

## **Rolston St. Hilaire**

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Professor, Plant and Environmental Sciences, New Mexico State University

### **Professional Preparation**

University of Puerto Rico, Mayagüez, B.S., Horticulture, 1992

University of Puerto Rico, Mayagüez, M.S., Horticulture, 1994

Iowa State University, Ames, Ph.D., Horticulture-Plant Physiology, 1998

Taiwan Agricultural Research Institute, Taipei, Certificate, Vegetables Production, 1986.

### **Appointments**

2017 - Present: Interim Department Head, Extension Plant Sciences, NMSU

2016 - Present: Department Head, Plant and Environmental Sciences, NMSU

2008 - Present: Professor, Plant and Environmental Sciences, NMSU

2007: Visiting Scientist, USDA-ARS, Beltsville, Maryland.

2004 - 2008: Associate Professor, Plant and Environmental Sciences (formerly Agronomy and Horticulture).

**1998 - 2004:** Assistant Professor, Agronomy and Horticulture, NMSU

### **Publications (136)**

*(Journal articles last five years)*

Alsmairat, N.G., M. Al-Ajlouni, J. Ayad, Y.A. Othman, and R. St Hilaire. 2018. Composition of soilless substrates affect the physiology and fruit quality of two strawberry (*Fragaria x ananassa* Duch.) cultivars. *J. Plant Nutrition* 41:2356-2364. 10.1080/01904167.2018.1510508.

Gioannini, R., Al-Ajlouni, M., Kile, R., D.M. VanLeeuwen, and R. St Hilaire. 2018. Plant communities for green roofs in arid regions. *Sustainability* doi:10.3390/su10061755.

Willette, S., S. Gill, B. Dungan, T.M. Schaub, J.M. Jarvis, R. St Hilaire, and F.O. Holguin. 2018. Alterations in lipidome and metabolome profiles of *Nannochloropsis salina* in response to reduced culture temperature during sinusoidal temperature and light. *Algal Research* 32:79-92.

St Hilaire, R. 2018. 'JFS-NuMex 3': Mesa Glow® bigtooth maple. *HortScience* 53:734-736.

**Cover article.**

Frietze, V.D., R. Gioannini, Al-Ajlouni, M.G., D.M. VanLeeuwen, and R. St Hilaire. 2018. Contrasting urban landscapes and reduced irrigation engender water conservation in a desert environment. *Sustainability* doi:10.3390/su10030624.

Othman, Y., C. Steele, and R. St. Hilaire. 2018. Surface reflectance climate data records (CDRs) is a reliable Landsat ETM+ source to study chlorophyll content in pecans. *J. Indian. Soc. Remote Sens.* 46:211-218.

Forrest, L., R. Gioannini, D. M. VanLeeuwen and R. St Hilaire. 2017. Shallow substrates support the growth of contrasting plant types installed in irrigated arid climate green roofs. *J. Environ. Hort.* 35:146-155.

Sherman, J., R. Heerema, R. St Hilaire, and D. VanLeeuwen. 2017. Optimal manganese nutrition increase photosynthesis of immature pecan trees. *HortScience* 52:634-640.

Bsoul, E., R. Giannini, and R. St. Hilaire. 2016. Bigtooth maples from three geographically different regions endure root zone salinity. *J. Environ. Hort.* 34:111-117.

Singh, S., S. Angadi, K. Grover, R. St. Hilaire, and S. Begna. 2016. Effect of growth stage based Irrigation on soil water extraction patterns and water use efficiency of spring safflower cultivars. *Agricultural Water Management* 117:432-439.

Singh, S., S. Angadi, R. St. Hilaire, K. Grover, and D. VanLeeuwen. 2016. Spring safflower performance under growth stage based Irrigation in the Southern High Plains. *Crop Science* 46:1-12

Othman, Y., C. Steele, D. VanLeeuwen, and R. St. Hilaire. 2015. Hyperspectral surface reflectance data detect low moisture status of pecans orchards during flood irrigation. *J. Amer. Soc. Hort. Sci.* 140:449-458.

Sutherin, S., K. Lombard, and R. St. Hilaire. 2015. One group's experience developing and comparing urban water conservation digital outreach resources. *J. Extension* Vol. 53, <http://www.joe.org/joe/2015february/a1.php>

Othman, Y., D. VanLeeuwen, R. Heerema, and R. St. Hilaire. 2014. Midday stem water potential values needed to maintain photosynthesis and leaf gas exchange established for pecans. *J. Amer. Soc. Hort. Sci.* 139:537-546.

Heerema, R.J., D. VanLeeuwen, R. St. Hilaire, V.P. Gutschick, and B. Cook. 2014. Leaf photosynthesis in nitrogen-starved 'Western' pecan is lower on fruiting shoots than non-fruiting shoots during kernel fill. *J. Amer. Soc. Hort. Sci.* 139:267-274.

Al-Ajlouni, M., D.M. VanLeeuwen, and R. St. Hilaire. 2014. Linking urban residential landscape types in a desert environment to landscape water budgets. *HortTechnology* 24:307-312.

Othman, Y., C. Steele, D.M. VanLeeuwen, R. Heerema, S. Bawazir, and R. St. Hilaire. 2014. Remote sensing used to detect moisture status of pecan orchards grown in a desert environment. *Intl. J. Remote Sensing* 35:949-966.

Al-Ajlouni, M., D.M. VanLeeuwen, M.N. Demers, and R. St. Hilaire. 2013. A method to quantitatively classify residential urban landscape in a desert environment. *HortTechnology* 23:474-481. **Selected for press release.**

Sutherin, S., K. Lombard, and R. St. Hilaire. 2013. Southwest Plant Selector: A mobile application for iPhone and iPad. *HortTechnology* 23:602-609.

Bowen-O'Connor, C.A., D.M. VanLeeuwen, T.M. Sterling, G. Bettmann, and R. St. Hilaire. 2013. Variation in violaxanthin and lutein cycle components in two provenances of *Acer grandidentatum* L. exposed to short-term contrasting light. *Acta Physiol. Plant.* 35:541-548

## Patents

Bigtooth Maple Tree named 'JFS-NuMex 3' – PP27,930, awarded on April 25, 2017.