BENEFITS OF PERENNIAL EDIBLE LANDSCAPES: A PRIMER FOR AGRICULTURAL PROFESSIONALS

How can we address common obstacles to home grown food? What are the benefits of food-producing perennial landscapes? How can people grow food in their home landscapes without increasing their costs? This primer addresses these questions and offers guidance for promoting food-producing landscapes.

PERENNIAL COMPARED WITH ANNUAL PLANTS

Perennials are plants that live longer than two years. They include trees, palms, shrubs, and ground covers. Because they are long-lived, perennials can build extensive root systems that afford them access to soil nutrients and moisture from a large volume of soil. This characteristic tends to make perennials more capable of taking care of themselves with lower input and maintenance requirements.

Annuals are plants that complete their life cycle within a year. In the tropics, many annual plants can complete several life cycles within a year, including many vegetables from temperate climates such as legumes, lettuce, and corn. Annual crops often require more labor and energy per calorie produced compared with perennials.

Perennials are the primary type of plant grown in agroforestry systems, although annuals are often cultivated alongside or within the understory of agroforests. Once grown to a certain size, perennials do not require replanting, intensive weed control, watering, and other care that goes into annual crops. In an established perennial landscape, there is generally little physical space, light, or open soil for weeds to get started. Therefore, labor is primarily dedicated to pruning and harvesting.

COMMON OBSTACLES TO HOMEGROWN FOOD

Time. Most people have very busy schedules earning a living, going to school, or taking care of children or other family members. Spending time growing food at home has become a low priority, especially when food is readily available in stores. The percentage of ready-to-eat food purchased has been increasing steadily over the years, meaning that we are also spending less time preparing tasty dishes. ***Solution:*** Perennial landscapes can produce abundant food in the same or less time than is already dedicated to maintaining home landscapes.

Perennial landscapes can produce large amounts of food with the same or less maintenance as ornamental landscapes. Left: Lemon, breadfruit, ʻawa, passion fruit, perennial lima bean, and Mediterranean spices. Right: Landscape with cacao, citrus, pineapple, papaya, abiu, banana, and medicinal plants.

Knowledge and experience. For some people, it has been generations since food was grown at home and the how-to knowledge has been lost. Those who have grown up on the mainland U.S. may not have any experience growing food in a tropical environment with different climate, soils, and crops. ***Solution:*** Begin with a small project, while learning from agricultural professionals, neighbors, volunteer projects, workshops, and books.

Land. Condo dwellers, renters, and many others lack access to land for gardening. In urban areas, open land suitable for gardening can be scarce. ***Solution:*** Where land is scarce, micro-plots and container gardens can be used to grow substantial amounts of produce and herbs.

Plant materials. Aside from mainland vegetable seed companies, plant materials for tropical and subtropical species of vegetables and fruits can be hard to find. ***Solution:*** Investigate unconventional plant sources such as seed exchanges, farmers markets, and neighbors.

Beauty. Many think that food gardens must look like farming. ***Solution:*** Many food-producing trees, shrubs, and groundcovers are highly ornamental. They can be grown in visually pleasing arrangements, similar to ornamental landscapes.

WHY GROW FOOD IN LANDSCAPES?

Taste and nutrition. Homegrown is the freshest and therefore tastiest and most nutritious food one can consume. There is nothing like the flavor and vitality of freshly picked fruits and vegetables. Research has shown that produce that has been on the store shelf for a few days has significantly lower nutritional value as compared with freshly harvested produce.

Food self-reliance. Homegrown gives you control over your food. Currently about 85% of Hawai'i's food is imported by ship or airplane from distant locations, and there is just a few days' supply of food in stores at any given time.

Food safety. Growing food at home gives you full knowledge of how the food was grown and handled. Most store-bought food was grown and processed with unknown methods by strangers in distant locations. The distances between field and plate has caused growing concern about the safety of our food.

Cultural integrity. A personal home garden reflects crops and varieties that suit individual preferences. On the other hand, large commercial growers generally grow just a few crop varieties that are best suited for large-scale production and long-distance distribution. The shrinking diversi-

Many perennial plants can replace annual crops. Left: Tree tomato (tamarillo) produces large quantities of tomato-like fruits without the pest and disease problems of regular tomatoes. Right: Edible perennial leaf vegetables such as this purple Okinawan spinach can be used as ground covers to suppress weeds.

ty of crops available in stores around the country has tended to diminish cultural connections to unique local foods and dishes. Since food is integral to cultural expression, growing our own food allows us to reconnect our diets to our cultural/social identities.

Household economy. Growing food at home can decrease the percentage of the household budget devoted to purchasing food. Most home gardeners produce a seasonal over-abundance of many crops, which can be shared with friends and neighbors or sold. By producing an abundance of food at home, the benefits to household economies overflows into neighborhood communities.

Minimizes carbon footprint. Because of Hawai'i's remoteness, imported food travels thousands of miles from food processors and distributors on the U.S. mainland. Some of that food is transported hundreds or thousands of miles (e.g., from China) to reach mainland U.S. food distributors. Once the food arrives in stores in Hawai'i, many people drive miles to buy it, burning more fuel. By growing food at home, we can eliminate the fuel consumed to transport, process, refrigerate, and store it.

GETTING STARTED FOR SUCCESS

1. Learn from friends, neighbors, gardening classes, or hire an agricultural professional for guidance.
2. Select perennial crops that thrive in your area with minimal inputs. This helps ensure high productivity and minimizes pest and disease problems.
3. Plan your landscape carefully to optimize space given to each plant without leaving openings for weeds to take over. This decreases mowing and weeding requirements.
4. Start with a small area and expand upon what works for you. Convert areas of your landscape in doable, small increments so as not to overextend your maintenance capabilities.

REFERENCES

"Getting Started with Food-Producing Agroforestry Landscapes in the Pacific" presents detailed guidance in agroforestry homegardens. www.agroforest.info

"Hawai'i Island Homegrown: Start-up guide for an organic self-reliance garden" introduces home gardening strategies. http://agroforestry.org/images/pdfs/Hawaii_Homegrown_Start-Up_Guide.pdf

"Leaves to live by: Perennial leaf vegetables" gives an introduction to long-lived leafy vegetables for the tropics: http://www.agroforestry.org/images/pdfs/Leaves_to_Live_By-Elevitch.pdf

"Sheet Mulching: Greater Plant and Soil Health for Less Work" gives detailed instructions about mulching: http://agroforestry.org/free-publications/sheet-mulching

Author: Craig Elevitch, Permanent Agriculture Resources (PAR), PO Box 428, Hōlualoa, Hawai'i 96725, USA; Tel: 808-324-4427; Email: par@agroforestry.org; Web: http://www.agroforestry.org.

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