

The University of Houston's Campus Garden: A Collaborative Informal Science Education Initiative

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Expanded Abstract

A campus garden provides an excellent opportunity for informal science education and community outreach. Participation by students in The University of Houston's Campus Garden has opened the door to discussions on traditional breeding, hybridization, and genetic engineering of crops. Conversations occur regularly about pest management, plant disease, and nutrient and light requirements. The first pilot garden at the University of Houston began as part of the University's "Go Green" initiatives. The project was initially conceived by the University's Services Department and evolved over the last two years to involve campus Facilities, Dining Services, the Horticulture Society, Urban Harvest, and interested students. Urban Harvest is a community-based organization which helps local groups and schools develop community gardens for food production, habitats, and general enjoyment. At present, the Horticulture Society sows seeds and raises seedlings in the campus greenhouse for planting in the garden in the spring. The garden itself was designed by Urban Harvest. Funding and oversight are provided by the Services Department. Campus facilities constructed the garden and laid the irrigation system. The garden is planted and maintained by interested students, staff, and faculty. A future goal of the Campus Garden participants is to produce tomatoes, basil, and cilantro for use in "Shasta's Salsa" (Shasta is the school mascot) which will be created in the campus dining hall and served on campus.

Starting a community garden requires considerable planning. The size and location of the plot must be determined, drainage of the area and light versus shade throughout the day must be checked, and beds, walkways, and irrigation systems planned in advance. A planting schedule based on your local growing region must be determined before beginning. The soil must be conditioned so that it drains well and fertilizer or compost must be added. The pH of the soil should be checked before planting to ensure conditions are right for nutrient assimilation by the plants. The cost of building and maintaining the garden should be calculated based on the size of the beds and the materials selected and adequate funding obtained before beginning the project. Once the garden is planted, a maintenance schedule is needed. The garden will need to be watered and weeded regularly and plants monitored for pests and nutrient deficiencies. Plants should be pruned as recommended on the seed packaging or by a garden reference book.

Greenhouse gardening has a number of advantages. Year round growing is possible. Seeds can be started early for planting in an outdoor garden in the spring. Greenhouses are a great place to propagate plants from grafts and to experiment with different soil and fertilizer conditions in a more controlled environment. The main disadvantages are limited space and, in the southern United States, extreme summer heat. Vermiculture or worm composting is a convenient way to compost in the limited space of a greenhouse. Either modified plastic tubs or commercially purchased bins can be used. Red wigglers are the worm of choice for compost bins and can be purchased online. Newspaper, cardboard, fruits, vegetables, tea bags and coffee grounds can all be composted. Worm tea, the liquid at the bottom of the compost bin, and the worm castings make wonderful organic fertilizers. Worm tea can be diluted and used in potted plants or used directly in garden beds. Castings can be mixed into the soil.

Campus gardens and teaching greenhouses provide an opportunity for education and outreach. They provide a forum for the exchange of ideas and knowledge on plants and agricultural sustainability. They serve to educate students from a wide variety of majors on the college campus about plant biology and the environmental impact of a variety of farming practices. These students share their knowledge with elementary school students through programs coordinated with the local schools. This collaborative effort has brought together individuals across the campus from a number of disciplines. The garden brings plant science out of the realm of the biology department and makes it accessible to the general public.

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