2017 SARATOGA HORTICULTURAL RESEARCH ENDOWMENT PROGRESS REPORT

Project: Evaluating new landscape rose introductions for sustainability in California

Principal Investigator and Project Manager:

Karrie Reid, UCCE Environmental Horticulture Advisor, San Joaquin County
2101 E. Earhart Ave., Ste 200, Stockton, CA 95206-3949
(209) 953-6109 office; (209) 953-6128 fax; skreid@ucdavis.edu

Location of project: Robert J. Cabral Agricultural Center, address above.

Co-Investigator:

Michael V. Schwartz, Academic Assistant to Horticulture, Naugatuck Community College
President/COO of American Rose Trials for Sustainability

Cooperator:

David Fujino, Executive Director, California Center for Urban Horticulture
dwfujino@ucdavis.edu

Executive Summary

This project seeks to establish a permanent site in the Central Valley of California for inclusion in the American Rose Trials for Sustainability (ARTS). These 2-year trials, which will be open to the public, address the need for colorful, low-input landscape plants through regional evaluation and testing of new cultivars without the addition of fertilizers or pest control products. Plants are only given moderate irrigation during their trial period, and may be kept for an additional year to evaluate their performance on even lower water-use levels. Many landscape roses are known to be rich sources of pollen for pollinators and other beneficial insects, and some are even attractive for their nectar. This site will be a rich source of information for western gardeners and nurserymen for this important genus of landscape plants for years to come, guiding them toward low-water, disease-resistant, pest-tolerant cultivars, and as such will fulfill SHRE's research goals 2 through 6.

Needs and Outcomes

NEED 1. Landscape architects, designers, contractors, and the general gardening public consistently want new, exciting plants for the lower-water landscape.

OUTCOME 1. Cultivars that perform well (clean foliage, handsome landscape form and consistent floriferousness) on the moderate or low-water levels will be recommended as suitable flowering shrubs or groundcovers for the appropriate landscape hydrozone in print and on websites that report the results: San Joaquin County Env. Hort., California Center for Urban Horticulture, ARTS, UC Master Gardeners and others.

NEED 2. Much of the landscaping profession and gardening public still need convincing that beautiful landscape plants are possible on reduced irrigation.

OUTCOME 2. Visitors to the trials will be able to see the plants in the ground, read the informational signage describing the sustainable management of the plants, and good performers will sell themselves ***and*** the ecologically-friendly landscape practices.

NEED 3. The rose growing community needs to replace current disease-prone, high-maintenance cultivars with those that will not require consistent use of pesticides and high levels of water to maintain their health and beauty in the landscape.

OUTCOME 3. Over time this research will produce a list of disease-resistant, pest-tolerant cultivars that perform well in this region of the country on lower water levels, potentially contributing to a reduction in water and pesticide use in these landscapes.

NEED 4. While some roses have proven to be good performers on reduced irrigation, the assumption cannot be made that all plants of a similar form are also lower-water users. Irrigating landscapes efficiently by hydrozoning requires knowing if the new cultivars on the market are also able to perform on a given level of water.

OUTCOME 4. By the standard ARTS protocol, we will be able to recommend specific high-performing cultivars on at most a **moderate** irrigation regime (50% of reference evapotranspiration), and by keeping the roses in the ground another year and applying an additional lower level, we will be able to recommend the lowest irrigation level with acceptable performance.

Goals and Objectives

The immediate goal is to convert one large unused lawn area at the Ag Center into drip-irrigated rose trial beds. The bed will contain 60 rose bushes planted in winter of 2017/2018. Informational signage will explain the trial goals of showcasing new cultivars and evaluating them for this region for the best disease-resistance, pest-tolerance, floral appeal and overall appearance on a reduced irrigation regime with no chemical controls; additional messages on sustainable landscape practices may be included. The PI will travel to a current trials site for training in data collection and trials management in order to insure consistency with the national protocols. PI will then be able to train and oversee the volunteer data collectors.

Current Project Timeline:

2017	2018
July 1. Take soil samples; send to lab. **August** 1. Contract for conversion of space to trial beds. 2. Speak at local rose clubs to begin outreach. **September to December** 1. Monitor site for turf re-growth and manage as necessary. 2. Coordinate plot layout with ARTS director. 3. Design and contract for informational signage installation.	**January-February** (weather permitting) 1. Plant 60 plants according to plot layout. 2. Label blocks and individual plants for data collection. 3. Maintain weed control **March** 1. Train all volunteers 2. Maintain weed control **April** 1. Begin data collection 2. Maintain weed control **May-June** 1. Collect data 2. Maintain weed control

Progress to Date:

Soil samples were sent for analysis. Pursuant to those results, we re-submitted our request for proposal to the landscape contractor to include the incorporation of sulfur to lower the pH and 3" of organic compost to increase the organic matter and improve structure. This increased our costs and effectively took our entire grant fund. The turf was removed in the planting strips, and the spray irrigation was removed and converted to drip stubs. The central pathway was scalped, sprayed with glyphosate, and subsequently covered with cardboard sheeting. The entire area was covered in chipped wood mulch and the conversion from turf to planting bed was completed in November.

The planting layout was sent by the trials coordinator in January. The plot was laid out in three blocks and flagged for planting spots. Drip irrigation was installed in February. Twelve of the 20 cultivars were received by February 23, and those that had arrived were planted that day. Extra roses to be used in the case of early mortality, will be potted up and held.