural benefits of resurrecting row cropping, she said, canna lily grows prolifically outdoors compared to greenhouses.

Verchot’s research initiative involves isolating viruses, characterizing them, reporting on them and developing diagnostic tools. The work, since its inception at Oklahoma State, has maintained a research database over roughly five years, which includes observation of about 2,000 canna stalks per year, she said. That effort continues in Dallas.

“We want to figure out what the real concerns are in developing a strategy for disease control,” she said.

But while canna lily satisfies a need for applied research, the new center director will continue fundamental research to understand the genetic processes allowing viral disease in another crop, potatoes. This ongoing research dates back to Verchot’s postdoctoral work in 1998.

“Viruses depend on their interactions with cell membranes,” she said. “We are trying to answer what genetic mechanisms regulate virus/cell interactions and see if we can disrupt them as a means of virus control.”

Her team’s genetic work to combat potato crop viruses holds implications for other food members of the Solanaceae family like peppers, tomatoes and even coffee.

A group of postdoctoral researchers will arrive in Dallas beginning in July to round out Verchot’s laboratory staff as her program launches alongside the Dallas campus’ existing research initiatives.

“I think we’re going to be able work strongly together in Dallas over the long term and elevate the science to the level of regional, national and even international recognition that we’d like to see,” she said.
Toro Grounds for Success newsletter talks to turf schools around the country to get a snapshot of current research and how it could shape tomorrow’s practices. [Toro] talked with Ben Wherley, Ph.D., of Texas A&M University in College Station, Texas. Wherley is an associate professor of turfgrass science and ecology in the Department of Soil and Crop Sciences. According to Wherley, hands-on experience outside the classroom is a big part of the turf program at Texas A&M. One opportunity is the Aggie Turf Club, which allows students to interact with industry professionals and guest speakers, go on site visits and connect with internships. The turf program has a strong relationship with the university’s campus athletic department. Students who are interested in sports turf careers can work closely with athletic field manager Craig Potts and assistant athletic field maintenance manager Nick McKenna.

In addition, students volunteer at PGA tournaments and other events, such as the AT&T Byron Nelson Tournament, near Dallas, the Dell Match Play event in Austin and the Shell Houston Open. Undergraduate student researchers are hired each year to help collect data and oversee research trials, which opens their eyes to future opportunities in graduate school and the turf industry. The hands-on learning doesn’t stop inside the classroom, either. Wherley and soil physics professor Dr. Kevin McInnes co-teach a new course called Sports Field Construction, in which students build an actual sports field. Right now, Wherley’s students are building a 5,000 sq. ft. USGA putting green, doing everything from surveying the site to installing drainage and irrigation to planting grass. Another course, Turf Management Systems, students must develop a facility management plan that includes both agronomic and budgetary considerations. Wherley notes that Texas A&M has a multidisciplinary turf research program, with extensive collaboration among various disciplines. Researchers in turf pathology, turfgrass breeding, water quality and environmental quality issues all work together to solve turf problems.

Researchers also work closely with other members of the industry. The staff recently moved into the new 12,000 sq. ft. Scotts Miracle-Gro Facility for Lawn and Garden Research. Texas A&M works with Scotts on developing sustainable nutrient management programs for southern landscapes. Researchers are also involved in several projects with the United States Golf Assn. (USGA), including a three-year project to develop construction specifications for sand-capped fairway systems and a multi-year shade study to determine minimal light requirements for zoysiagrass and bermudagrass cultivars in fairway and rough situations. The university is also part of the Specialty Crop Research Initiative (SCRI), a multi-state collaborative project with four other universities. This initiative is sponsored by the USDA with the goal of developing new warm-season grass cultivars that can tolerate prolonged drought and salinity.

One of the projects Wherley is most excited about is a partnership with Texas A&M’s engineering department to develop a new technology for conserving water in the landscape. Urban landscape irrigation runoff is a growing problem, not only wasting potable water but also potentially causing water quality issues by carrying bacteria, excess fertilizer nutrients, sediment and more into local bodies of water. For the last two years, a team co-led by Wherley and Dr. Jorge Alvarado, associate professor in Texas A&M’s Department of Engineering Technology and Industrial Distribution, have been working on a solution. The result is the patent-pending Landscape Irrigation Runoff Mitigation System (LIRMS). This non-invasive system can be installed into a curb, where it senses runoff and pauses landscape irrigation for a given amount of time. As a result, irrigation is applied in shorter, intermittent pulses, which allows a more efficient and complete soaking of the soil to take place.

The current focus for this three-year project is testing and perfecting LIRMS to be even more efficient. But so far, the results have been extremely positive. Tests show the system has the potential to save 50 to 75 percent of runoff, dramatically improving soil moisture per gallon of water that’s applied through irrigation systems. The system is expected to be available to the public within the next few years.
Researchers from Texas A&M University Department of Soil and Crop Sciences traveled to Tunisia in April. This was the second trip taken by collaborators in a partnership between AgriLife Research, AgriLife Extension and IRESA (l’Institution de la Recherche et de l’Enseignement Supérieur Agricoles).

The team, including Dr. Amir Ibrahim, AgriLife Research wheat breeder, College Station; Dr. Jake Mowrer, AgriLife Extension state soil fertility specialist, College Station; Dr. Qingwu Xue, AgriLife Research crop physiologist, Amarillo; and Dr. Anil Somenahally, AgriLife Research soil scientist, Overton, are working with six scientists from IRESA.

According to Ibrahim, the purpose of the partnership is to facilitate the exchange of research, teaching and extension resources in the area of sustainable soil management, the researchers’ intent to improve the livelihood of small-acreage landholders in that small Mediterranean country.

The first phase of the project ends in 2017, but the AgriLife team is making plans for future work.

“Our long-term goal is to improve the small-acreage landholder livelihood in cereal-production areas in Tunisia by optimizing the use of resources through appropriate soil management that will enhance soil quality and water productivity and ensure soil sustainability,” Mowrer said.

“This could be achieved by creating a Center of Excellence that will support the development and the implementation of technologies and capacity building to improve soil quality management, sustainable agriculture and climate change in the Middle East and North Africa region.”

As a result of this project, Mowrer was invited to join the roster of Fulbright specialists and to conduct a workshop on soil nutrient management and soil testing. Over the course of one week, he assessed the capacity for a Tunisian national soil testing program, met with leaders of stakeholder organizations, visited laboratories and field research facilities, and presented a vision of what such a program might look like in the very near future.

Opportunities for effective knowledge exchange and dialogue at many different levels, coupled with AgriLife Extension through demonstration activities with farmers’ participation in farmer-managed trials, will continue in the future, Somenahally said.

To read the complete article by Kay Ledbetter

Click Here
Reducing hay costs discussed at O.D. Butler Forage Field Day

Dr. Larry Redmon, Associate Department Head and Extension Program Leader for Soil and Crop Sciences, discussed hay quality and feeding costs at the recent O.D. Butler Forage Field Day at the Camp Cooley Ranch in Franklin, Texas.

“The longer you can keep your cattle grazing in the winter, the more cost effective your operation is going to be,” stated Redmon. “Hay is a very expensive way to overwinter cattle.”

He explained that in years with adequate rainfall, many producers could get their cattle through the winter with very little hay by using management tools such as stock-piled forages, winter annuals, and appropriate stocking rates.

“Hay should be a tactical solution to a short-term problem,” Redmon stated.

He went on to explain that producers should always have an emergency supply of hay in the barn for times of drought or extreme temperatures when grazing is not an option.

The key words, according to Redmon, are “in the barn”. If a barn is not possible, then a hay tarp should be used. Hay should be stacked in a pyramid, with air channels to deter condensation. He stressed that as long as the barn is built where there will be no standing water, it does not need sides or a floor - just a roof. A pole barn with adequate drainage is all that is required.

Building a barn requires a financial investment, but Redmon stresses that it is a good investment to make. One which will save a producer a lot of money in the long run.

“We have been convinced by marketing that since the invention of round bales we no longer need to store hay in the barn,” Redmon stated. “But research has proven the value of protecting hay, even round bales.”

He went on to explain that when field-cured hay is placed in the barn, it will equilibrate at about 15% moisture and stabilize - with no further deterioration. The crude protein and digestible energy levels will remain the same as they were at the time of baling.

The same cannot be said for hay stored in the field. Those bales will suffer loss of nutrients as well as loss from waste. Rainwater soaks into the bales decreasing dry matter and nutritional value. Net wrap will reduce the amount of damage by about 10%, but loss and waste will still occur.

“A good storage facility will save you money,” Redmon said. “A hay barn will pay for itself in four to six years.”

According to Redmon, additional savings can be realized by reducing the amount of uneaten hay. Feeding hay in a hay ring will reduce waste. Those with an enclosed bottom will reduce the amount wasted substantially more.

Unrolling a bale to feed is also an economic option, provided you only roll out what they will consume in one day. This “banquet table” can eliminate the boss cow syndrome and prevent the muddy wallows which may form around the hay rings.

Dr. Redmon shows producers different styles of hay rings and explains the cost savings which can be realized through their use.
Forage producers count on fertilizer to improve the quality of their crop. Adding nitrogen, potassium and/or phosphorous makes a visible difference - but only if the soil pH is correct according to Dr. Tony Provin, Texas A&M AgriLife Extension Soil Chemist.

At the 31st Annual O.D. Butler Forage Field Day, held in May at the Camp Cooley Ranch in Franklin, Texas, Dr. Tony Provin reminded producers that soil pH affects everything, and soil testing is important to determine the status of the soil before any fertilizers are applied.

“If you put nitrogen out and miss a spot, you will see it in a couple weeks - the grass will not perform as well in those areas and it will be rather obvious,” stated Provin. “It’s not the same with pH. You will not notice changes in pH, because acidification occurs slowly.”

As the pH of soil drops, the composition of the nutrients changes to forms that are more difficult for the plant to utilize, making them less available to the plants. At the same time micronutrients can become hyperavailable.

Provin explained that 5.2 is the “magic number” when it comes to soil pH. If the soil is more acidic than that, bad things happen. For starters, the maximum nitrogen uptake falls from up to 70% of that applied to less than 20%. In addition, aluminum in the soil goes into solution and begins forming its own structures which further increase the soil acidity, while the aluminum itself is highly toxic to plants roots.

Balancing soil acidity is an ongoing process, because plants are constantly developing new roots, Provin explained. Last year’s roots are this year’s root channels. If producers focus on keeping the roots healthy, they will have more forage growth.

“Everything hinges on the development and maintenance of the root system,” Proving said. “If I have good roots, everything above is working out well. If the soil is too acidic, it limits the ability of the roots to grow, and take up nutrients and water.”

Provin explained that many Texas soils require applications of limestone - calcium carbonate - to keep the soil acidity in check. The quality of the limestone is just as important as the quality of other nutrients.

Unlike other states, Texas does not require analysis or grading of limestone, so it is up to the producers to be aware of what they are purchasing. Provin stressed that producers should purchase limestone with a high ECCE - Effective Calcium Carbonate Equivalency. This indicates the amount of the material which will actually bereact with acidity in the soil.

The "E" in ECCE is directly correlated to how much the limestone is ground. He recommends limestone that is fine enough to go through screens smaller than those used on house windows.

“You want to use the most finely ground limestone as possible in order to get the material down into the root zones,” Provin said. “The lack of tillage in perennial forage systems limits the movement of limestone, thus only the finer particles actually move below the soil surface.”

“If you are only growing roots to six inches, you are not growing a crop,” he said.

Producers also heard James Jackson discuss control of unwanted ryegrass in pastures. Jackson has been conducting research with a new technology for ryegrass control - Esplanade by Bayer. The product is currently approved for turfgrass and right-of-way management, and is being considered for use where there is grazing.

Later in the day Dr. Don Renchie discussed pesticide laws and regulations which impact forage producers. Participants at the field day who hold private applicator licenses had the opportunity to earn some of the required continuing education credits required to maintain the license.
More than 100 producers from the Blackland region of Texas gathered at the Stiles Farm in Thrall, Texas, in mid-June for the 54th annual field day. Each year the field day highlights research being done at Stiles Farm as well as innovations in crop and livestock management.

Dr. Gaylon Morgan, Texas A&M AgriLife Extension State Cotton Specialist, discussed cotton production and new technologies for weed and nutrient management in cotton.

“Keeping technologies on target will help keep those tools available to you,” Morgan said. “It also makes for better relationships with your neighbors!”

Morgan reported that, at the time of this field day, about 85% of the cotton production statewide was in fairly good condition. He explained that dry land cotton in the high plains has taken a hit from the weather and is struggling from drought and hail events.

Dr. Jake Mowrer, AgriLife Extension Specialist in soil nutrient and water resource management, discussed fertilization rates and nitrogen stabilizer management.

“For best results with your fertilizer you want to be driving out of the field as the rains starts,” Mowrer stated, recognizing that more often than not the weather fails to cooperate.

Mowrer told producers that urea, a common form of nitrogen, becomes ammonium when it comes in contact with water in the soil, then undergoes another change to become nitrate. Too much water will negatively affect how much of that nitrate becomes available to the plant. Excessive rain will wash the nitrates wash away or cause them to pass through the soil too quickly to be available for the plants. Ponded (standing) water prevents necessary oxygen from penetrating the soil, where it would be accessible to the plants' roots.

“New herbicide technologies are not a silver bullet for weed control,” Morgan stated. “In order to get good control, producers must treat the weeds when they are four to six inches tall or smaller. Application time is critically important.”

Morgan also reminded producers to be vigilant in their application of herbicides to avoid drift to unintended areas. He stressed that Dicamba-based products have two year registration terms - after which time the products will be evaluated by the EPA and can possibly be removed from the market if too many problems have been reported.

Dr. Gaylon Morgan discusses new cotton technologies at the 2017 Stiles Farm Field Day.

Fixed ear and flex ear corn is planted at different seeding rates. Fixed ear corn varieties produce a consistent ear size regardless of plant numbers. With a flex variety, the ears will vary in size based on plant populations.

In his trial, Schnell noted that at seeding rates of 32,000 seeds per acre there was a 14% drop in the number of kernels per ear in the flex varieties and a 6% drop in the fixed hybrid corn. However, there will be a balance between ear size and number of ears per acre that results in better yields.

“Try different planting rates,” Schnell suggested, “and use the planting rate which gives you the best yield for the cost of seed put into the field.”

In the sorghum trials, Schnell told producers that good yields have been realized in fields using more intensive management.

“We are only looking at a difference of $30 per acre between the high- and low-input trials,” Schnell explained. “We will see what yield differences are at harvest.”

Stiles Farm Foundation is a 2,800 acre operation in Thrall, Texas which was given to Texas A&M in memory of James E. Stiles. The farm includes 1,800 acres of crop land and a full scale commercial cattle operation.
54th Stiles Farm Foundation Field Day - June 20, 2017

Photos by Beth Ann Luedeker
More photos from the field day can be found at: https://www.flickr.com/photos/tamusoilcrop

These photos and more can be found on Flickr
Cottonseed without gossypol offers nutrition options

Research has explored avenues to remove gossypol from cottonseed while maintaining natural immunity to some pests.

By: Ron Smith - originally published in Southwest FarmPress

Dr. Keerti Rathore, professor in the Texas A&M Soil and Crop Science Department, has spent the last 21 years trying to make cotton an even more valuable crop by improving the nutritional value of the seed.

Rathore offered a brief description of his research at a recent Cotton Incorporated conference, “Everything You’ve Heard About Cotton is Wrong,” in New York City.

He explains that gossypol, a toxic substance that persists throughout the cotton plant to protect it from pests, limits use as a feed option for livestock other than cattle. Cottonseed has been a staple for cattle for years, possible, Rathore says, because of the complexity of a cow’s digestive system. Gossypol is toxic to other livestock species.

His research has explored avenues to remove gossypol from cottonseed while leaving it in other parts of the plant to maintain natural immunity to some pests.

“Some 26 million tons of cotton fiber is produced worldwide,” Rathore says. “The cotton plant produces much more seed than it does fiber.”

And that seed could play a significant role in feeding a rapidly growing global population.

“Making cottonseed a more viable protein option,” he says, “could improve nutrition for as many as 500 million to 600 million people.”

Cottonseed without gossypol may be fed to animals other than cattle—chickens and hogs, for instance. Cottonseed oil has been used in cooking for years. Rathore’s research may mean cottonseed may be a source of protein for human consumption.

He’s working with “gene silencing technology,” a function made possible by sequencing the cotton genome. By identifying the gene in cottonseed that controls gossypol, researchers can turn that specific gene off, eliminating the toxin just from the seed, but leaving it elsewhere in the plant.

“We hope to complete feed trials by mid-June and then submit the result to USDA for approval,” Rathore says. “I hope to have varieties in the hands of farmers in the United States and across the world soon to help reduce protein malnutrition.”

Jesse Daystar, assistant director for sustainability and commerce at Duke University, says the potential for improved nutrition from cottonseed will be a “big boon to cotton’s sustainability message. Sustainability is about people, not just the environment.”

Rathore says his work does include manipulating genes but does not include gene transfer from other species. “Still, it’s considered genetic engineering,” he says. He explains that Bt cotton takes a gene from bacteria and puts it into the cotton plant to kill “only certain kinds of insects. That’s an ‘old fashioned GMO,’” he says.

GENOME EDITING

Genome editing is more closely related to commercial plant breeding, he adds. “It allows us to do plant breeding in a more precise manner. Through genome sequencing, we know the function of specific genes and can target those genes to modify without using outside genetics.”

He adds that cotton genetics, including genetic engineering, may offer opportunities to reduce the need for synthetic dyes. “We may be able to insert a gene into cotton that will mean we need no dye.”

Daystar says genetically modified organisms offer opportunities to improve production efficiency. “We have to look at the numbers behind the claims [of negative effects of GMOs]. We have to consider the science.”
Corn and sorghum fields around the state appear to be in good shape overall despite weeks of dry conditions, said Texas A&M AgriLife Extension Service experts.

Dr. Calvin Trostle, AgriLife Extension agronomist, Lubbock, said corn and sorghum acreage in the High Plains is down this year as many producers have decided to plant cotton. The decision to forego corn and sorghum is based on relatively good cotton prices, the lingering threat of sugarcane aphids in sorghum and water availability.

“Cotton prices are around 15 cents higher per pound than last year, and so producers are feeling pretty good about switching to cotton,” he said.

Trostle said awareness and monitoring of sugarcane aphids has improved producers’ ability to fight the pest over the past three years, but many producers remain concerned about the crop.

Topsoil moisture, or the lack thereof, is also a concern for corn and sorghum producers in swaths of the High Plains, Trostle said. Poor topsoil moisture could delay plantings as dryland producers wait for rain.

“Surface soil moisture is getting scarce in many areas,” he said. “There is good deep moisture, 6-inches or deeper, but a 1-inch rain would help many producers.”

Trostle said June is typically a wet month in the High Plains, so moisture is not a concern yet. But some producers are choosing to go with cotton because they face irrigation limits, and the plant is more drought tolerant than corn.

Many High Plains producers were hammered by sugarcane aphids in 2015, Trostle said. There was evidence the pest overwintered in johnsongrass around the region. In 2016, sugarcane aphid infestations reached moderate levels with some hot spots northwest of Lubbock as the pest blew into the region on southeasterly winds.

“As of May 30, we’ve not had any reports of sugarcane aphids in the High Plains,” he said. “We have so much information available now for producers to put into action against the pest, and it has made a difference. Our AgriLife entomologists note that you can’t underestimate the value of early sprays as soon as the aphids approach economic thresholds.”

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Dr. Josh McGinty, AgriLife Extension agronomist, Corpus Christi, said it’s likely corn and sorghum yields will be affected by a lack of moisture this spring. Most fields were planted early due to warmer-than-usual temperatures, but timely spring rains didn’t arrive to many areas.

“We received 3-6 inches of rain this weekend, but it’s too late for most fields,” he said. “We needed moisture in April when corn was tasseling and sorghum was in the boot stage. At that point the crop was at its peak water demand, but it was dry and it stayed dry, so yields may have dropped off.”

McGinty said some areas in the Coastal Bend received rain and should fare fine. Some areas received extreme weather, including hail storms in San Patricio County and high winds, up to 60-70 mph, that laid fields near Beeville flat and unlikely to be salvaged.

Dr. Ronnie Schnell, AgriLife Extension agronomist, College Station, said there was also some hail and storm damage to corn and sorghum fields near Hondo and Elgin. But overall, Schnell said, corn and sorghum fields from the Coastal Bend to Central Texas “looked pretty good.”

Corn was beginning the grain fill-stage and sorghum was getting close to flowering in Central Texas, he said.

“We missed rain chances for about three weeks, but most areas received a good rain,” he said. “There are a lot of areas that could have used rain a few weeks ago. There was some slight moisture stress, but everything looks good.”

Rain was in the forecast, and Schnell said there is a possibility areas that missed substantial rains from recent storms could receive moisture from those systems as they move through the state.

Schnell said sorghum producers were monitoring small numbers of sugarcane aphids but there have been no major infestations reported so far. Producers will be watching the weather for temperatures and weather that is conducive to sugarcane aphid populations building.

“It’s a complex interaction of weather, temperatures, moisture and beneficial insects that keep their numbers in check,” he said. “If we get hot and dry, producers will need to monitor sugarcane aphids closely.”
The latest Texas A&M AgriLife Extension Service crop hail-damage assessment and replant guide is now available, said its author.

Dr. Calvin Trostle, Texas A&M AgriLife Extension Service agronomist at Lubbock, said Texas farmers in the Lubbock and South Plains region regularly face the risk of hailed-out crops this time of year. When it occurs, especially on cotton, he advises, growers may need to wait up to a week before determining the fate of their hail-hammered crop.

The document posted at http://lubbock.tamu.edu is updated annually in June. It encompasses everything from assessing damaged cotton stands, to herbicide precautions, and basic agronomics including the last recommended planting dates for various crops including grain sorghum, sunflower, guar and black-eyed peas with hybrid, or variety maturity data added where applicable.

Dr. Seth Byrd, AgriLife Extension cotton agronomist at Lubbock, said Trostle’s work is invaluable, because assessing a damaged cotton stand can be tough.

“Farmers need to be patient, because it sometimes takes a week before you know what the survival rate of cotton plants on a hailed-out field will be,” Byrd said. “This is important this late in the season as a damaged stands with as little as 1.5 plants per foot of row may still be a keeper, especially if the plants are uniformly spaced.”

Danny Nusser, AgriLife Extension regional program leader at Amarillo, said the publication offers good timely information for AgriLife Extension agents and producers alike.

“Producers may be surprised that they even have options, and that viable crop replanting and late planting options are available as late as mid-July,” he said. “And this is especially true moving south from Lubbock.”

When Trostle began the guide in the early 2000s, he never thought it would become the comprehensive document it is today.

“[The guide] reflects a lot of what I have learned about farming in the Southern High Plains region,” he said. “And truthfully, preparing it every year may help me as much as anyone to deliver sound science-based advice to growers.”
Three Soil and Crop Sciences professors have been elected to serve on the Texas A&M University System Council of Principal Investigators (CPI)

Dr. Gaylon Morgan was selected to represent the Texas A&M AgriLife Extension Service; and Dr. Ambika Chandra and Dr. Lee Tarpley were elected to represent Texas A&M AgriLife Research.

Morgan joined AgriLife Extension in 2003 as an Assistant Professor and State Extension Small Grains Specialist. In 2009 he became the State Extension Cotton Specialist and Associate Professor, followed by a promotion to Professor in 2012.

Morgan was named the Wheat Man of the Year in 2009 by the Texas Wheat Producers Board and Association. He received two Superior Service Awards from Texas A&M AgriLife, one in 2012 with a cotton root rot management team led by Dr. Tom Isakeit, and in 2013 with a cotton variety evaluation team for which he was the lead. In 2015, Morgan was named Cotton Specialist of the Year by Bayer Crop Science.

Chandra was re-elected for her second three-year term on CPI. She is an Associate Professor of Turfgrass Breeding and Genetics at the Texas A&M AgriLife Research and Extension Center in Dallas, where she has been since 2007.

Chandra was the primary breeder for two grass varieties and co-authored two others. She has served as a board member of the Turfgrass Breeders’ Association and as the presiding officer for the Turfgrass Science session at the Crop Science Society of America Annual Meeting. She is frequently asked to make presentations at regional and national turfgrass industry events. Chandra received the CSSA 2016 Citation for Excellence for her work as an associate editor of the scientific journal Crop Science.

Tarpley is a Professor of Whole Plant Physiology at the Texas A&M AgriLife Research and Extension Center in Beaumont. He had earned his PhD in Plant Physiology at A&M and returned as an Assistant Professor in 2001.

Tarpley has served as the Chair for the Rice Technical Working Group and as Division Chair for the Crop Science Society of America. He was appointed to the editorial board of Crop Science and has been an invited speaker at international conferences.

According to website for the Council of Principal Investigators, the organization is composed of principal investigators (PIs) which represent all research throughout the university system. It is equally funded by Texas A&M University Division of Research, Texas A&M Health Science Center, Texas A&M AgriLife Research, Texas A&M Engineering Experiment Station and the Texas A&M Transportation Institute.

Members of the Council are elected from the sponsoring units, as well as from AgriLife Extension, Texas A&M Qatar, TAMU Galveston, TAMU School of Law, and University Libraries.

The website also explains that the CPI and affiliated PIs “work with administration to provide an effective and efficient research organization”. The Council is committed to continually improve the research environment at A&M for students, faculty and staff.

For more information about the CPI you may visit their website at: http://cpi.tamu.edu/
Evapotranspiration (ET), here defined as the loss of water via plant transpiration and soil and canopy evaporation, is one of the largest sinks in hydrologic and soil water budgets across most agronomic production systems. It is a major factor determining the need for irrigation to avoid or manage plant water stress. Spatial and temporal variations in ET can control the accumulation or leaching of nutrients, salts, and other potential contaminants such as soil-borne pathogens and heavy metals.

Accurate measurement and prediction of ET is needed at a variety of scales, from the field/block scale for irrigation management, up to regional and national scales to manage water resources and forecast water needs. Accurate ET is also needed to reduce agricultural energy consumption as large amounts of energy can be expended in irrigation activities, including pumping from deep wells or boreholes to large-scale water transfers across basins. Evapotranspiration, particularly from intensely irrigated regions, can also create additional anthropogenic effects on regional climate and precipitation cycling. Thus, ET is of interest to a wide variety of disciplines, including agronomy, soil science, ecology, hydrology, civil and agricultural engineering, and atmospheric science.

Measurement and modeling of ET has advanced greatly over the past few decades, with major field observational techniques such as eddy covariance becoming more user friendly and satellite algorithms becoming increasingly automated. Along with increasing methodological tools, cropping practices and irrigation strategies have become more diverse, with a wider array of irrigation strategies and production practices designed to improve crop productivity and water use efficiency. Along with crop production agriculture, there are tools better able to measure and model ET in pasture, rangelands, and mountain catchments that also control ground water recharge and surface water availability. The Evapotranspiration Measurement and Modeling Community brings together researchers from a wide variety of disciplines who measure or need ET for a variety of purposes.

**Evapotranspiration Under Pressure**

One major class of strategies for improving water use efficiency is deficit irrigation or dryland farming with drought-tolerant cultivars. Recent improvements in crop genetics can allow for more drought-tolerant dryland crops, and work on deficit irrigation can allow for reduction of irrigation to improve crop quality or to minimize crop yield reductions with limited water. To this end, the Evapotranspiration Measurement and Modeling Community is hosting a symposium at this year’s Annual Meeting titled, “Evapotranspiration Under Pressure,” which is focused on measuring and modeling ET under these stressed conditions. Existing traditional approaches for estimating ET, such as established crop coefficients and stress coefficients, may not yet be available for new practices and cultivars; thus, requiring new approaches and work for constraining ET. We are also sponsoring an oral and poster session on new methodologies for ET.

Accurate and robust ET estimates are becoming more important as overall water availability and quality declines in key agricultural regions. We encourage all researchers who are working in agricultural or soil hydrology, plant water use, and water use efficiency to join our community. We as community leaders welcome ideas for future symposia and sessions, and we would encourage you to visit the community website (http://bit.ly/2rW4Xz2) to learn more.

R.G. Anderson, 2016–2017 Community Leader, USDA–ARS, U.S. Salinity Laboratory, Contaminant Fate and Transport Unit, Riverside, CA; N. Rajan, 2016–2017 Vice- Leader, Texas A&M University, Department of Soil and Crop Sciences, College Station, TX

This article was originally published July 6, 2017 in CSA News
Several "Well Educated" sessions will be held during the next few months. "Well Educated" sessions are free, one-day educational trainings put on by the Texas Well Owner Network for Texas residents who depend on household wells to meet their water needs. The sessions are designed for those private well owners who would like to become more familiar with groundwater resources, septic system maintenance, well maintenance, water conservation, water quality and water treatment options.

The sessions also offer landowners the opportunity to have samples of their well water screened for common contaminants, including fecal coliform bacteria, nitrates, arsenic and high salinity.

The upcoming workshops will be held:
- July 26 in Fredericksburg
- July 27 in Wimberley
- August 23 in Conroe
- Sept. 26 in New Braunfels

More information may be obtained from the TWON website or by contacting Drew Gholson at: dgholson@tamu.edu or 979-845-1461

For "Well Informed" sessions, well owners drop samples off at their AgriLife Extension office within 24 hours after they are collected. The results meetings take place at a later date. Sampling containers may be obtained from any AgriLife Extension Service office.

Upcoming "Well Informed" screenings include:
- **Shepard, TX** - drop samples off July 31 between 8:30 -10:00 a.m. at the San Jacinto County Extension office, 11 Carrier Ave., Shepard. The results meeting will be at the same location August 1, 6 p.m.
- **Mont Belvieu, TX** - drop samples off August 1, between 8:30 - 10:00 a.m. at the Liberty County Extension office, 501 Palmer, Liberty, TX, OR McLeod Park, 10717 Langston Dr., Mont Belvieu, TX. The results meeting will be August 2, at 6 p.m. at McCleod Park.
- **Anahuac, TX** - drop off samples August 2, between 8:30 - 10:00 a.m. at the Chambers County Extension office, 295 White Memorial Park Rd., Anahuac. The results meeting will be held there at 6:00 p.m. August 3rd.

The Texas Well Owner Network is an educational training offered by the Texas A&M AgriLife Extension Service in cooperation with the Texas State Soil and Water Conservation Board.

TWON was developed by the Texas Water Resources Institute and the TAMU AgriLife Extension Service's Department of Soil and Crop Sciences and the Department of Biological and Agricultural Engineering to deliver a science-based, community-responsive education curriculum.
Four Texas A&M AgriLife Extension employees were recently recognized for their service. Dennis Coker and John Smith were commended for ten years of Extension service. Coker is an Extension Program Specialist whose specialty is soil fertility. Smith is an Extension Program Specialist with a focus on water resources and sustainable agriculture.

Dale Mott and Dr. Tony Provin were recognized for having given twenty years of service to AgriLife Extension. Mott is an Extension Program Specialist focused on cotton. Provin is a professor and Extension Soil Chemist. He also manages the Texas A&M AgriLife Soil Testing Laboratory.

A big Thank You goes out to these men for their dedication to Texas A&M University and AgriLife Extension.

From left to right: Dennis Coker, John Smith, Dale Mott, Tony Provin and Dr. Larry Redmon, Associate Department Head and Extension Program Leader.

Photo by: Beth Ann Luedeker

Save the DATE!

Texas A&M Turfgrass Field Day

Wednesday, October 11, 2017

At the ScottsMiracle-Gro turfgrass facility in College Station, TX.

More information to follow!
Sympathy and Concern

Please keep these members of our Soil and Crop Sciences family in your thoughts and prayers.

Dr. Steve Hague and his family as they mourn the loss of his brother, Kris Hague who passed away May 26, after a four year battle with colon cancer. Please also remember Kris’ children who are 9, 12 and 14.

Dr. Joe Dixon is currently at Crestview Retirement Community, 2505 E. Villa Maria Rd, Bryan, 77802. He no longer has access to a computer and is unable to respond to emails.

Gladys Wilding is now home, where she continues to recover from an aortic tear and ensuing complications.

Aggie Weed Team is preparing for the SWSS weed contest

Story and Photos by: Beth Ann Luedeker

Members of the Texas A&M Weed Science program planted a variety of crops and weeds in preparation for the upcoming SWSS weed contest. The students will treat the plants with different preemergence and postemergence herbicides and observe the symptomology produced by each herbicide on the range of plants.

At the contest, the students will examine plots to identify herbicide with which they were treated, based on the collective symptomology exhibited.

There are teams of both graduate and undergraduate students, all of which are coached by Dr. Muthu Bagavathiannan, Dr. Kathy Carson and Dr. Vijay Singh.

Graduate team members are: Blake Young, Prabhu Govindasamy, Seth Abugho, Spencer Samuelson, Rui Liu, Kaisa Werner, Josiane Argenta.

Undergraduate team members are: Jennifer Dudak, Ya Nan (Susie) Lin, Taylor Thate, Caitlyn Lakey, and Hao Sheng Lin.
July

9-11 - Texas Turfgrass Summer Meeting - Horseshoe Bay
11 - Watershed Stewards Program - Angleton
13 - 70th annual Beaumont Field Day - 8:00 a.m.
25-26 - Soils Critique - Lubbock

August

1 - Cattle Trails Wheat and Stocker Cattle Conference - Lawton, Ok
7 - 11 - National Association of Plant Breeders annual meeting - UC Davis
8 - Turf Producers of Texas Golf Tournament - Bay City, Texas
9-10 - Small Grain Workers Meeting - Notice New Dates!!
11 - Graduation - 9:00 a.m. Reed Arena
15 - Rainwater Harvesting Program - Seguin

September

5 - 7 - Extension Retreat - Scott’s Building, College Station
5 - Retirement Celebration for Dr. Travis Miller- 6:00 p.m. Scotts Turf Building, College Station
20 - Dean’s Outstanding Achievement Awards - AgriLife Center, College Station

Save the Date

October 2-3 - Bennett Trust Women’s Conference, New Braunfels
October 9-13 - Ranch Management University - College Station
October 11 - Turf Field Day - College Station
October 22-23 - Turf Producers of Texas Fishing Tournament -
October 22-25 - ASA Annual Meeting - Tampa, FL
December 5-7 - Texas Turfgrass Annual Conference and Show - Arlington