

Drought Tolerance and Minimum Water Use of Landscape Plants

Dr. Genhua Niu, Texas A&M AgriLife Research Center at El Paso, Texas A&M University System

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BACKGROUND

Water conservation is critical for making the best use of limited water supplies in the Rio Grande region and throughout the Southwest, especially during drought. With up to 50% of total urban water consumption used for irrigation of landscapes in the Southwest during summer months, many municipalities have encouraged or passed landscape ordinances on the use of drought tolerant and low water use plant species. Knowledge of drought tolerance of landscape plants for the Southwest is limited. Existing lists of drought tolerant plants and water use are based largely on empirical observations. Native and other plants that are drought tolerant can actually be high-water users under well-watered conditions. To succeed in landscape water conservation, both drought tolerance and minimum water requirements to maintain aesthetic appearance need to be determined. There is little knowledge on minimum water requirements for landscape plants.

OBJECTIVES

The primary objectives of this study are to determine the relative drought tolerance of selected plant species under greenhouse and field conditions. The physiological responses to drought stress are also examined.

BENEFITS

- This study will develop the knowledge and information necessary to make recommendations of adapted or native ornamental landscape plant species appropriate for the Rio Grande region and the arid Southwest based on their drought tolerance and water use.
- Knowledge of actual water use of plants will help the nursery industry, landscape professionals and homeowners to enhance irrigation efficiency by scheduling irrigation timing and amount more accurately.
- By grouping plants according to their relative drought tolerance and water use, landscape irrigation schedule and efficiency will be improved and water will be conserved.
- Knowledge of minimum water use will help landscape professionals and homeowners to keep aesthetic value while conserving irrigation water.



Drought tolerance and water use study of herbaceous flowering plants in the field.