

Final Report to
Slosson Research Endowment for Ornamental Horticulture
for work completed in 2004-05

**Water-Conserving Plants and Practices for Central Valley Gardens:
Education Outreach at the UC Davis Arboretum**

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Gardening is the most popular leisure activity in the United States; home gardeners spend billions of dollars, use significant quantities of water and other resources, and generate disproportionate levels of environmental contaminants (pesticide residues in soil, emissions from power equipment, contaminated runoff). In the Central Valley, these trends are exacerbated by the use of plants and cultural practices that are inappropriate to local conditions. Unlike coastal California, where most of the state's horticultural resources are located, the Central Valley experiences extremes of heat, cold, and drought (minimum temperature at Davis 14°F, maximum 118°F, average rainfall 19 inches). Many areas of the Valley also have strongly alkaline, heavy, clay soils, with high concentrations of boron and other minerals. The Central Valley is the fastest-growing region of California; its population is expected to double within the next 15 years. Clearly, there is an urgent need for horticultural information appropriate to the Central Valley.

Arboretum All-Stars

In order to help meet this need, the UC Davis Arboretum developed and implemented a multi-faceted education and outreach program to teach Arboretum visitors and other audiences about regionally appropriate plants and water-conserving horticultural practices for Central Valley gardens. The project featured a series of Arboretum All-Stars—tough, reliable, low water-use plants that have been tested in the Arboretum. All-Star plants were selected based on the following criteria:

- Adapted to Central Valley conditions
- Tested in the UC Davis Arboretum
- Easy to grow
- Attractive for most of the year
- Drought tolerant
- Attractive to birds, butterflies, beneficial insects

The All-Star plants were highlighted on interpretive signs in the gardens, featured in a new searchable plant database on the Arboretum's website, showcased in an illustrated publication, and made available at Arboretum plant sales. Additionally, trained horticulture information specialists were available at plant sales to consult with shoppers about key practices that conserve water and protect water quality, including improving soils with organic amendments, mulching, hydrozoning, minimizing lawn area and impervious surfaces, designing efficient irrigation systems, and techniques for monitoring and adjusting irrigation timing.

Interpretive Signs in the Arboretum

We produced 60 interpretive signs featuring individual “Arboretum All-Star” plants and highlighting water-conserving horticultural practices. These were installed in the Arboretum’s most-visited demonstration gardens and collections. The signs were produced using a nationally-recognized exhibit development strategy created by Arboretum Director Kathleen Socolofsky. We began with front-end evaluation, surveying Arboretum visitors about their knowledge, interest, and questions about water-conserving gardening in the Central Valley. We also used formative evaluation, in which sign mock-ups were tested with visitors and refined until they successfully attracted and held visitor attention and effectively conveyed the intended information. The signs were produced by Geographics, a professional exhibit design firm with whom we had previously worked to create the award-winning interpretive signs in the Arboretum Terrace home demonstration garden, the Redwood Grove, and the California native plant collection.

Crape myrtle

Lagerstroemia

- Provides year-round interest with summer flowers, fall color, and handsome ornamental bark in winter
- Comes in white, lavender, pink, purple, or red flowering varieties
- Hybrid forms are more mildew resistant

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Spectacular clusters of white flowers bloom in the heat of summer.



What is an Arboretum All-Star?
Arboretum All-Stars are our staff's top recommended plants for local gardens.

What makes a plant an Arboretum All-Star?
Each All-Star plant must have the following features:

- Attractive for most of the year
- Thrives in Central Valley conditions
- Tested in the UC Davis Arboretum

Many All-Stars also have one or more of the following features:

- Low maintenance
- Drought tolerant
- Attracts beneficial wildlife

Look for other Arboretum All-Stars as you walk through the UC Davis Arboretum.

Grow it!

PLANT TYPE	shrub or small tree
HEIGHT	10-25 ft.
WIDTH	10-25 ft.
BLOOM SEASON	June-August
PLACEMENT	full sun
WATER NEEDS	deep watering every one to two weeks
PRUNING NEEDS	prune in winter to shape
NATIVE TO	China and Japan



Available for Purchase at UC Davis Arboretum Plant Sales
 See our website for more information: <http://arboretum.ucdavis.edu>
 Made possible by a grant from the Elvenia J. Slosson Foundation

Searchable Plant Database on the Arboretum Website

We created a searchable database of All-Star plants, with images and information on each plant and its cultural requirements, for the Arboretum's website (arboretum.ucdavis.edu). The search feature allows visitors to look for plants that meet the criteria they specify—for example, plants that grow in shade, or that have white flowers in June, or that attract hummingbirds.

All-Star Publications

We produced a full-color illustrated brochure featuring the Arboretum All-Star plants, with an easy-to-use matrix of characteristics such as plant form, bloom color, water use, and wildlife value. The brochure is available at the Arboretum Headquarters and at Arboretum events.

The All-Star program was featured in the Fall 2005 issue of the *UC Davis Arboretum Review*, which is distributed to our 1200 members, to UC Davis departments and campus leaders, and to public gardens nationwide.

Exhibits and Horticulture Information Specialists at Arboretum Plant Sales

We instituted a program of exhibits at Arboretum plant sales. These events, held several times a year, routinely attract hundreds of gardeners from the surrounding region and offer a wonderful opportunity to reach our target audience. We used paper copies of the All-Star signs to identify all of the Arboretum All-Star plants that were for sale. We created a demonstration planting at the sales area featuring many of the All-Stars, so that shoppers could see mature specimens. In addition, we made copies of the All-Star publication available to event participants.

We trained Arboretum horticulturists, experienced gardening volunteers, and student assistants to serve as horticulture information specialists during the events. They consulted with shoppers about the Arboretum All-Stars and water-conserving gardening practices. This component of the program provided an important face-to-face learning opportunity for event participants and a chance for a student outreach assistant, funded by this grant, to develop skills and experience in teaching in an informal setting.

The All-Star program has been very well received. At the Arboretum's annual plant fair in October 2005, shoppers were extraordinarily interested in the All-Star plants, and we continue to get many requests to purchase the All-Stars. We plan to identify additional All-Star plants, develop more signage for other areas of the Arboretum, create additional publications about sustainable gardening for the Central Valley, and expand the horticultural section of the Arboretum's website with answers to frequently asked questions; downloadable articles on practices such as composting, mulching, and irrigation system design; lists of good plants for specific garden situations (many of these reprinted from the quarterly *Arboretum Review*); and links to other horticultural sites.

Horticultural Curator Emily Griswold will give a talk about the All-Star program at the San Francisco Flower and Garden Show in March 2006, and Education Director Carmia Feldman will speak about the project at the annual meeting of the American Association of Botanical Gardens and Arboreta in June 2006.