

Nine ornamental landscape plants tested for salt tolerance

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Orange Peel Jessamine was found to be the most salt-tolerant among nine varieties of ornamental plants. Plants are shown after 6 weeks of irrigation with nutrient solution (left) or saline solution at electrical conductivity of 5.0 (middle) or 10.0 (right) $\text{dS}\cdot\text{m}^{-1}$. Credit: Shasha Wu.

A new study of the salt tolerance of popular ornamental plants can be a valuable reference for gardeners and landscapers looking for plants that can thrive in locations where poor-quality irrigation water is typical. Shasha Wu, Youping Sun, and Genhua Niu from Texas A&M University revealed the best and worst choices among the nine ornamental varieties tested with high saline irrigation in an article published in the March 2016 issue of *HortScience*.

The team chose popular ornamentals butterfly blue, cardinal flower, and eastern red columbine, along with three shrub-like perennials (mexican false heather, mexican hummingbird bush, and rock rose) and three shrub species ('Dark knight' bluebeard, flame acanthus, and orange peel jessamine). The plants of all species were irrigated with two salinity treatments (saline solution at electrical conductivity of 5.0 or 10.0 $\text{dS}\cdot\text{m}^{-1}$) and compared to a control group.

Salt tolerance was determined by assessing the plants' visual quality, growth, number of flowers, gas exchange, chlorophyll content, and shoot ion concentration.

The results showed orange peel jessamine and mexican hummingbird bush to be the most salt-tolerant species, while flame acanthus, rock rose, and 'Dark knight' bluebeard were found to be moderately salt-tolerant. Butterfly blue, mexican false heather, and cardinal flower were determined to be moderately salt-sensitive, while eastern red columbine was found to be the most salt-sensitive among the nine species evaluated.

"Considering the huge number of plant species potentially available for landscapes, there are still thousands of plant [species](#) and cultivars that have not been investigated for salt tolerance," the authors said. Determining [salt tolerance](#) of commonly used landscape [plants](#) such as those in the *HortScience* study expands planting options for landscapes in which reclaimed water or recycled water is used for irrigation.

Provided by American Society for Horticultural Science

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