

Final Project Report

Title

Developing Additional Educational Signage at the UC Davis Plant Science Teaching Center and Student Farm (PSTC&SF)

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This is a final report for work performed from July 1, 2009 to September 30, 2010.

Snapshot of Accomplishments

With the \$8,700 provided by Elvinia J. Slosson foundation we expanded and enhanced the horticultural learning opportunities at the UC Davis Student Farm by creating and installing additional signage in the highly-trafficked entrance area on Extension Center Drive. Signs created are of the following types:

- a welcome sign and map for the Student Farm
- 9 interpretive signs highlighting aspects of ecological horticulture in the PSTC&SF Ecological Garden which is located between Extension Center Drive and the Bowley Center and in front of the Student Farm Fieldhouse
- a detailed map of the Ecological Garden area
- labels for individual plants in the Ecological Garden

Thousands of visitors now annually pass through or participate in classes, workshops and internships in this area. These are students, faculty, adult learners, and the public who visit campus for field trips and tours and who will gain better understanding of horticultural practices through the improved signage for this unique campus resource

The allocated budget was used as expected to accomplish our project goals. We covered partial salary for one graduate student who facilitated the sign design process and for one staff member who fabricated the metal sign structures. We covered the costs of all materials and printing and production by the firm Signs by Tomorrow.

Two windfall accomplishments of this process are a completed detailed map for the Ecological Garden and a new general map of the entire Student Farm area. The maps are a component of our new signs but also serve in other ways as a useful tool for teaching and communication. These were completed by a graduate student skilled in landscape design and mapping.

Introduction:

In recent years, the College of Environmental and Agricultural Sciences has taken significant steps toward the realizing the goal of developing the UC Davis Plant Science Teaching Center and Student Farm (PSTC&SF) as a teaching facility that fully integrates classrooms, greenhouses, gardens, and fields to provide a wide range of plant science related learning opportunities for students and the public. Developments in the last seven years have included the completion of the Bowley Center (with a 100-person lecture hall, a 30-person teaching laboratory and a conference room), a new state-of-the-art teaching greenhouse complex and head house space, and renovations to the Student Farm field house.

When this project was proposed, it was clear that the site's educational potential would be enhanced by new and expanded signage at the entrance area of the Student Farm but the program's resources did not cover such an effort. The staff and students of the PSTC&SF develop and maintain the Ecological Garden as part of their core educational program and operations. The purpose of the PSTC&SF and the interest of its visitors in horticulture, gardening, and farming make it an important campus location in which to welcome visitors and highlight ecological horticulture and Student Farm activities.

Prior to the proposal of this project there were several significant changes in the landscape in the Ecological Garden of the PSTC&SF, an area that serves as the "front yard" for the Bowley Center and the location of the Student Farm where students and teachers have the opportunity to learn ecological horticulture. Developments included increasing the number of California native plants of significant horticultural value, additional fruit trees with landscape and food value, culinary herbs, a trellised cane berry and table grape border, a butterfly garden, and an outdoor picnic and gathering space. Furthermore the Student Farm had recently become an important facility of the new Agricultural Sustainability Institute. These concurrent developments in facilities, landscape, and programs allowed for and resulted in a significant increase in the number of visitors to this part of campus and an expansion of the types of audiences served within the campus community and public in general.

The uses of the PSTC&SF are numerous and varied. We serve students, professionals, and school children throughout the region and state. At least 15 plant-science related UCD courses per year hold regularly scheduled class meetings here. Several other courses use the facilities for one or more special class meetings during each term. Professional meetings and workshops on topics ranging from weed science and seed biotechnology to garden-based learning and development of school gardens take place at the PSTC& SF and in the adjacent garden landscape. The staff has trained UCCE Master Gardeners in garden-based learning and composting practices using this site. The Children's Garden Program provides hands-on tours focusing on plants and their role in human lives to nearly two thousand school children, parents and teachers annually. Other groups participate in programs or tour this area each month including high school aged youth, horticultural groups, campus visitors interested in food systems and gardening.

There is now a growing body of research that supports garden-based learning and the positive impacts it can have on children as well as teachers who have the opportunity to practice these methods. A number of studies have shown significant gains in knowledge in plant science, horticulture, and the environment for students participating in garden-based learning programs (Gardner 1999; Waliczek & Zajicek 1999; Skelly & Bradley 2000; Subramaniam 2002; Waliczek et al. 2003; Lohr & Pearson-Mims 2005; Dirks 2005). It has been documented that academic scores have also shown improvement (Lieberman & Hoody 1998; Smith and

Motsenbocke 2005) as well as overall attitude and behavior in schools and concern and willingness to care for living things.(Murphy 2003; Eames-Sheavly 1994; Dirks & Orvis 2005). Training, planning, and support for these important garden-based learning efforts throughout California is currently conducted at the PSTC&SF.

At this time in California there is a distinct resurgence in interest in using gardens for home food production. Many home gardeners mix fruit, vegetable, and herb crops into their ornamental landscaping or develop edible landscapes that are aesthetically pleasing as well as productive. The proposed signs for the Ecological Garden will give the home gardener and school gardener more insight into how this can be achieved.

Project Goals

Our specific goals for this project were to produce the following:

- One welcome and introduction sign to the Plant Science Teaching Center & Student Farm at its prominent entrance. The sign would highlight the different locations at the PSTC&SF, represent the learning opportunities available, and direct visitors to other nearby signed areas. It would be easily visible to people arriving on foot or bike and noticeable to car traffic as well.

Accomplished (plus new PSTC&SF map produced)

- Ten interpretive signs highlighting aspects of ecological horticulture in the PSTC&SF's Ecological Garden. Sign content would cover these topics: fruit production, drought-tolerant gardening, garden nutrient cyclers, growing annual veggies at home, gardening with children, good bugs & bad bugs, composting, growing medicinal herbs, and using culinary herbs. Each sign would be produced on laminate material that will last up to 5 years and installed on a new permanent metal sign structure.

Accomplished (plus completed Ecological Garden Map produced)

- Approximately 175 individual plant labels in the same Ecological Garden area. These signs would provide common name, scientific name, and variety where appropriate. PSTC&SF staff and students had created these before with directions and guidance from Arboretum staff but the majority of the labels needed to be updated or replaced.

Largely accomplished and ongoing

Discussion

Our overarching objectives for this effort were to improve the effectiveness of our programs in the following ways: 1) Greater number of visitors stopping to read the signs, looking carefully at the landscaping, and learning informally about ecological horticulture at this site. 2) Directed use of the signs by PSTC&SF faculty, workshop leaders, and tour guides to highlight important concepts during UCD classes, workshops, or children's garden tours. 3) Enhanced sense of welcome and belonging for visitors and users of this area allowing them to quickly feel comfortable and involved in PSTC&SF activities. Immediate casual indications are that these objectives are being met and will continue to be over time.

Many of those who will read these signs will go on to teach aspects of ecological horticulture in other venues. These may be students who start careers in this field or school teachers and Master Gardeners who have come to this site for workshops and go back to their school or community environments with improved ability to teach through gardens. Finally, many casual visitors to

the area are inspired to make adjustments or expansions in their home gardens using ideas generated through their visit.

In addition to the tangible deliverables mentioned above, another benefit of this process has been that the team of students and staff involved in writing and reviewing text for signage and labeling, now share a better understanding of the facility, its compelling attributes, and the specific plantings here.

References

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Welcome to the Student Farm!

The Student Farm is here for students and visitors who want to learn about and explore sustainable agriculture.

Students of all backgrounds and levels can participate in our hands-on learning programs such as the Market Garden, the Ecological Garden and the Children's Garden program. Students can also develop research or other independent projects or enroll in formal courses in organic farming, sustainable agriculture or environmental education.

Our organically-grown food is available to the campus community through our weekly produce baskets and other campus venues. We collaborate with many partners to provide educational programs for farmers, gardeners and adults working in school gardens.

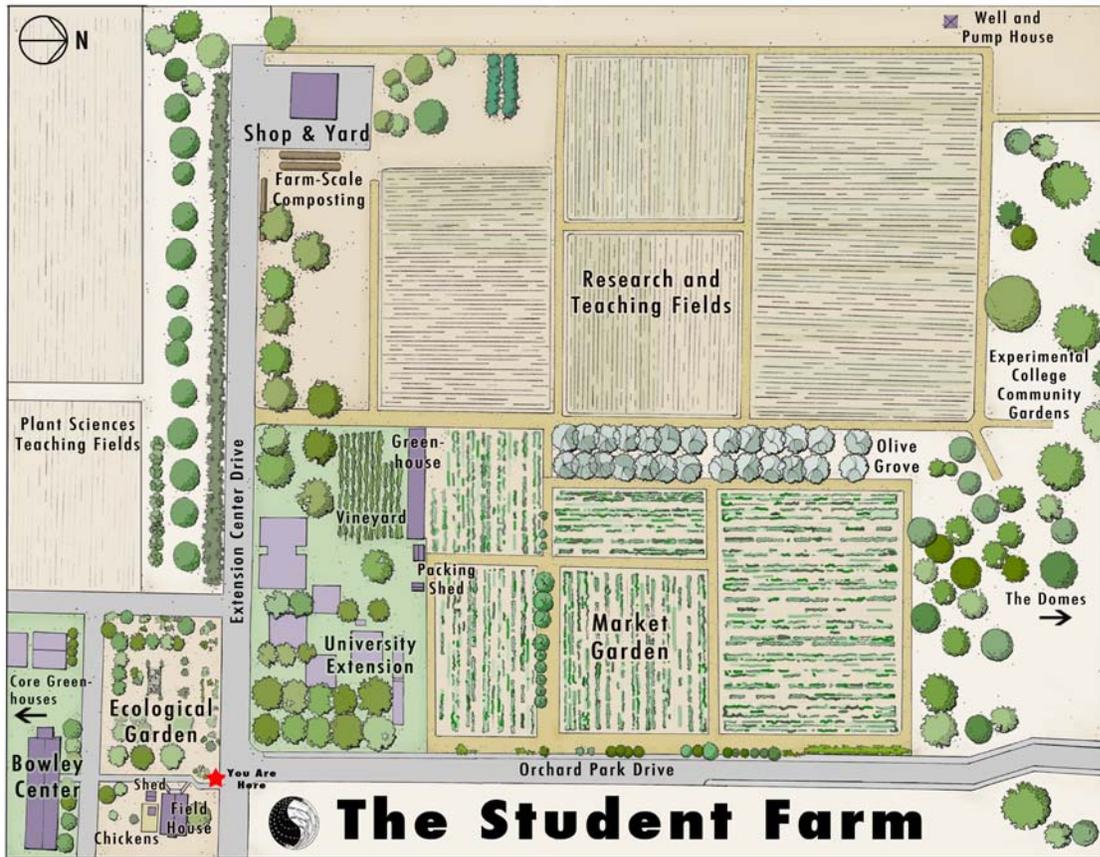
Everyone is encouraged to get involved in the Student Farm! We invite you to walk through the Ecological Garden or visit the Market Garden and talk with us about how you can participate. You can also call 530-752-7645 or visit us online at <http://asi.ucdavis.edu>. We are a program of the Agricultural Sustainability Institute (ASI).

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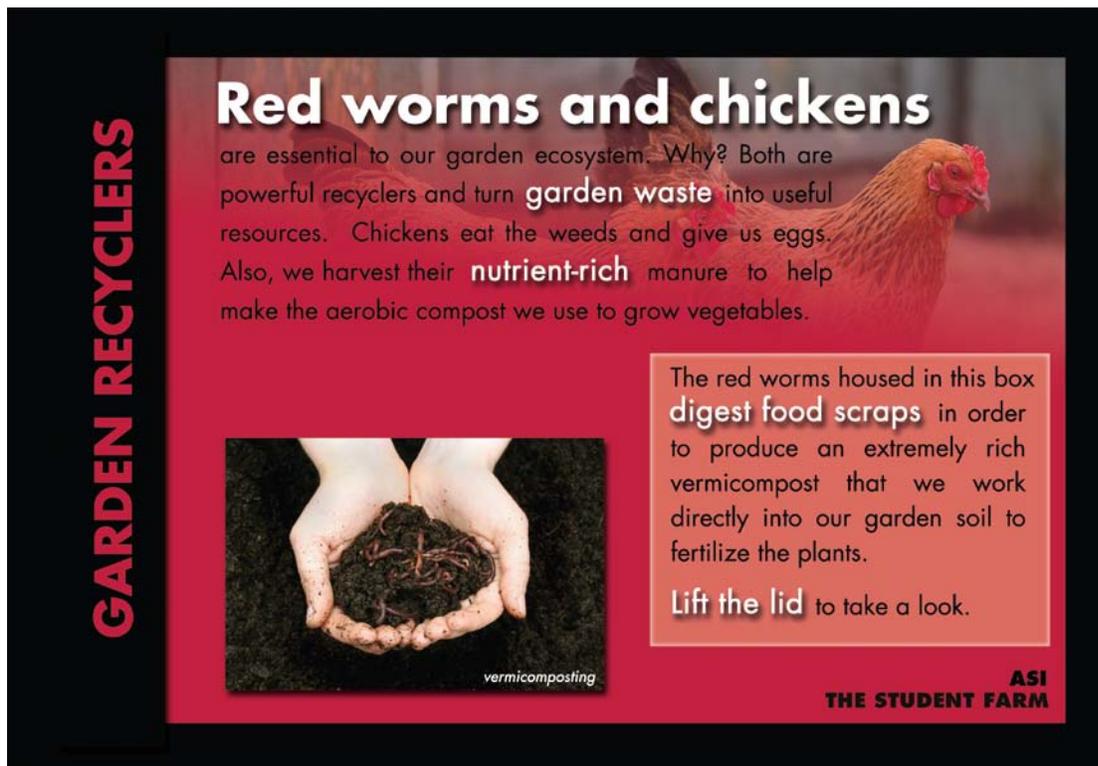
**AGRICULTURAL
SUSTAINABILITY INSTITUTE**

College of Agricultural and Environmental Sciences

- 1) Welcome Sign located on Extension Center Drive and Orchard Park Terrace



2) Map for UC Davis Student Farm located on Extension Center Drive and Orchard Park Terrace



3) Garden Recyclers interpretive sign for the Student Farm Ecological Garden

CULINARY HERBS

These potent plants enhance



our food and drink with flavors. Leaves are harvested from many culinary herbs, but often the seeds, roots, or flowers are useful too. Herbs can improve health in several ways. For example, **oregano**, **sage** and **peppermint** contain powerful antioxidants that help fight cancer.

Many herbs are hardy and **easy-to-grow** in this climate. Maintaining them is a fragrant and satisfying task for the gardener year round.

Pick a portion of the leaf on any of these plants. Crush it and take in the **aroma**.



ASI
THE STUDENT FARM

4) Culinary Herbs interpretive sign for the Student Farm Ecological Garden

Ecological Garden at the Student Farm, University of California, Davis



5) Detailed Map of the Student Farm Ecological Garden

Black Sage

Salvia mellifera

6) Plant label template used in the Student Farm Ecological Garden