PHILADELPHIA
ORCHARD PROJECT

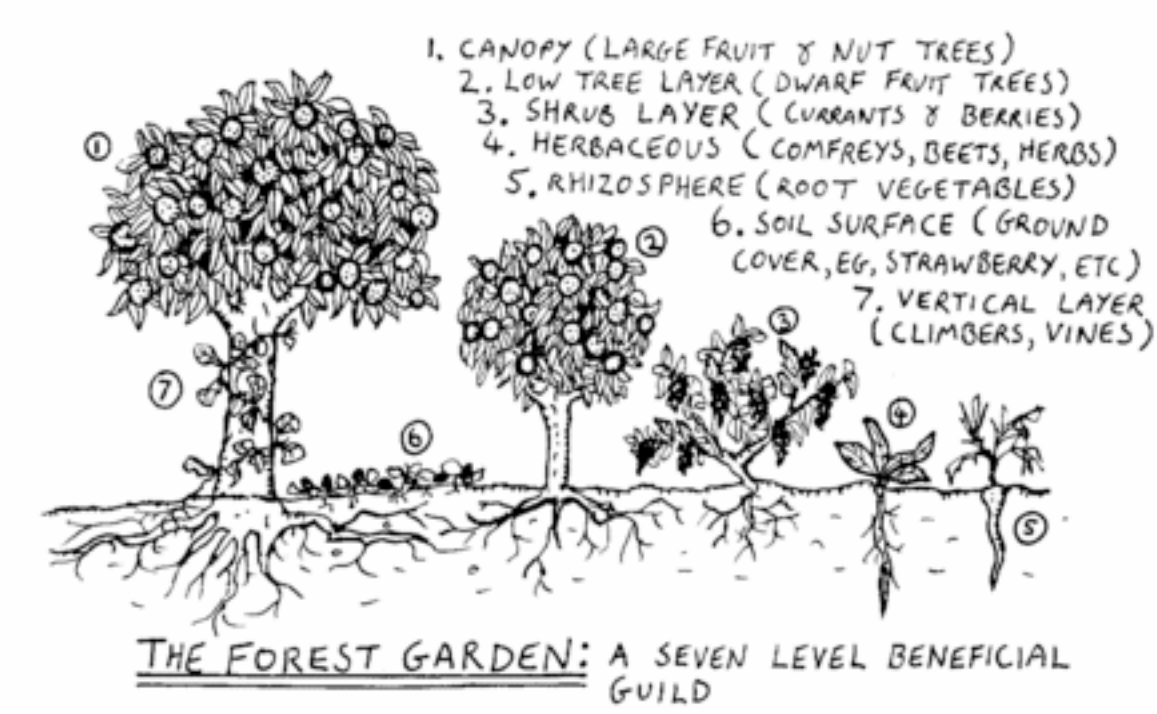
INTRO TO URBAN ECO-ORCHARDS

EDIBLE FOREST GARDENS

The Urban Eco-Orchards planted by the Philadelphia Orchard Project are examples of a style of planting called Edible Forest Gardening. The basic idea is to create a functioning, diverse ecology in the orchard that mimics that of a natural forest. By working with nature instead of against it, these orchards are healthy and productive with relatively less maintenance required by their stewards. The concept of edible forest gardens developed in Permaculture, a movement of sustainable design that originated in Australia in the 1970's. However, many native cultures across the world have traditionally grown food in a similar manner.

THE SEVEN-LEVEL ORCHARD

The Urban Eco-Orchard consists of far more than rows of fruit trees. Like a natural forest, many layers of plants grow in an Edible Forest Garden. Seven different levels have been identified:



By planting a multi-layered orchard, positive relationships are created between plants (see multiple functions, below). All ecological niches are occupied, so there are fewer opportunities for weeds to grow. With yields from so many layers, overall production is increased. Yields can also be harvested from other layers in the short term before fruit and nut trees mature.

ORCHARD DIVERSITY

In addition to a diversity in plant levels, the Urban Eco-Orchard features a diversity of plant choices within each level. For example, instead of just planting apples in the low tree level, the orchard might feature apples, pears, cherries, and more unusual choices like figs, persimmons, and serviceberries. If one crop fails in a particular year, this diversity ensures that the orchard will still be productive. Pests are also often very plant specific, so a diverse orchard becomes a less attractive target.

MULTI-FUNCTIONAL PLANTS

Urban Eco-Orchard plants often serve more than one of the following functions:

FOOD: Fruit, nuts, culinary herbs, greens, mushrooms, edible flowers, roots, and shoots. Diversity of production makes for a long season of harvest. Don't forget value-added items like jam, juice, and cider!

MEDICINE: Herbs, barks, mushrooms, etc. For teas, tinctures, extracts, and poultices.

SOIL-BUILDING: Through a relationship with soil bacteria, certain plants (mostly in the legume family), actually pull nitrogen from the air and fix it into the ground, thus fertilizing themselves and the plants around them. Other plants are nutrient-accumulators with roots that pull essential nutrients from deep in the soil and make them available to the plants around them. Fungi have recently been shown to have vital ecological functions in soil, protecting plants from disease, transporting nutrients, and more.

PEST CONTROL: Some flowering plants, especially those from the umbel and aster family, serve as a nectary, attracting beneficial insects that help control potential pest problems. Other plants make good habitat for beneficials to live and lay their eggs. Other strong aromatic plants, particularly the onion family, are good at confusing and repelling pests.

OTHER: Woody plants can be harvested or coppiced for fuel and some yield valuable timber for construction or furniture-making. Trees and other orchard plants provide many environmental benefits, including absorbing carbon and other pollution, reducing stormwater runoff, and providing neighborhood cooling. Beauty in flowers, foliage, and fruit is another important function of Eco-Orchard plants.

LIVING SOIL

One of the most important aspects of creating a functioning orchard ecology is creating healthy, living soil. Worms, insects, fungi, bacteria, and many micro-organisms have vital roles in supporting happy, productive plants. There is actually a greater total mass of life below the surface than what is seen above. One technique for encouraging healthy, living soil is sheetmulching, a particularly valuable approach for city lots with poor, weed-covered soil. The basic idea is to cover the surface with a layer of cardboard or newspaper topped with many layers of organic materials like fallen leaves, compost, and salt hay. The newspaper or cardboard serve to choke out existing weeds or grass, then decompose along with the other organic materials to provide abundant food and habitat for worms and other soil life.

Eco-Orchard Books

Edible Forest Gardens, Dave Jacke & Eric Toensmeier

Gaia's Garden, Toby Hemenway

Related Horticultural Books

The Backyard Orchardist, Stella Otto

The Backyard Berry Book, Stella Otto

Uncommon Fruits for Every Garden, Lee Reich

The Pruning Book, Lee Reich

The Edible Container Garden, Michael Guerra

Lasagna Gardening, Patricia Lanza

Mycelium Running, Paul Stamets

Eco-Orchard Plant Sources

www.greensgrow.org

www.usefulplants.org

www.eat-it.com

www.fedcoseeds.com

www.raintreenursery.com

www.wellsweep.com