

## Anatomy *continued from page 81*

- The Ordinance is expected to reduce San Antonio water use by 4,000 acre-ft. per year and contribute three gallons per capita per day (GPCD) towards San Antonio's water conservation goals.
- Since Turfgrass Producers International began its coverage of the San Antonio Water Conservation Ordinance process: Toyota Mfg. has committed to the building of an auto assembly plant that will result in 4,000 jobs; Texas A&M University has announced they will build a new campus in San Antonio capable of enrolling 25,000 students by 2009; and PGA Tours has reached agreement with SAWS and San Antonio to build a three-golf-course resort and housing complex north of the city with the strongest environmental features ever utilized on a U.S. golf resort.
- Since 1992, San Antonio has grown by 300,000 people and does not use any more water than it did back then. In 2004, per capita water reached 129 GPCD including all residential, commercial and industrial use. GPCD is 42 percent less than it was at its peak in the early 1980s.
- The centerpiece of the Ordinance is the provisions that reflect an agreement with the Greater San Antonio Builder Association that all landscapes on new homes built after January 1, 2006 will be low water-use landscapes defined by at least four inches of soil under all turfgrass, irrigation zoned by plant type and in 2007, all lawn grasses used must be capable of surviving 60 days of drought.
- The Turfgrass Producers of Texas, Texas A&M University and SAWS will partner

to organize the testing program to identify the drought tolerant turf varieties.

- Information on the provisions of the San Antonio Water Conservation Ordinance is available at [www.saws.org](http://www.saws.org) under the Conservation section.
- In 2004, the National Association of Environmental Professionals recognized the SAWS Conservation Program with its Presidential Award as the Most Outstanding Environmental Program in the nation. That same year, the Texas Water Conservation Association recognized the whole City of San Antonio as Texas Conservationist of the Year.

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## SAWS/TPT Project To Evaluate Turfgrass 60-day Drought Survival Is Underway!

The Texas A&M University Soil and Crop Sciences Department in cooperation with Extension Agricultural Engineering recently entered into Memorandum of Agreements with the San Antonio Water System (SAWS) Conservation Program and the Turfgrass Producers of Texas to fund a two-year research project. The project will

evaluate the 60-day drought survival of turfgrass species and cultivars in San Antonio.

Team members have constructed the research site and just recently sodded the plots with 25 different turfgrasses. This winter a 5,000 sq. ft. rain-out shelter will be constructed on the site. The rain-out shelter is designed to cover the plot area during times of rainfall to maintain a 60-



*Part of the test plot requirements are that all sod samples must be thoroughly washed to remove any trace of the original soil in which they were grown.*

day summer drought period after which the grasses will be allowed to recover with irrigation for 60 days. Grasses will be evaluated during both the drought and recovery periods. Drought studies are scheduled to begin July 2006 on the grasses recently planted. The same set of grasses will be planted to a different plot area in September 2006 to repeat the 60-day drought treatment again in July 2007. San Antonio will use the results to develop turfgrass recommendations based on 60-day drought survival.

## Why are the Turfgrass Producers of Texas Helping to Fund this Project?

SAWS Conservation Program is well respected nationally and it is very proactive in educational programs targeted at water conservation. Discussions with TPT and SAWS regarding turfgrass water use date back to early 2003 when SAWS was working on developing grassing ordinances relating to new home construction. This evolved into a SAWS ordinance that will go into effect January 2007. The ordinance will require new home construction to: 1) have at least four inches of topsoil in place prior to lawn establishment, and 2) to plant grasses that are most likely to survive a 60-day drought. TPT perceived this as potentially having great impact on the Texas sod industry and made every effort to represent the sod industry's interests to SAWS. The TPT leadership's view was that if SAWS was going to make this happen, then any list of grasses being able to survive a 60-day drought should be based upon good science and they should be involved. We at Texas A&M then became involved in discussions with SAWS and TPT to arrive at research methods that would meet SAWS needs, while also being approved by TPT.

SAWS will use data from the 2006 drought study to formulate an initial list of "drought tolerant" grasses. The study will gather data on 25 grasses solicited by TPT



*Half of each test plot sample is planted on native soil; the other half is planted on four inches of topsoil which is placed on an impermeable plastic barrier to simulate the SAWS requirement for landscape sod installation—the barrier slopes to drain saturated water flow.*

on the basis of either the grass having a presence in the San Antonio market or as a result of a turf producer wishing to pay to enter a grass in the test.

**A Brief Description of This Study:**

- Grasses are planted in San Antonio so the data will be readily accepted by SAWS.
- The grasses are planted in four-ft. by four-ft. plots and include bermudagrass (Celebration; Common; GN-1; Grimes EXP; Premier; TexTurf; TifSport and Tifway 419); St. Augustinegrass (Amerishade, Common, Delmar, Floratam, Palmetto, Raleigh, and Sapphire); Zoysiagrass (Cavalier, El Toro, Emerald, Empire, Jamur, Palisades, Y-2, Zeon and Zorro). Although the SAWS list will include all the buffalograsses without need for testing, one buffalograss was planted for comparison purposes.
- Texas A&M constructed the research area and will oversee plot management and data collection, analysis and interpretation of the results.
- TPT members supplied the sod for the study.
- Grasses are planted on four inches of native soil over an impermeable plastic barrier to simulate the four inches of topsoil requirement in the SAWS ordinance. This barrier slopes to drains to remove saturated water flow.
- Grasses are also planted on the native soil without restriction to rooting to represent drought survival on unrestricted soil depth.
- The 25 grasses were established from washed sod to minimize differences in rooting from the soil on the sod.
- Grasses will have been established for 9.5 months from washed sod prior to the 2006 drought treatment.
- The rain-out shelter will allow for a 60-day drought period for 25 grasses on two soil profiles.
- A 60-day drought recovery period, under irrigation, will follow the drought, and grasses will be evaluated for survival.

**Money Funds Research!**

One challenge with any research proposal is that it must have a realistic budget to garner grant support. This project will run two years four months. The total grant dollar support for this research totals \$138,033 (SAWS portion is \$115,439 and TPT grant funding is \$22,594). Over half of those funds will go towards building and maintaining the rain-out shelter. Items not reflected in this total are the many volunteer hours and in-kind support that have gone into making this study a reality. The logistics of planning this study took a great deal of coordinated work.

**Summary**

This project is the result of a cooperative effort between SAWS, TPT, the Texas A&M University Turf Program, Texas A&M University Extension Agricultural Engineering and Irrigation Technology Center, Bladerunner Farms and Turfgrass America. Sod producers and other turfgrass professionals should be aware that the results of the project will likely not just stay in San Antonio but are likely to be used by other municipalities who are also interested in water conservation. The members of TPT should be proud of their organization for stepping up to be involved in a proactive manner



*Having invested countless time, effort and dedication to the SAWS/TPT project to evaluate turfgrass, these individuals stand proud of work that can have far reaching positive impact.*

on an issue that is so important to its members and the turfgrass industry in Texas.

In my role as State Extension Turfgrass Specialist and as technical advisor to TPT board of directors, I was pleased to be able to facilitate the interaction among groups and help make this project a reality. In my opinion, this is an example of what many Turf Extension Specialists do; and that is to work to foster the logical and orderly growth of the turfgrass industry. All involved view this project as a "good thing for turf in Texas!"



**INFO CENTRAL**

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