



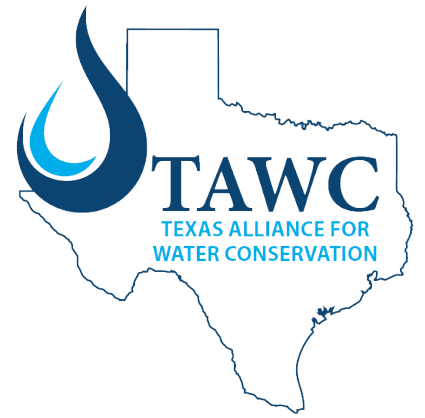
TAWC

TEXAS ALLIANCE FOR WATER CONSERVATION



TEXAS TECH UNIVERSITY
Agricultural Sciences & Natural Resources
Davis College™

Texas Water 
Development Board



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The Texas Alliance for Water Conservation strives to conserve water and soil for future generations after collaborating with producers to identify agricultural production practices and technologies that, when integrated across farms and landscapes, will reduce the depletion of ground water while maintaining or improving agricultural production and economic opportunities.

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Above, Brandt Underwood, NRCS agronomist
 Left, Bob Glodt, Owner AgriSearch Consulting

TTU Davis College Irrigation Management Seminar Series

by Norman Martin

Krishna Jagadish, a nationally recognized crop physiologist and Texas Tech's new Thornton Distinguished Chair and Professor of Forage & Crop Sciences, is directing a revamped "Irrigation Management Seminar Series" in the Department of Plant & Soil Science. The seminar series is a part of the department's Undergraduate Agricultural Water Management Certificate.

The certificate program provides courses on efficient and profitable management of water for agricultural purposes, with emphasis on irrigation technologies. Equally available to degree-seeking undergraduates and nondegree-seeking working adults, officials note that all courses take place on campus and require enrolling at the university.

"This seminar series offers different segments of the agriculture service industry the opportunity to stress to students the importance of having an understanding of irrigation management," said Rick Kellison, Texas Alliance for Water Conservation (TAWC) Program Director. "It also offers the students a chance to understand industry needs and job availability."

'This class offers different segments of the agriculture service industry the opportunity to stress to students the importance of having an understanding of crop water management.'

Jagadish also serves as program coordinator for TAWC. Funded by a grant from the Texas Water Development Board, TAWC operates as a partnership of producers, technology firms, universities and government agencies working to extend the life of the Ogallala Aquifer, the largest subterranean aquifer in the United States.

Glen Ritchie, professor of crop physiology and chair of the Department of Plant & Soil Science, noted that one advantage of the seminar series (PSS 4340) over many courses is the insights that students obtain from professionals in the irrigation industry from agronomists to engineers and beyond.

"Students have the chance to see

today's technology and plant needs in action in the same way they will when they are professionals working in irrigation management," Ritchie said.

Bob Glodt, owner and president of AgriSearch Consulting in Plainview, added the irrigation management seminar series meets a need for students with agriculture-related majors. "This class offers students the opportunity to hear and interact with those who work in the water management industry," he said. "It provides students with a unique perspective and is extremely valuable to their educational experience as a whole."

Jagadish joined the Texas Tech faculty in March, after serving as a professor in

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Kansas State's Department of Agronomy. His research program broadly focuses on optimizing the crop-forage-livestock systems for Southern High Plains, to sustain economic benefits and enhance environmental sustainability. His doctorate is from the University of Reading in the United Kingdom.



*Monty Teeter - PSS 4340 Class
Dragonline Irrigation Technology*

Ninth Annual Water College

We welcome you to join us for our 9th Annual TAWC Water College to be held January 19, 2023, at the Lubbock Civic Center in Lubbock, Texas. This event brings together producers, consultants, researchers, and industry leaders discussing the latest agricultural water management and current issues. Please contact Samantha at samantha.borgstedt@ttu.edu if your company would like an available booth space.

 **TAWC**
TEXAS ALLIANCE FOR WATER CONSERVATION

**9TH ANNUAL
WATER
COLLEGE**

JANUARY 19, 2023
LUBBOCK CIVIC CENTER
LUBBOCK, TEXAS



Bringing a Farmer's Perspective to TAWC Research

by Samantha Borgstedt

The uniqueness and success of the Texas Alliance for Water Conservation is due to the direct relationship the management team has with the project's cooperating producers. The team has deep roots and ties in agriculture, giving them an understanding as to how and why production decisions are made.

In the situation of Travis and Donna McCallister, it is a complete team effort between TAWC cooperating producer and management team. The husband and wife couple farm 1,600 acres in Acuff, Texas, while Donna also works as a researcher leading the economics branch of the TAWC management team. She has done extensive work with the Field Print calculator and has completed a wide range of research focusing on agricultural sustainability. Donna is a former Field to Market Trusted Advisor Spotlight Honoree.

Travis McCallister joined the TAWC lineup of cooperating producers as a beginning farmer. He now manages 400 acres of drip irrigation, 550 acres under a center pivot, and 650 rainfed acres. He uses minimum tillage and cover crops on his cotton acreage, while also incorporating grazing with a 25 head herd of cattle.

"Travis helps me to understand the production side of farming and through that, my research has real-world application solving practical problems," Donna said. "I am better equipped to help producers face challenges and understand those challenges because Travis and I see them first-hand. Whether it's marketing issues, or trying out new management practices, I am able to visualize it on our own farm and relate to my research."

Both Travis and Donna have a background in agricultural economics. The two hold multiple degrees and met while in graduate school. They have passed down their love and knowledge of the industry

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Chase McCallister, next generation farmer



to their four-year-old son, Chase. Tractors, cotton, cattle, chickens, pigs.....Chase has a love for all things agriculture.

As for the future of their personal farm operation, the McCallisters plan to expand in size to capitalize on efficiencies of scale and increase land ownership. Travis is trying to develop a management plan to maximize profit with reduced water availability using cover crops and crop rotations due to reduced irrigation capacities.



Donna, Travis & Chase McCallister



\$1.6M USCP Sorghum Project

by Allen Ramsey

Texas Tech is taking the lead in one of the largest projects ever funded by the United Sorghum Checkoff Program (USCP), a producer-funded organization dedicated to improving the sorghum industry through research, promotion and education. The United States is the world's largest producer of grain sorghum, having produced approximately 454 million bushels last year.

Krishna Jagadish, the Thornton Distinguished Chair in the Department of Plant & Soil Science, received \$1.6 million in funding in partnership with Texas A&M, Kansas State, the USDA's Agricultural Research Service locations in Lubbock and Manhattan, Kansas, and industry partners. Haydee Laza, an assistant professor of plant physiology, is a co-investigator on the project as well.

This project is timely and will be a *difference-maker* as we *strive* to improve crop resilience and feed the world. The collaborators are top *experts* in sorghum physiology and stress tolerance and they will make a *global* impact with their success.'

"This is an unprecedented amount of funding from a strong friend of Davis College, and it will allow us to move forward in improving grain sorghum to the benefit of us all," said Davis College Interim Dean Cindy Akers. Titled, "Transforming grain sorghum's climatic yield potential and grain quality through trait-based ideotype breeding," the project is designed to maximize the sorghum crop by determining effective trait combinations for different environments.


"The project brings together major public sorghum improvement programs

in the U.S.," Jagadish said. "The trans-disciplinary team aims to achieve the project goals by integrating agronomy, crop physiology, breeding, machine learning and crop and climate modeling."

Over the course of the project, researchers led by Jagadish, hope to develop trait-based ideotype sorghum hybrids specifically targeted to thrive in water-deficient areas and in areas considered favorable for growing sorghum.

"For the first time in modern history, we have an opportunity to reimagine the

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architecture of the plant and how it operates,” USCP CEO Tim Lust said. “From drought tolerance to photosynthetic efficiency, this stellar team of physiology experts will leave no stone unturned in pursuit of a more productive, efficient sorghum plant for our farmers.”

The project is scheduled to last five years and incorporate a number of students seeking both master’s and doctoral degrees, giving it the added benefit of helping train the next generation of leaders in the sorghum industry.

“This project is timely and will be a difference-maker as we strive to improve crop resilience and feed the world,” said Plant and Soil Science Department Chair Glen Ritchie. “The collaborators on this project are top experts in sorghum physiology and stress tolerance and they will make a global impact with their success.”



Mike Conaway speaking at the 17th Annual TAWC Field Day

TAWC Outreach Events

The Texas Alliance for Water Conservation held its 17th Annual Field Day on Wednesday (Aug. 17) at the FiberMax Center for Discovery in Lubbock, Texas. Presentations focused on today's turbulent agricultural economic outlook, national agriculture policy trends and upcoming weather patterns, along with a review of next year's supply costs.

"We enjoyed hearing presentations from such a knowledgeable group directly involved in agriculture policy, supply, economics, and production," said TAWC Project Director Rick Kellison. "It is the TAWC's goal to bring producers this timely information."

We appreciate High Plains Water District for sponsoring coffee and donuts, and those that sponsored and had booths at

the event: Texas Agricultural Irrigation Association, Water Grows, Hurst Farm Supply, Eco-Drip, Texas Corn Producers, Rio Petroleum, Forefront Agronomy, and Cotton Inc.

Among the presentations were:

- Darren Hudson, Texas Tech Combest Endowed Chair, High Plains Economic Outlook
- John Duff, National Sorghum Producers Executive VP; Sorghum: The Resource Conserving Crop
- Bob Glodt, Agri-Search Consulting Owner; Irrigating to the Roots
- Ryan Riddle, Atticus; Mitch Payne, Diversity D; James Hopkins, Nutrien Ag; and Scott Piercy, Poole Ag; Agriculture Inputs: 2023 Supply & Costs

- Mike Conaway, Former U.S. Rep. (R-Midland, Dist. 11); Policy Outlook and Q&A
- Mark Conder, NOAA Science & Operations Officer; Weather Outlook: What's Expected in the Months Ahead

On October 13, 2022, Philip Brown presented an overview of the TAWC project at the Stewarding Our Aquifer Field Day hosted by Ogallala Commons. This event was held at the Floyd County Friends Unity Center, the heart of our TAWC Field Sites, and also included a tour of TAWC cooperating producer Riley Teeter's drip and pivot irrigated fields. Other presentations at the event included Playa Education & Community Outreach; Playa Ecosystems and Texas Playa Conservation Initiative; and Tomorrow's Water: Playa Recharge to Sustain Municipal Water Supplies.

The National Cotton Council visited TAWC field sites this past August during its Producer Information Exchange (P.I.E.) tours. Cooperating producer Lloyd Arthur hosted the group at his farm in Ralls, Texas, where he discussed battling drought this season and tools he uses to conserve water. Rick Kellison, TAWC project director, also discussed the water situation and what TAWC is doing to help test and find tools that will help producers save water. Kris Verett, another TAWC cooperating producer from Cone, Texas, talked about his success using wide row, 80-inch cotton and minimal irrigation. Verett will give a presentation about this same topic at the upcoming TAWC Water College.



Stewarding Our Aquifer Field Visit to Teeter's Farm.



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