

The Greening of California Home Landscapes®

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THE ISSUE

Residential landscapes are an essential part of the quality of life we enjoy in California. They can provide refuge, solace, and food. But they also add to demands for scarce water resources. According to a 2010 study for the California Homebuilding Foundation, a new three-bedroom home will use approximately 174,000 gal of water, more than half of it for landscaping annually.

Runoff from landscaping also is a source of environmental pollutants such as pesticides and fertilizers that threaten fish and wildlife in rivers and streams. Faculty members in the College of Agricultural and Environmental Sciences at UC Davis recognized the need to make horticulture research and education more available for Californians to address these concerns.

WHAT WE'RE DOING

The college established the California Center for Urban Horticulture (CCUH) at UC Davis in 2006 to help state residents get the most out of their yards by learning environmentally sound gardening practices and encouraging better plant materials for sustainable urban landscapes. Since opening, CCUH has held numerous outreach and support events for both the industry and the general public.

OUTREACH AND SUPPORT EVENTS

Your Sustainable Backyard. Home gardening has become increasingly popular with Americans. A survey by the National Gardening Association found that 7 million more households planned to grow their own fruits, vegetables, herbs, or berries in 2009 than in 2008, a 19% increase. The CCUH created the “Your Sustainable Backyard” program, an ongoing series of workshops developed with Master Gardeners in mind (Fig. 1). Master Gardeners are public educators



Figure 1. “Your Sustainable Backyard: Roses” partnership workshop series with the Statewide Master Gardener Program.

trained by University of California experts in horticulture, pest management and related home gardening topics who extend this information to the general public. In its first 2 years, more than 800 people attended workshops on a wide range of horticultural care of fruit trees, roses, and edible plants.

Arboretum All-Stars. The horticulturists at the UC Davis Arboretum identified 100 tough, reliable plants that are easy to grow, don't need a lot of water, have few problems with pests or diseases, and have outstanding qualities in the garden (Fig. 2). They include

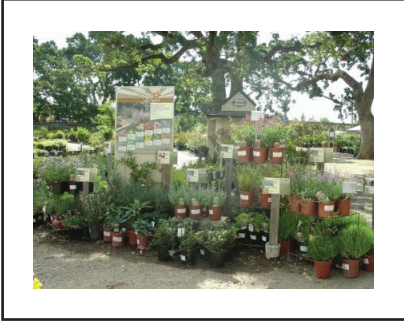


Figure 2. University California Davis Arboretum All-Stars retail display in partnership between the Arboretum and CCUH.



Figure 3. Häagen Dazs Honey Bee Haven garden. Partnership program between the UC Davis Entomology department, Häagen Dazs, and the CCUH. Pollinator garden that provides a year-round food source for honey bees and other bee species.



Figure 4. University California Verde Buffalo grass planted at the U.C. Davis Graduate School of Management (GSM). The turf was a component of GSM's LEED certification.

trees, shrubs, vines, groundcovers, and perennials. Many of them are California native plants and support native birds and insects. California Center for Urban Horticulture has been instrumental in promoting these plants, which are available at Arboretum plant sales on campus and at an increasing number of retail nurseries throughout California. Arboretum horticulturists are also testing plant species that have demonstrated tolerance to summer heat and drought under different irrigation frequencies and in a variety of climate zones around the state.

Helping Honey Bees. The CCUH coordinated the design and installation of a demonstration garden called “Honey Bee Haven” with the support of Häagen-Dazs and the UC Davis Department of Entomology (Fig. 3). The half-acre garden and adjacent wildflower meadow on the UC Davis campus provide bees and other pollinators with a year-round food source, raise public awareness about disappearing honey bees, and encourage visitors to plant bee-friendly gardens of their own.

Horticulture Industry Partnerships. Another way CCUH is helping green California landscapes is through its work with industry, such as its “quality tree initiative” to improve nursery stock and promotion of water-conserving *Buchloe dactyloides* UC Verde® buffalo-grass (Fig. 4). A water wise symposium has helped industry professionals learn new approaches to water management, including planning and designing for water efficiency ordinances and management to reduce water use and runoff.

Research on Runoff. A multi-year study led by UC Davis plant sciences specialist Loren Oki and UC Cooperative Extension water resources advisor Darren Haver found 11 pest control chemicals in storm drain water



Figure 5. Research partnership with Dr. Loren Oki depicting pesticide and fertilizer run-off due to improper irrigation from residential neighborhoods.



Figure 6. Improper irrigation from residential neighborhoods results in pesticides and fertilizers watershed contamination.

samples from eight selected California neighborhoods virtually year round, including some products no longer commercially available (Fig. 5). The main ingredients of typical lawn and garden fertilizers were also detected in water samples at all sites. Master Gardeners are providing education to residents in the test neighborhoods to reduce both the amount of runoff water and its potentially harmful contaminants (Fig. 6). Computer models of flows and loads from the study will aid future urban planning. The CCUH provides a forum to report on this important research.

To learn more about these projects and other CCUH activities, visit the program's website at <<http://ccuh.ucdavis.edu>>.

A Shared Vision. The CCUH came about as a result of careful planning and research with UC Cooperative Extension, the UC Davis Arboretum, the Department of Plant Sciences, the Department of Landscape Architecture, and representatives from the horticulture industry and professional horticulture associations.

In just a few short years the power of this partnership is evident in more widely adopted horticultural practices that are conserving water, reducing pesticide and fertilizer use, and introducing Californians to attractive plants better adapted to California's Mediterranean climate.

That's impact — “enhancing urban living through horticulture.”