# North Plains Water News



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# Master Irrigator Program Wins Texas Environmental Excellence Award

The North Plains Groundwater Conservation District's Master Irrigator Program has been awarded the highest environmental honor in the state, the Texas Environmental Excellence Award (TEEA). The Master Irrigator Program was designed to teach producers irrigation management and conservation practices to save water, conserve energy, build soil health, and enhance their own profitability. With over 127,000 acres of irrigated cropland influenced by 48 program graduates, the impact of the program has garnered statewide attention.

Organized by the Texas Commission on Environmental Quality (TCEQ), the TEEA is an annual awards program, recognizing achievements in environmental preservation and protection since 1993. North Plains Groundwater Conservation District (NPGCD) previously won the award in 2012 for the innovative "200-12" agricultural demonstration in which 200 bushels of corn were grown with only 12 inches of irrigation. There are nine categories in the TEEA competition, and both of NPGCD's awards have been recognized in the agriculture category. The TCEQ will celebrate the 2018 award winners at a banquet on May 16, 2018.

NPGCD's Master Irrigator Program equips participants to be better stewards of the water and the land. The curriculum covers topics such as pivot monitoring and control, advanced irrigation scheduling, high efficiency irrigation systems, and conservation tillage practices. All the courses are designed to help participants use less water and to maximize their return on investment for every drop of water they use.

Through an agreement with the USDA's Natural Resources Conservation



Master Irrigator 2017 participants interact with a producer panel as local experts discuss special topics in irrigation. The growers participating in the first two years of the program control approximately 130,000 acres, or 13-percent of the irrigated acres in the district.

Service, participants who complete the course, and receive their Master Irrigator Certificate, have priority access to the NPGCD Environmental Quality Incentives Program (EQIP) cost-share fund. This fund provides producers with financial resources to implement practices they learn during the program. Master Irrigators from the 2016 and 2017 classes have contracts for almost \$800,000 worth of conservation equipment through EQIP.

SPRING 2018

The 2018 class of Master Irrigators began classes on March 21, 2018. After four days of intensive irrigation education, 20 new Master Irrigators will lead the way in saving water through agricultural conservation practices. ●

#### **Xeriscape Gardens Cultivate Curb Appeal & Water Savings**

With spring just around the corner, many homeowners and businesses will begin garden planning in hopes of bringing some color and beauty to their lawn. In the midst of this historic drought, North Plains Groundwater Conservation District would like to help citizens achieve the garden of their dreams with water-saving plants that are adapted to this area.

The word "xeriscape" comes from a combining of the word "landscape" with xeros, the Greek word for dry. Plants used in xeriscaping are adapted to arid climates like that of the Texas Panhandle, meaning they don't require much water beyond what naturally occurs in the area, and some can thrive in extreme conditions like constant full sun or periods of drought. In the xeriscape model of gardening, plants are grouped together in the landscape by their water needs – this helps to avoid overwatering or underwatering any of the plants. By strategically choosing plants and grouping them well, a xeriscape gardener can also create unique color schemes and manipulate symmetry to generate curb appeal. While some people imagine the rocks and cacti of the Southwest when they think about xeriscaping, these are not required elements of a xeriscape. Many xeric plants are colorful flowering plants that will brighten up your home or business.

North Plains GCD held a xeriscaping class at the Window on the Plains Museum on March 24th, taught by Panhandle xeriscaping expert, Neal Hinders of Canyon's Edge Plants in Canyon, TX. To encourage adoption of water-saving gardening practices, North Plains GCD offered all participants a \$20 credit at Canyon's Edge Plants to begin their xeriscaping journey.

Later this summer North Plains GCD will hold a xeriscape garden contest to recognize water savers in the community. If you'd like to attend our next gardening class, or want to know more about xeriscaping, e-mail Julia Stanford at jstanford@northplainsgcd.org



A joint venture between a local eagle scout, the City of Dumas, and the North Plains Groundwater Conservation Dlistrict, the Welcome to Dumas garden features xeric & native plants.

#### **2018 Fumonisin Outlook**

Article courtesy of Kay Ledbetter, Texas A&M AgrilLife Extension.

"perfect storm" brewed up a batch of fumonisin in corn many High Plains Aproducers won't soon forget, but experts do not think the toxin will be a major recurrence in years to come due to expected normal weather conditions.

Fumonisin is a mycotoxin produced by two species of Fusarium fungi and can be toxic to livestock and humans at

high levels, so regulatory limits are set on the amount corn can contain.

Dr. Jourdan Bell, AgriLife Extension agronomist in Amarillo, said fumonisin occurrence is very dependent on specific weather conditions, which vary from year to year.

Should producers expect it to return as bad next year? Probably not, Bell said. Weather forecast maps indicate a return to hot and dry conditions next summer and slightly below average precipitation, which is not good overall for corn, but is good concerning fumonisin.

Corn ear worm and ears with

fusarium rot can, but don't always, lead to fumonisin contamination. Gary Patterson with Capital Farm Credit said producers might need to take that message back to their lenders and help with the education process.

"Fumonisin is a great unknown risk factor and lenders are in the business to help manage that risk," Patterson said. "But we (lenders) charge you money to handle added risk. So producers need to let your lender know, odds are it won't be a reoccurring storm."

For fumonisin to develop, the plant must first be predisposed to fusarium ear rot, Bell said. The fungus infects susceptible plants and can result in kernel and ear rot. Later in the season, the fusarium fungus releases the fumonisin only if environmental conditions are conducive for the mycotoxin to be produced. In some years, it is not uncommon for producers to have fusarium ear rot and not have any fumonisin produced.

"Many producers have never heard of fumonisin, but we have had varying levels of fumonisin historically," she said. "This year we just ended up with a perfect storm that increased the incidence. The crop was stressed during flowering with hot, dry conditions followed by rain and high humidity during grain fill, which



Corn ear worm and ears with fusarium rot can, but don't always, lead to fumonisin contamination.

Susceptibility increases when kernel integrity issues, insect damage, hail, wind, husk coverage or smut causes stress and acts as a doorway to fusarium infection on the ear, she said. But, ear mold presence does not mean the fumonisin toxin is there

"The fusarium fungus needs the correct moisture and amylopectin, or starch, to form fumonisin," Bell said. "Extended periods of heavy precipitation and high relative humidity during grain fill, along with temperatures ranging from 50-86 degrees, are ideal for fumonisin formation.

"In fact, temperature fluctuations favor rapid development, and we saw that through August and September. That is not normal for the High Plains in August, when our daytime temperatures are in the 90s to even 100 degrees."

Another consideration is smut tolerance, she said. In fields with hybrids that had poor fusarium ear rot ratings, there seemed to be very high fumonisin levels associated with smut.

"In many areas, we had lots of smut in 2017. Smut can act like a sponge for all the pathogens in that field, so you need a hybrid with high tolerance to both head

and common smut," she said. "There are no fungicides to control common smut, and crop rotation and tillage don't help either, so the hybrid is the key. Because head smut can infect the plant systemically, fungicide seed treatments can be effective."

Other considerations for producers include Bt trait selection and husk coverage. Bt, or Bacillus thuringiensis, is an insecticidal protein to provide the plant resistance to Lepidopteran insects such as the corn earworm and fall armyworm.

Research by AgriLife Extension entomologists Drs. Pat Porter, Lubbock, and Ed Bynum, Amarillo, has shown that the level of activity is not the same for all Bt toxins. Also, ears with loose husks allow wet conditions to cause more mold growth on mature ears. Water can get inside the husks and sit there creating a perfect environment for mold growth.

"As we move forward, AgriLife plant pathologists and breeders Drs. Thomas Isakeit, Jason Woodward, Gary Odvody and Wenwei Xu will continue to be evaluating best management practices and hybrid susceptibility to minimize future fumonisin outbreaks such as in 2017."

David Gibson, Texas Corn Producers executive director in Lubbock, told producers one change that has resulted is the Risk Management Agency, or RMA, reinstated a scale for fumonisin discounts. The scale existed until 2010, then disappeared, and now will be back in place for the 2018 crop.

Gibson said growers need to be diligent in their record-keeping.

"Hopefully you worked with your adjusters and are all set," Gibson said. "What I have advised growers is document everything you did and get everything in writing, because if you are reviewed, you want to make sure you have all the information.

"If you had over \$200,000 in claims, you are probably going to be reviewed by RMA. Every 'i' must be dotted, every 't' must be crossed. They will go over every detail and make sure the records are provable that crop insurance is being used correctly and there is no fraud."

Gibson said the concerns from this year are not over, as anyone who sold corn directly to a feed yard may be getting a letter from the Office of the State Chemist outlining fees and licenses required when selling a feed source into the industry.

Ben Weinheimer, Texas Cattle Feeders Association vice president in Amarillo, said the letters are due to a regulation stating farmers, truckers, brokers and elevators are subject to licensing, labeling and inspection fees if they market direct to an end-user.

Also, a Food and Drug Administration guidance in 2001 specifies the levels the industry is to follow when accepting grain and the state chemist office has put these into state regulations. So the 60 parts per million guideline isn't negotiable for them; they can just accept or reject loads of corn, Weinheimer said.

However, he said, it is a level they believe needs more research for validation both by the industry and Texas A&M AgriLife because there is not a huge inventory of trial data for fumonisin in feeding rations.

#### **District Revises** Management Plan

The Board of Directors adopted the District's new management plan at their regular meeting on March 13th. The adoption of the plan marks the completion of a review and revision process spanning approximately one vear.

At least every 5 years, a groundwater management district must adopt a management plan for the area it serves, detailing the ways it will protect and conserve groundwater for the future. The requirements for groundwater conservation district's management plans are outlined in Chapter 36 of the Texas Water Code. Since this management plan is the framework for the district's rules, it is important for District stakeholders to be involved in the

Before North Plains GCD updates the management plan, staff places public notices in local newspapers and on multiple social media outlets. This is done to alert all the people within the district of a future public hearing about the proposed changes. At the public hearing, the Board of Directors hears any comments regarding the revisions. Concerned citizens can also write a letter and send in their feedback to be taken into consideration. The public hearing regarding the latest management plan revisions was held prior to the regular meeting of the Board of Directors on February 13th.

The new version of the District's management plan has been improved for readability and addresses some of the district's pioneering conservation measures like agricultural demonstrations at the North Plains Water Conservation Center and financial assistance for our stakeholders.

The new management plan will be considered in regional planning by Groundwater Management Area 1 and the Region A Water Planning Group.



A corn cob broken in half shows silk cut as

a result of poor kernel integrity. Texas A&M

This year was a teaching year

"We know some of the newer

cannot tolerate drying down in August

and September when it is really hot and

the kernel integrity is damaged."

AgriLife photo Dr. Jourdan Bell

#### District Sponsors Texas 4-H20 Water Ambassadors

The North Plains Groundwater Conservation District is proud to support the second year of the Texas 4-H2O Ambassador Program. Students interested in participating in the program will find application information at the end of this story. This story is provided courtesy of Texas AgriLife Extension.

Thanks to the support of many in the water industry, a new Texas 4-H initiative is helping to grow the next generation of water leaders. 2017 marked the debut of the Texas 4-H Water Ambassador Program including selection of the first cohort of high school youth. The goal of the Program is to provide youth an opportunity to gain advanced knowledge and develop leadership skills related to the science, engineering, technology and management of water in Texas.

Sixteen youth representing 13 Texas counties were selected to participate in a summer 4-H2O Youth Leadership Academy. This 8-day educational tour experience covered 2,200 miles, featured 30 tours stops and educational presentations, and engaged nearly 80 water industry professionals across the State. The Academy exposed ambassadors to a wide range of water issues, provided a unique perspective of the many challenges faced by local communities, and offered a behind-the-scenes look into water planning. Tour stops and presentations addressed water law, policy, and management as well as hydrogeology, water treatment, and emerging technologies in irrigation management, reuse, desalination, and aquifer storage and recovery.

For participating youth, this experience greatly increased their appreciation for the complexity of meeting water demand with limited and uncertain water supply. It also opened their eyes to the many career opportunities in the water industry. "I have had the opportunity to learn a lot of new things and explore the water industry this past summer. I gained a new perspective: Water doesn't just appear in your faucets and hoses, it's carefully planned and managed by a community of passionate people." –Molly McKinney (4-H Water Ambassador from San Antonio)

As 4-H Water Ambassadors, these youth are charged with providing water education and service back in their communities. Since July 2017, water ambassadors have provided more than 350 hours of service and have reached more than 4,200 adults and youth with water education. They lead water education efforts in their schools, 4-H clubs, and at community events. Several ambassadors have presented to their local groundwater conservation districts and at regional water planning meetings. For some, this Program has sparked an interest in advocacy



Logan West (Wilson Co.) discusses rainfall harvesting at the Wilson County 4-H kickoff.

and collaboration. "As an amateur ecologist and small farmer equipped by Texas 4-H2O, I have recently presented on new agriculture methods that protect soil and water at a science conference, and joined a citizen-lead committee to manage water pollution on Chocolate Bayou in Brazoria County." –Christian Hernandez (4-H Water Ambassador from Manvel)

These activities encourage ambassadors to continually increase their water knowledge, and provide a unique opportunity to develop leadership and presentation skills that will serve them well in the future. "The Texas 4-H Water Ambassadors Program has opened my eyes to a whole new world of water, both in industry and government. This program has provided me with many opportunities to increase my leadership skills, especially in the areas of teaching and teamwork." –John Phillip Jones (4-H Water Ambassador from Pattison)

Online applications for the 2018-2019 class of 4-H Water Ambassadors will be accepted February 19 through May 20. More details about the Program and application instructions are available online at https://texas4-h.tamu.edu/projects/ water/. To be eligible, youth must be entering the 9th, 10th, or 11th grades for the 2018-2019 school year. Applicants do not have to be a current 4-H member. If selected, these individuals will be required to join a local 4-H club.

Those selected must participate in the summer 4-H2O Youth Leadership Academy July 21-28, 2018. Drop-off and pick-up in Austin. Please contact David Smith, 4-H2O Program Coordinator, at davidsmith@tamu.edu with any questions.

# New Conservation Outreach Specialist

Julia Stanford joined the North Plains Groundwater Conservation District staff in January as the new Conservation Outreach Specialist. She has hit the ground running, planning the annual Save the Planet's Water Festivals, promoting the Master Irrigator program, and interacting with our valued partners and the communities we serve through social media, regional conferences, and by touring through the NPGCD area.

Julia hails from Fort Worth and received a BS in Geography from Texas State University in 2013, where she took classes reflecting her lifelong interest in water resources and aquatic ecology.



She has several years of experience in environmental education and outreach, including teaching at an outdoor school in Houston ISD, working at several Texas state parks, and delivering conservation presentations at schools and festivals throughout the Dallas-Fort Worth area. Most recently Julia worked at a growing children's museum in Victoria as the Event & Volunteer Coordinator, managing people and resources to create effective educational and fundraising experiences for audiences of all ages. She and her husband, Michael, relocated to Amarillo in December for his new position as the Lead Park Ranger at Palo Duro Canyon State Park. Julia is thrilled to share her passion for water conservation with our stakeholders and make NPGCD the best it can be.

If you have any questions for Julia, or you would like to know more about NPGCD's outreach offerings, please feel free to e-mail her at jstanford@ northplainsgcd.org or call 806-930-6934.

# **Upcoming Events**

- Master Irrigator 2018, North Plains WCC, March 21 & 28, April 4 & 11
- NPGCD Office Closed, March 30
- Save the Planet's Water Festival in Dumas, April 17
- Save the Planet's Water Festival in Dalhart, April 18
- Save the Planet's Water Festival in Perryton, April 20
- Texas Environmental Excellence Award Banquet, May 16, Austin, TX

### Save Paper and Water by Choosing our E Newsletter

North Plains GCD now offers our district newsletters by email. If you would like us to send you a digital copy of the newsletter, you can go online at www.northplainsgcd.org/sign-e-news/ and fill out the form, or just email info@northplainsgcd.org. You can also go online to download previous newsletters, and find us on Facebook, Twitter and Instagram.



# North Plains GCD Holds Water Conservation Art Contest

North Plains Groundwater Conservation District invites children in the district's eightcounty coverage area to participate in the annual Water Conservation Art Contest. Fourth, fifth and sixth grade students are challenged to submit their best artwork related to water conservation for a competition. Thirteen winners will be included in next year's calendar produced by the district. Students should use as many colors as they like as they create a picture demonstrating a way to conserve water. The first-place winner will be awarded a \$50 prize and the artwork will be featured on the cover of the calendar. There will be 12 second-place winners, and each winner will receive \$25 and their drawing will be featured on one month of the calendar.

The artwork should be done on 8.5"x11" paper in landscape mode so that the paper is wider than it is tall. Please have students turn in a submission form along with their drawing. The submission form and contest rules can be found at www.northplainsgcd.org.

The deadline for turning in artwork for the competition is June 15, 2018. Please bring the artwork from your class to the North Plains Groundwater Conservation District office at 603 East 1st Street in Dumas, or mail it to North Plains Groundwater Conservation District at P.O. Box 795, Dumas, TX 79029. Please place artwork in a 9"x12" envelope so that it arrives unbent. If you have any questions, call Julia Stanford at 806-930-6934 or e-mail jstanford@northplainsgcd.org.

#### NORTH PLAINS GROUNDWATER CONSERVATION DISTRICT

BOX 795 DUMAS, TEXAS 79029



Christi Zamarripa's winning artwork for the 2017 Calendar Contest





# Winter Water Level Measurements in Progress

Every January, the North Plains Groundwater Conservation District field crew embarks on a long journey to measure the level of 428 wells within the district's 8-county area. By recording data about these wells, district staff can determine aquifer decline and saturated thickness. While 62 of these wells are owned by the district, the other wells are privately owned. The wells were selected to provide an accurate representation of the aquifer throughout the district. You can view the wells and their annual measurements online at North Plains GCD's interactive map at map.northplainsgcd.org. The results of the measurements will also be displayed and interpreted in North Plains GCD's annual report, available at the district office in Dumas this summer.