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Designing Water Smart Landscapes

To reduce water use in the landscape, many homeowners are creating water-efficient landscapes with concepts like Xeriscape Landscaping™ and Water Smart landscapes. These concepts can save as much as 50 percent of water in the landscape. Water in the landscape is over 25 percent of a resident's water usage. These water-saving landscaping concepts incorporate several landscaping principles that help reduce the overall demand for irrigation water to maintain landscaping, while at the same time promoting attractive, region-specific yards that anyone would be proud to call their own.

Water-smart landscapes are not rock and cactus. Dr. Doug Welch, a Texas AgriLife Extension Service horticulturist and proponent of xeriscape landscaping, says a well-designed xeriscape landscape should look like it belongs in any popular home and gardening magazine—in other words, it should be a creative, beautiful solution to reducing the yard's need for supplemental irrigation water.

You don't necessarily have to totally redo your yard to achieve substantial water savings. Many simple ideas can be incorporated into existing landscapes. Major renovations could take place over a period of several years. Basically, using good, fundamental landscape design techniques will lead to not only an attractive yard, but also to water savings. Let's look at some ways to design a water-smart yard.

Start with a Good Design

Every great landscape, whether consciously designed for water conservation or not, starts with a well-thought-out plan that has been laid out on paper. Begin with a survey of your property's characteristics that affect both plant growth and development, and decide on the intended use of each main section of your property. This would include things like sun and shade patterns during the day and throughout the year, drainage patterns and slopes, desirable and objectionable views, areas needing privacy, etc.

A site plan can be easily created by gathering the dimensions of the property, house, driveway, lot size, etc., and plotting all of these permanent features on graph paper. This is called the base map. Using tracing paper over a scale rendering of your lot will enable you to try various concepts and designs.

There are several ways of looking at your yard. What is the intended or main use of each area of the property? In many cases, most family activity takes place in the back yard, while the front yard is more formal and functions to "dress up" the appearance of the house, usually referred to as the public area that visitors most often see. This might then inspire the question, is wall-to-wall turfgrass the best approach for the front of the home if the turf is not often used for recreation or other purposes? It is possible to design the public area to require less water and maintenance without sacrificing appearance or quality.

The side yards on smaller lots often are not used at all except as passageways around the home, or they are used for storage of tools, garbage cans, dog runs, and recreational vehicles. These areas are referred to as service areas. Could these areas be modified and designed to reduce or eliminate the need for supplemental irrigation?

Perhaps the back yard could be redesigned to accommodate a family's needs and requirements by adding a deck or enlarging a patio. This area is referred to as the private area.

As you begin planning the landscaping for your yard, place tracing paper over your base map, and indicate the public, private, and service areas.

Zoning

"Zoning" is one common theme in many xeriscape gardens. This is the division of the various areas of the property into three zones: low-, moderate-, and high-water use. Plants are then grouped in the landscape according to their water requirements, which prevents over watering certain plants within an irrigation zone when taking care of the water needs of other more water-demanding plants. Of course, plants in each zone will also have similar sun and other cultural requirements.

The high-water-use zone is for visible areas with high impact, like the front yard close to the house or areas close to frequent activity. This is the zone that needs regular watering in the absence of rainfall. Annual color plants and other water-sensitive plants predominate in this zone. In the moderate-water-use zone, established plants require water only occasionally when they show symptoms of water stress. Many shrubs and perennials will work in this zone. Plants in the low-water-use zone receive no irrigation water and can survive on normal rainfall. There are a large number of plants that, once established, will survive and grow well in a low-water-use zone.

Of course, all plants need special attention the first year after planting to become established and develop an extensive root system. These plants require regular irrigation for several months after planting.

Using another piece of tracing paper, sketch different water-use zones on your plan. Within each zone you can now begin to draw different planting beds and other features. Use smooth, flowing curves for beds for the best appearance and ease of maintenance. Once beds and other elements have been drawn, individual plants can then be drawn into the plan based on the characteristics of the location and the cultural needs of the plants.

Plant Selection

Native plants are always a good choice if they are adapted to the specific characteristics of your property and the particular site. There are also many non-native plants that are Texas-tough. The key is to match the plants with the micro-climatic features of the site. Low or wet areas of the landscape that cannot be modified can be designed to accommodate plants adapted to wet soils. Drought-tolerant plants can be used in dry soils or windy areas. For a listing of recommended plants to use in Texas, visit the Texas AgriLife Extension Service's Aggie Horticulture website at: http://aggie-horticulture.tamu.edu/plantanswers/publications/publications.html.

Mulching

Any water-smart landscape will have mulch as a major component. All plants benefit from a layer of organic mulch on the surface of the soil. Pine needles, pine or cypress bark, compost, and chopped leaves all help to preserve soil moisture by dramatically reducing evaporation. Mulched soils are also cooler than unmulched soil, reducing the ambient air temperature around the plants. And organic mulches add nutrients and improve soil structure as they decompose, furthering the health of the plants.

Landscapes can have large mulched areas that take the place of lawns and ground covers, especially in heavily shaded areas where turf struggles to grow. Organic mulches need to be renewed every year as they break down.

Renovating an Existing Landscape

Since lawns require the most supplemental irrigation water during the summer, it makes sense to limit the expanse of the lawn to areas where it will be used and appreciated the most. For example, a home with grass growing right up to a line of shrubs planted against the house in the front yard could be redesigned by removing a portion of the lawn, expanding the bed to sweep out from the house with graceful and curving lines, and planting with lower-water-demanding shrubs or ground covers. Similar changes could be made in the private areas, along with expanding existing patios with brick, wood, or other surfaces.

Take another look at your yard, and consider how you can stretch one of Texas' most precious resources—water!

Adapted with permission from *Designing Water Smart Landscapes* by Keith C. Hansen, Texas AgriLife Extension Service Horticulturist–Smith County, by Teresa Smith, former Youth and Family Specialist, Texas AgriLife Extension Service, Texas A&M System, 2004. Photos courtesy Texas AgriLife Extension Service Horticulture website: http://aggie-horticulture.tamu.edu/extension/xeriscape/xeriscape.html.