

Science News

from research organizations

PrintEmailShare

Nine ornamental landscape plants tested for salt tolerance
Study results recommend best plant choices for high saline irrigation conditions

Ad closed by Google

Date: May 9, 2016
Source: American Society for Horticultural Science
Summary: Nine ornamental species were irrigated with a nutrient solution at three different electrical conductivity rates and were assessed for growth and physiological responses. Orange peel jessamine and mexican hummingbird bush were the most salt-tolerant in the trials, while flame acanthus, rock rose, and 'Dark knight' bluebeard were moderately salt-tolerant. Cardinal flower, mexican false heather, and butterfly blue plants were moderately salt-sensitive, while eastern red columbine was the most salt-sensitive among the species.

Share: FacebookTwitterGoogle+LinkedIn+Email

RELATED TOPICS

- Plants & Animals
- Endangered Plants
 - Botany
 - Nature
 - New Species
 - Food and Agriculture
 - Food

RELATED TERMS

- Sea-Monkey
- Desalination
- Sea water
- Soil pH
- Sweating
- Shrimp

See Also

- Top 10 Brain Supplements
- How to Burn Belly Fat
- Immune System Vitamins
- Schizophrenia Therapy Techniques
- Glass Plant Terrarium
- Common Plant Diseases
- How to Prune Tomato Plants
- Bush Flower
- Deer Repellent Plants
- Low Light House Plants
- Do-It-Yourself Landscaping
- Landscaping with Native Plants

FULL STORY



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) dS m-1.

Credit: Photo courtesy of 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 dS 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.

Story Source:

The above post is reprinted from materials provided by **American Society for Horticultural Science**. *Note: Materials may be edited for content and length.*

Journal Reference:

- Shasha Wu, Youping Sun, and Genhua Niu. **Morphological and Physiological Responses of Nine Ornamental Species to Saline Irrigation Water.** *HortScience*, March 2016 51:285-290 [link]

Cite This Page:

- MLA APA Chicago

American Society for Horticultural Science. "Nine ornamental landscape plants tested for salt tolerance: Study results recommend best plant choices for high saline irrigation conditions." ScienceDaily. ScienceDaily, 9 May 2016. <www.sciencedaily.com/releases/2016/05/160509132901.htm>.

See Also

- | | |
|------------------------------|--------------------------|
| 1 Glass Plant Terrarium | 4 Bush Flower |
| 2 Common Plant Diseases | 5 Deer Repellent Plants |
| 3 How to Prune Tomato Plants | 6 Low Light House Plants |

Related Stories

Clues to Trees' Salt Tolerance Found in Native Habitat, Leaf Traits

Nov. 17, 2014 — Canyon maple was compared with bigleaf maple and eucalyptus to investigate whether salt tolerance can be inferred from observable cues based on woody species' native habitat and leaf traits. ... **read more »**

Salt-Loving Plants May Be Key to Global Efforts for Sustainable Food Production

Oct. 28, 2014 — Farmland is vanishing in part because the salinity in the soil is rising as a result of climate change and other human-made phenomena. Researchers propose a new concept for breeding salt-tolerant ... **read more »**



Earth-Kind Roses Analyzed for Salt Tolerance

June 30, 2014 — A greenhouse study evaluated 18 Earth-Kind rose cultivars' response to two salinity levels at electrical conductivity of 1.2 and 10.0 dS m⁻¹. 'Belinda's Dream,' 'Climbing ... **read more »**

Salt-Tolerant Crops Show Higher Capacity for Carbon Fixation

Dec. 12, 2011 — Scientists compared carbon fixation by five plant species under conditions of salinity. Salt tolerance and its relationship with plant CO₂ fixation were analyzed. The net photosynthetic rate, gS, and ... **read more »**

Enchanting Cappadocia

Cave Hotels & Underground Cities Make The Most of Your Time & Money

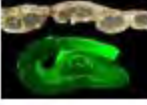


Strange & Offbeat

PLANTS & ANIMALS



First Sensory System That Detects Air Humidity Described



Intestinal Worms Boost Immune System in a Surprising Way



New Evidence Connects Dung Beetle Evolution to Dinosaurs

How Tree Crickets Tune Into Each Other's Songs

EARTH & CLIMATE



Endangered Venomous Mammal Predates Dinosaurs' Extinction, Study Confirms

Can Mountain-Climbing Bears Rescue Cherry Trees from Global Warming?

Adding Some Salt to the Recipe for Energy Storage Materials



Forest Discovery: Trees Trade Carbon Among Each Other

FOSSILS & RUINS

Medieval Women Better Dressed Than Men



Do Bearded Dragons Dream? Reptiles Share Sleep Patterns With Mammals and Birds



Giant Dinosaurs Hatched With Adult-Like Proportions

Ancient DNA Reveals Evolution of Giant Bears in the Americas

PrintEmailShare

Powered by Google

PROMOTED ON jyc.com.tw

JYC Shafts Manufacturer

sciencedaily.com

Researcher improves crop performance with new b...

PROMOTED ON tckw.com.tw

TCKW- Global Metal Industry

sciencedaily.com

Breeding ozone-tolerant crops

sciencedaily.com

Common Plants Can Eliminate Indoor Air Pollutants

sciencedaily.com

Research for frost-resistant strawberry plants

NEXT >

Recommended Articles

Canopy giants and miniature fungi among 250 new species discovered in Kew's 250th anniversary year
Royal Botanic Gardens Kew, ScienceDaily, 2009

Bougainvillea's response to deficit irrigation tested
American Society for Horticultural Science, ScienceDaily, 2014

Global plant diversity still hinges on local battles against invasives, study suggests
Washington University in St. Louis, ScienceDaily, 2013

Earth-Kind roses analyzed for salt tolerance
American Society for Horticultural Science, ScienceDaily, 2014

Scientist develops sterile variety of invasive plant
University of Connecticut, ScienceDaily, 2011

11 Common Plants That Can Cause Poisonings [↗](#)
David Vearrier, MD, MPH, Medscape, 2015

30 Great Vacation Ideas for Doctors [↗](#)
Neil Chesanow, Darbe Rotach, Fredy Perojo, Medscape, 2016

Ancestor Lucy Lived With Tree-Climbing Cousins [↗](#)
Catharine Paddock PhD, Medical News Today

Additional disinfection with a modified salt solution in a root canal model [↗](#)
MDLinx

Aloe Vera: Health Benefits and Medical Uses [↗](#)
Medical News Today

Powered by Trend MD

Free Subscriptions

Get the latest science news with ScienceDaily's free email newsletters, updated daily and weekly. Or view hourly updated newsfeeds in your RSS reader:

- Email Newsletters
- RSS Feeds

Follow Us

Keep up to date with the latest news from ScienceDaily via social networks:

- Facebook
- Twitter
- Google+
- LinkedIn

Mobile Apps

Get the latest news from ScienceDaily via our free mobile apps, available for download on the following platforms:

- iPhone/iPad
- Android

Have Feedback?

Tell us what you think of ScienceDaily -- we welcome both positive and negative comments. Have any problems using the site? Questions?

- Leave Feedback
- Contact Us