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Photos: Jerrold Summerlin

# Earth-Friendly Cityscapes

## Horticulturists help beautify and protect urban environments

by Janet Gregg

Texas's ongoing drought underscores the fact that water supplies are growing more precious. Underground water tables are declining or taking longer to replenish, posing environmental concerns for urban areas.

Since the average American household uses an estimated 76 gallons of water per day to irrigate lawns, shrubs and gardens, many municipalities are taking a hard look at how much water is used for these purposes and at ways to adopt practices that promote sustainable water use, encouraging residents to use no more water than is replaced by rainfall.

Agricultural—specifically horticultural and turfgrass—research continues to focus on the development of new plant varieties that use less water and are more drought-tolerant. The key, though, is getting the public and municipalities to choose low-water-use and drought-tolerant turfgrasses and landscaping plants.

The Texas Agricultural Research and Extension Center at Dallas has taken a lead in the Dallas Metroplex by partnering

**OPPOSITE:** A bumblebee gathers pollen from blue salvia plants as volunteers maintain a flower garden at the Dallas Arboretum. **ABOVE, FROM LEFT:** Jimmy Turner, the Arboretum's research director (left), and Dr. Steve George, Extension horticulturist, admire the abundant blooms on Knockout roses improved by the addition of expanded shale (right), which aerates clay soils, resulting in healthier plant root systems. Unlike other soil treatments, which have to be added annually, expanded shale is added only once.

with several municipalities and nonprofit organizations to promote environmentally friendly horticultural landscaping practices in high-visibility areas that will also garner increased public awareness and education.

For the past six years, the center has worked closely with the Dallas Arboretum on cooperative research and testing.

"The arboretum tests roughly 3,000 plants each year," says Jimmy Turner, director of research for the Dallas Arboretum and Botanical Society. "Of those, about 1,000 are tested jointly with Texas A&M University. Annuals are tested a minimum of two to three years in a row, and perennials and roses are tested at least three years."

As a result of the trials, the toughest, most successful plants are named to the North Texas Winner's Circle or receive designation as a Texas Superstar.

"The North Texas Winner's Circle is a regional program within the statewide Texas Superstar program. Plants that receive either or both designations have already passed the quality and reliability test," says Dr. Wayne Mackay, a horticulturist with the Texas Agricultural Experiment Station at the Dallas center. "It's been a great partnership for the arboretum and for us. The arboretum gets research and experience from us, and we get exposure to the public."

Dr. Steve George, a Texas Cooperative Extension horticulturist at the Dallas center and the driving force behind the North



Photos: Michelle Shook and Janet Gregg

Texas EarthKind Roses program, also values the partnership with the Dallas Arboretum.

"The trial gardens at the Dallas Arboretum combine the best of organic and traditional gardening and landscaping techniques to create a new horticultural system for the 21st century—a research-proven system based on real-world effectiveness and environmental responsibility," George says.

Center researchers have partnered on another high-profile project in North Texas. The Crape Myrtle Trails of McKinney Foundation and the City of McKinney are planting 100 miles of crape myrtle driving trails throughout the city. To date, more than 2,000 crape myrtles representing some 18 varieties have been planted along 10 miles of streets.

Dr. Raul Cabrera, who specializes in woody ornamentals horticulture at the Dallas center, serves as project consultant.

The crape myrtle collection at the center provides the research and education base for the trails project, Cabrera says. "Many of the hybrid crape myrtle developments since the mid-1970s were evaluated at the Dallas center before being released to the public."

Steve Brainerd, McKinney parks and development superintendent, says he has been very happy with the crape myrtles they've planted.

"They like hot weather, and you can take away the water supply for this plant and it will survive—if you have water rationing, for example," Brainerd says.

Susan Owens, executive director of the Crape Myrtle Trails of McKinney Foundation, says the public has also responded well to the trail.

"The community loves this project," she says. "People want to know how to get more involved."

Another partnership project grows alongside Grapevine's recently completed Dove Loop Road. Sixty varieties of rose bushes line nearly 800 feet of the roadway. When in bloom, the garden literally stops drivers in their tracks.

"Many drivers slow down and take a look, and others stop and walk the length of the garden, smelling the flowers and reading the name tags placed in front of each bush," says Kevin Mitchell, Grapevine parks superintendent.

Dedicated last October, the trial garden is a joint project of the City of Grapevine, the Grapevine Garden Club and Texas Cooperative Extension.

"The trials currently under way include five roses in the final stages of a statewide research effort for EarthKind designation and 30 rose cultivars in a trial for national and international EarthKind designation," says Michelle Shook, a volunteer who coordinates the EarthKind Rose Brigade.

"Roses designated as EarthKind are naturally disease- and insect-resistant. They also use as much as 70 percent less water, require almost no maintenance, and need no fertilizers or pesticides," says Landry Lockett, Collin County Extension agent for horticulture and the national coordinator for Master Gardeners in the EarthKind Rose Brigade. "We want to help create beautiful, productive landscapes that require minimal maintenance and maximum protection for the environment."

Addison is home to another EarthKind rose trial garden. The city partnered with the Dallas center nearly four years ago, when the city manager began emphasizing fiscally responsible water use.

"Because the parks department is the town's largest water user, a conscious effort is under way to switch city landscaping to plants that are drought-tolerant," says Slade Strickland, Addison parks and recreation director. "We're trying to be proactive about saving water."

Strickland adds that the rose trial garden's high-profile location at Les Lacs Linear Park, the town's largest park, has generated a lot of response from the community.

"A lot of times we get calls from people who want to know what we're doing," he says. "They're also curious about cer-

**ABOVE, FROM LEFT:** More than 2,000 crape myrtles currently beautify the city of McKinney, adding color to some 10 miles of streets. When completed, the Crape Myrtle Trails project will create 100 miles of driving trails throughout the city. At a Crape Myrtle Trails conference, executive director Susan Owens (left), Extension horticulturist Dr. Raul Cabrera, and Collin County Master Gardener Diane Sharp discuss the merits of hybrid varieties. Addison's Rose Trails help to beautify the city with brightly colored EarthKind roses. Visitors to the first EarthKind park in the nation can enjoy displays of colorful foliage, knowing the gardens are conserving water and contributing to a cleaner environment.



tain varieties of roses, or just want to express how beautiful they are and how much they enjoy having them at the park."

George says Addison has seen a 75 percent reduction in water usage in the garden.

Town leaders were so happy with the rose trial gardens that the concept has been expanded to a half-dozen locations around the city, including construction of a new city park built using EarthKind methods. The park, Parkview Park, was completed last fall. It covers 0.7 acres and is the first fully EarthKind park in the nation. It's an example George hopes other municipalities will follow.

"Addison is the first example of a complete EarthKind rose trial, where they follow all of the tenets of the EarthKind approach, both in soil management and plant culture," George says. "It definitely is a model for park systems worldwide.

"It shows how parks can have beautiful plantings with great protection for the environment and significantly reduce maintenance costs. So it's the prototype for what we want parks, botanic gardens, Master Gardener groups and rose societies across the U.S. to emulate."

Dr. Frank Gilstrap, resident director of the Dallas center, believes in the value of partnerships and says efforts will continue to create new partnerships that benefit research, the center's surrounding communities and the state as a whole.

"We all bring different areas of expertise to the table, and together we could be more productive in regard to regional and urban planning," Gilstrap says.

One example Gilstrap cites is a partnership with the City of Forney. "We're consulting with the City of Forney on an integrated and holistic approach to installing new yards and renovating old ones," Gilstrap says. "This is hopefully only the beginning.

"Climate, water usage, growth rate, and disease- and insect-resistance are all things that should be factored in when yards are being built or renovated," Gilstrap continues. "And yet we all see new neighborhoods go in with landscaping that is not the best possible choice for our drought-stricken summers with frequent water restrictions—not to mention our cold winters. It's not fiscally responsible, and it's not environmentally

responsible either. With the work we do here at the Dallas center on turfgrass and horticulture, we should be at the forefront of working with cities and developers in this regard."

Gilstrap says the Dallas center will continue to pursue partnerships that promote environmentally friendly plants and landscaping practices to demonstrate their positive impacts.

### **Dallas Arboretum**

8525 Garland Road

Dallas, TX 75218-4335

214-515-6500

[www.dallasarboretum.org](http://www.dallasarboretum.org)

### **Parkview Park (EarthKind park)**

5032 Parkview Place

### **Rose Trails**

Addison, TX

972-450-2869

### **The Crape Myrtle Trails of McKinney**

P. O. Box 2909

McKinney, TX 75070

972-542-1550

[www.crapemyrtletrails.org](http://www.crapemyrtletrails.org)

### **City of Grapevine Rose Trail**

Grapevine, TX 76051

817-410-3185