Teach the Teachers: Garden-Based Education about Fertility and Fertilizers

FREP Contract # 00-0070

Project Leader
Peggy Sears Perry, Ph.D., Project Director
Center for Garden Based Education
California State University
Pomona, CA

Introduction

Currently, there is a great deal of interest in integrating garden-based learning into K-12 classrooms, stimulated by State Superintendent of Instruction Delaine Eastins' call for A Garden in Every School. The emphasis is on addressing the various curricular standards such as science, literature, social studies, nutrition, mathematics and art through garden-based themes. To that end, Cal Poly Pomona has been designated and provided funding since 1999 as one of three Regional Support Centers by CDE. Our charge is to reach out to schools and teachers in our region (eastern Los Angeles County, western San Bernardino County, and part of Riverside County) to provide support and training in garden-based learning.

This program is housed at AGRIscapes, a 40 acre demonstration and education center for food, agriculture, and the urban environment on the Cal Poly Pomona campus. AGRIscapes opened to the public in winter 2001-02 and includes a visitor center with interactive exhibits, a farm store, nursery, classroom building, offices, and 30 acres of demonstration plots and gardens. We have a unique opportunity to reach out to an urban public that is very much disconnected from the source of its food and systems which provide it.

Objectives

The project objectives have been integrated into the ongoing programs already established by the RSC such as our annual school gardening conference and resource fair, our hands-on workshop series, and our communication vehicles such as a newsletter and website which are still undergoing development. We are in the process of planning hands-on, curriculum-linked, field trip activities by grade level, which began in October 2002 and will continue starting early spring 2003.

The objectives of this project are to:

1. Research and gather appropriate curricular materials for K-12 relating to soil science, plant nutrition, soil/water relations, and soil management. We have a resource center designated as part of the AGRIscapes facility.

2. Present workshop component on soils, fertility and soil/water relations.

3. Include presentations on these topics at annual conference

4. Involve appropriate organizations in Teacher's Resource Faire at annual conference.

5. Include resources and information on website, in resource guide, and in newsletter.

6. Research, design, and implement field experiment stations for appropriate grade level(s) for hands-on demonstrations of the principals of soil science, plant nutrition, soil management, and soil/water relations to be installed at AGRIscapes.

Project Description
In addition to the specific tasks listed above (which are ongoing), a primary focus of the project is a workshop series for teachers who wish to incorporate garden-based themes into their classrooms. In spring 2002, we held three workshops:

Everything You Wanted to Know About Starting a School Garden…
January 25, 2002, 6 hours
17 teachers in attendance

Teaching Nutrition in the Garden
March 16, 4 hours
15 teachers in attendance

AGRIscapes Educational Charette (designing ideal field trip experiences)
April 5, 3 hours
22 teachers in attendance

Upcoming events include:

September 28, hosting a Project Food, Land and People workshop (the first in southern California)

October 14-18, field trips for over 1000 students to visit our pumpkin fields and learn about how pumpkins are produced, from seed to product on the table.

October 18, participation the California Foundation for Agriculture in the Classroom conference in Irvine with an exhibit and roundtable sessions.

November (exact date TBA), hosting Closing the Loop workshop in cooperation with the California Integrated Waste Management Board

November (exact date TBA), a repeat of the Everything You Wanted to Know About School Gardens workshop

Results and Conclusions

While much of the work of this project is ongoing, we have found so far that there is a great deal of information including classroom materials, tools, and lab equipment that can be adapted to lessons on soil science and plant fertility. While some of this material is developed for the study of earth science and geology, it can be adapted to more applied situations. However, teachers need to be educated on how to use these materials in the classroom.

It has become further evident that there is a great deal of emphasis in garden-based education on K-6 curriculum and activities. Through our workshops, we have learned from middle-school science teachers who have attended that they struggle to find good applications for their garden-based activities to science standards, particularly in physical science. We saw a ready application for soil, water and fertility lessons. Thus, the development of a specific professional development opportunity for middle school science teachers was undertaken which continues

In October 2002, planning for demonstration gardens will commence to provide a focus for spring field trips. This will include hands-on science field stations exploring soil and water issues.