



Selected Plants Conserve Water

The switch to native desert plants for landscaping, which helped Tucson drop its per-capita water use by one-fourth in the late 1970s, continues to gain ground in Arizona's desert cities.

Researchers at the University of Arizona, in cooperation with several other groups, are collecting and testing dozens of low-water-use plants to widen the selection available for landscaping. The projects have recently added indoor plants and cut flowers among the prospective jobs for plants being tested.

Until the mid-1970s, native desert plants, such as mesquite and palo verde trees, often were bulldozed when homes and commercial facilities were landscaped. Despite the beauty of native vegetation, many owners preferred to landscape their homes and businesses with large lawns and lush vegetation.

Times have changed. The combination of increased water rates, unhealthy pollen counts, and publicized examples of attractive desert landscaping has created a strong demand for low-water-use plants among homeowners and commercial developers. New Pima County restrictions on certain high-pollen trees will accelerate this trend.

University of Arizona landscape architect Warren D. Jones and horticulturist

By George Humphrey
and Guy Webster



Top of page: Desert willows and Mexican primroses create a woody scene with landscaping plants that require little water.
Above: Mexican primrose blossoms are pink. (Photos by Ted Bundy.)

turist Dr. Charles M. Sacamano have helped lead the trend, both through public education about plants already available and through projects to identify new choices.

“For years, people had been growing native plants and selling a few of them on a small scale, but when Warren and Charlie got involved, the demand really increased,” said Ron Gass, owner of Mountain States Wholesale Nursery in Phoenix. He has worked closely with the university on propagation of the prostrate indigo bush as a groundcover plant and on several other projects.

Dozens of desert plants, including Arizona natives, are already widely used and are available from nurseries. “The landscaping that’s best for you depends on the space you have and on how you plan to use it,” said Jones. “For practically any use, however, there’s a water-conserving plant that can do the job as well as the thirsty ones.”

Information Sources

UA Cooperative Extension Service agents in each Arizona county can provide advice for use of low-water-use plants in landscaping. The Southern Arizona Water Resources Association (SAWARA) in Tucson distributes lists of water-conserving plants and has designed blue tags for nurseries to put on the approved plants. Both inspiration and information are available from displays of landscaping at the Desert Botanical Garden in Phoenix, the Arizona-Sonora Desert Museum near Tucson, the Boyce-Thompson Arboretum near Superior and the Tucson Botanical Gardens.

“I think desert natives and other arid-land plants will soon be the majority of plants sold,” said Gass, who wholesales to many nurseries statewide.

William C. Harlow of Harlow’s Landscape & Nursery Center in Tucson

The landscaping and siting of this Tucson house make use of existing native vegetation to provide an attractive entryway. The plants include ocotillo and foothills palo verde.



said, "Ten years ago, the standard landscaping was a lawn in both the front and back yards. Now, there are very few grass front yards and even the back yard may not be wall-to-wall grass." Many yards now have small "mini-oasis" patches of green.

Harlow's nursery sells many mesquite, palo verde and acacia trees and other native desert plants. "Prior to 1975, I don't think we even carried mesquite trees," he said.

The UA campus, the Boyce-Thompson Arboretum, the Central Arizona College campus at Coolidge and the U.S. Plant Materials Center in Tucson are the sites for many tests of prospective new landscaping plants.

"The water situation has dictated that we need a wider palette of plants," said Sacamano. "The testing takes several years, at least. ... We're testing plants from all over the world."

Jones studies how desert plants fare in urban settings. Because buildings block cool air currents and concrete reflects heat, cities tend to have micro-climates hotter than in outlying areas. The UA campus provides an ideal urban test site for desert vegetation, said Jones. Chuck Raetzman, campus grounds manager, has cooperated closely in the test plantings and has used water-saving selections in many functional settings.

Mesquites are among the most common drought-tolerant trees on campus. "They are one of the best desert shade trees," said Jones. The campus has four mesquite species from South America, including Argentine mesquites in front of the Old Agriculture Building, and two North American species. Members of the acacia family, which includes trees and ground covers, have also proved very drought-tolerant. The Southwestern sweet acacia is gaining popularity as a canopy tree. Jones is testing other acacias from Australia, Arabia, Africa and South America.

Coming Attractions

A small tree called Texas olive (not a true olive) has attracted attention in test plantings. "It's a beautiful, patio-size tree with white flowers all during the warm part of the year," said Jones. The Arizona-Sonora Desert Museum recently cracked the problem of propagating this species. Jones said, "It's probably going to be one of those good sellers, because it blooms even in the gallon can. That helps when people are picking out nursery plants."

He is also optimistic about a variety of desert willow that he and Bill Kinnison of Central Arizona College collected in the Chihuahuan Desert. He said the tree's dark-green foliage, which lasts almost year round, helps make it even more attractive than the desert willows available now.

Sacamano said that some plants used as herbs need little water and look good as landscape plants in tests at the Boyce-Thompson Arboretum. "Some varieties of thyme are making beautiful dense mats of growth and have lovely flowers," he said. Purple- white- and yellow-flowering varieties are being tested. Some are commercially available, but are usually grown in pots.

Dr. Chi Won Lee, a UA plant scientist, is testing several varieties of desert plants for possible commercial use as cut flowers, potted plants or landscaping ornamentals. He said, "There's a constantly high demand for new and unusual material for the flower industry in the United States and worldwide. People get a little bit tired of petunias and geraniums."

In greenhouses, he is evaluating varieties of penstemons, torchwoods, eucalyptus shrubs and a red-flowered Australian native named clianthus.

Later this year, Sacamano will spend several months exploring semi-arid jungle habitat in western Mexico to find varieties that might make good indoor trees or indoor flowering plants.

Top: Texas olive trees shade benches in a test planting near the University of Arizona library. Researchers and nurserymen are optimistic that this species will become popular for landscaping. The trees bear yellow-centered, white blossoms for several months.

Bottom: The original specimen of prostrate indigo bush that was collected in the Chihuahuan Desert continues to thrive in its test planting on the UA campus. It is becoming a popular groundcover selection.



Landscaping with native desert plants is not really new. One of the largest mesquite trees at the University of Arizona shades the southeast corner of Old Main, the oldest building on campus.



Besides testing natural varieties of plants, UA researchers are attempting to produce attractive, hardy hybrids.

Lee and Jones are studying hybrids between desert broom and dwarf coyote bush. Former UA horticulture head Dr. Anson Thompson made the original cross about 10 years ago. "We've gotten a whole field of plants with the bright green color of the desert broom and the prostrate form of the coyote bush," said Jones. That is the combination they sought, but they also want to get rid of the plants' cottony seeds that can litter yards.

They are also crossing two varieties of orchid tree, one that has large flowers but is vulnerable to frost and another, from the Chihuahuan Desert, with smaller flowers but more hardiness.

"It's important that there's a good demand now (for low-water-use plants)," said Jones. "There were some instances in the past where a nurseryman might get real enthusiastic and grow a whole lot of them; then he couldn't sell them and had to dump them and take a loss."

He said, "Now there's a real groundswell, and it's only going to get better."