



# How Much Water Do Xeriscape Plants Really Need?

R.M. Cooper and M.K. Owens

## BOTTOM LINE

- Of the twelve species of shrubs and trees studied, Crape Myrtle, Esperanza, Autumn Sage and Lantana require the most water to maintain flowers and foliage. Woolly Butterfly Bush, Dwarf Yaupon Holly, Mountain Laurel and Evergreen Sumac require the least amount of water.
- Crape Myrtle trees use more than twice as much water as Wild Olive, Evergreen Sumac and Mountain Laurel.
- Woolly Butterfly Bush, Dwarf Yaupon, and Purple Sage used the least amount of water of the shrubs used in this study.

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### Introduction

In South Texas, where summer temperatures are high and rainfall is scarce, water is a valuable commodity. As with other regions of Texas, South Texas needs to conserve water and one way is by landscaping with well-adapted plants and by properly managing irrigation of those plants. Xeriscaping has become a popular way to landscape by taking advantage of native and drought tolerant species, although their actual water use requirements are not known. The objective of this study was to determine water use of twelve native and drought tolerant plants and

to determine the minimum amount of water these plants could utilize and still maintain the flowers and foliage for which they are planted.

### Experimental Approach



Wild Olive (*Cordia boissieri*)

This experiment was conducted using twelve species of perennial shrubs and trees that are currently popular in xeriscaped landscapes. The plants were provided by Valtex Nursery of Uvalde in either three or five gallon containers. The shrub species used were Lantana (*Lantana horrida*), Purple Sage (*Leucophyllum frutescens*), Mexican Mint Marigold (*Tagetes lucida*), Autumn Sage (*Salvia greggii*), Dwarf Yaupon Holly (*Ilex vomitoria*), Mexican Bush Sage (*Salvia leucantha*), Woolly Butterfly Bush (*Buddleia marrubifolia*), and Esperanza (*Tecoma stans* var. *angusta*). Evergreen Sumac (*Rhus virens* var. *virens*), Mountain Laurel (*Sophora secundiflora*), Wild Olive (*Cordia boissieri*), and Crape Myrtle (*Lagerstroemia indica*) were among

the tree species used. The plants were placed outside, under a clear plastic covering to allow natural heat and light, but no moisture. The plants were watered until the soil was completely saturated and then they were weighed. They were reweighed once a day for eleven consecutive days. Daily weight loss was directly attributable to transpirational water use by these plants. If the plants exhibited visible signs of stress, such as leaves or stems wilting, they were re-watered, using their previously measured water use rates as a guide.

### Results and Discussion



Esperanza (*Tecoma stans* var. *angusta*)

Of the eight shrub species, Lantana required the most water, using an average of 0.17 gallons per day (Figure 1). Esperanza and Autumn Sage required 0.15 and 0.14 gallons, respectively. Mexican Bush Sage and Mexican Mint Marigold used 0.09 gallons. The shrubs using the least amount of water were Cenizo (0.07 gal), Dwarf Yaupon Holly (0.06 gal) and Woolly Butterfly Bush (0.04 gal).

Crape Myrtle used the most water per day of the tree species, at 0.22 gallons (Figure 1). Wild Olive used 0.09 gallons, while Mountain Laurel used 0.06 gallons. The tree species that used the least amount of water was the Evergreen Sumac (0.04 gal).

This study was conducted using plants in containers and the results are relevant for nursery stock and patio containers. We are continuing this research to determine water use of these plants as they are incorporated into xeriscaped landscapes.



Mexican Bush Sage  
(*Salvia leucantha*)

Figure 1

