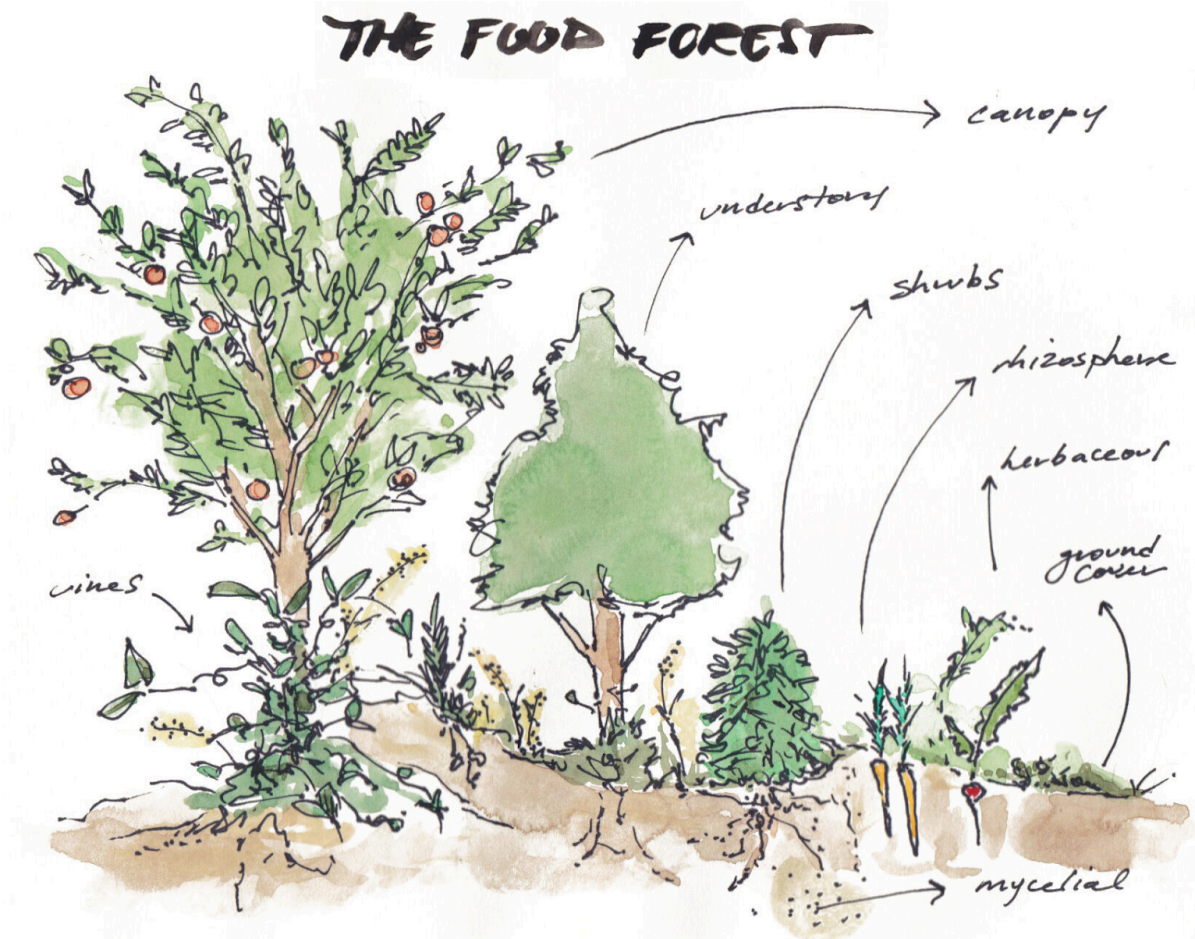


A work in progress

PPS Edible Campus

District-wide ecological restoration sequesters carbon, builds habitat, reduces effects of heat islands, illustrates & amplifies curriculum, provides natural systems & food/nutrition systems education, & fosters wellness & respite for students, staff, & community. It expands current Edible Gardens instruction & stewardship to all campus lands.



A backgrounder gathered from sources listed below.

What is an Edible Campus?



An Edible Campus expands existing Edible Gardens at all six PPS campuses and incorporates tenets of the NJ Climate Change Education mandate to create a campus-as-lab environment.

It employs food forest principles that, over time, restore and stabilize a small-scale ecosystem. These principles multi-solve, providing a living lab for academic exploration, outdoor connections for respite, natural protection from heat and storm extremes, increased plant-based resilience to pests and therefore reduced chemical inputs, and for vastly reduced weekly maintenance.

Currently plans are under way to connect the campus of Princeton High School to Princeton Middle School with an eight-layer food forest. At left is a possible pathway that links Princeton Middle School to Princeton High School, an adaptation of the “emerald necklace” linear system of linking parks and parkways designed by Frederick Law Olmsted to connect the Boston Common.

What is a Food Forest?

A food forest goes by many names: forest garden, permaculture, silvopasture, agroforestry, edible landscape, edible forest, polyculture, rewilding. It is a 3D approach to landscaping, encompassing extensive layering from canopy to below ground.

A food forest has eight layers:

Canopy or Overstory: The tallest layer, mostly large fruit and nut trees such as pecans, walnuts, or chestnuts. This layer has the fullest sun.

Understory: Smaller nut and fruit trees that can tolerate partial shade make up the understory. Here you can find things like persimmon or apples.

Vines: Grapes and other shade-tolerant climbers live in the vine layer, using overstory and understory trees as trellising.

Shrubs: The partial shade of the shrub layer is excellent for fruiting shrubs like huckleberry, elderberry, and currant.

Herbaceous: This layer is where you'll find herbs like rosemary, lavender, and mint, as well as a whole host of other leaf-bearing, perennial plants like rhubarb and asparagus.

Groundcover: This is the soil layer and is made up of horizontally spreading cover crops like sorrel, alpine strawberries, or any number of green spreaders

Rhizosphere: Root crops make up this layer, and it is the one part of the food forest where you might find annuals— if sun is available.

Mycelial: This is the subterranean fungal/mushroom layer.

A food forest:

- Is a designed and maintained forest-like ecosystem containing a profusion of life;
- Is built on an infrastructure of low-maintenance, commercially productive/ecologically equivalent variants of edible perennials along with a diversity of native species;
- Builds soil health, nitrogen-fixing, and weed and pest suppression with reciprocity in mind;
- Attracts pollinators;
- Provides habitat;
- Enhances water retention, carbon sequestration, climate stabilization, biodiversity, efficiency, and sustainability of food production systems; and,
- Connects us to the wonder and joy of the natural world.

Why a Food Forest?

A forest is one of earth's most stable ecosystems. In the forest, multiple interdependent horizontal and vertical layers are active participants, holding and supporting each other in reciprocity. When we mimic those layers in food production, we obtain ecological benefits of forest, soil, and food.

A key feature of food forests is the ongoing presence of perennial plants that, year after year, build increasingly diverse ecosystems and habitats, nurture early blooming plants that support insects and attract native pollinators, and eventually, build stable underground fungal networks. All are continually enriching soil with organic matter as leaves fall and plants die back for the winter – even as they are producing food.

Over time, most ecosystems become stable. Without significant disturbances, the forest endures.

PPS Edible Campus Goals

- Build resilient agroforestry for student research in face of climate change;
- Produce abundance of food, shade, and natural beauty to share;
- Model increased self-reliance;
- Demonstrate aspects of small-scale sustainable food systems;
- Work toward ecological restoration;
- Support biodiversity;
- Connect people to food, to nature, and to each other;
- Build community resilience & inspire development of more food forests;
- Drastically reduce lawn maintenance and use of pesticides/herbicides; and,
- Provide outdoor classroom & educational resources for K12 and community.

Building Guilds

We are creating guilds – combinations of trees and other plants across the eight layers that incorporate each school's established Edible Gardens. It is based on a reading of the landscape that identifies micro-neighborhoods of thriving plants, based on water, soil type, exposure, climate, slope, and wildlife, along with aesthetics, with site conditions dictating plant choice and yield.

Taking Time

A healthy ecosystem takes several years to establish itself. Meanwhile, we provide food, water, and habitat for all the components of the ecosystem.

During the food forest's early years, we plant annuals to take advantage of the sun allowed in by saplings. As the years go by, the system will evolve from annuals to perennials, from short to tall, from limited life to high biodiversity.

Yields will depend on the condition of the soil, the slope of the land, the solar aspect, the wind conditions, the deer pressure, the human pressure, precipitation, and the weather from year to year.

Ancient History

Managing forests for their edible benefits to humans is an ancient practice; existing ancient food forests have been found in Africa, Asia, and the Americas. Geoff Lawton found [a 2,000](#)

[year old food forest in Morocco](#). Eight hundred people continue to farm this desert oasis. Among other edible plants, you'll find date palms, bananas, olives, figs, pomegranate, guava, citrus, and mulberry. Likewise, he found a [300 year old food forest in Vietnam](#) that has been cultivated by the same family for 28 generations. Closer to home, visit food forests in Philadelphia and in Pennsylvania - more information [here](#).

Sources

This information for this backgrounder was compiled directly from several sources:

<https://projectfoodforest.org/what-is-a-food-forest/>

<https://www.tenthacrefarm.com/create-food-forest/>

<https://www.phillyorchards.org/2020/06/10/philadelphias-food-forests/>

<https://www.phillymag.com/news/2018/07/07/downingtwn-food-forest-urban-farming/>

<https://www.gardencityharvest.org/the-real-dirt-garden-city-harvest-blog/2020/12/26/what-is-a-food-forest>

<https://www.gardencityharvest.org/the-real-dirt-garden-city-harvest-blog/2020/12/26/what-is-a-food-forest>

<https://permacultureapprentice.com/creating-a-food-forest-step-by-step-guide/>

<https://www.theresiliencyinstitute.net/grow/why-edible-forest-gardens/>

<https://projectfoodforest.org/pledge/>

- Mark Shepard of the 106-acre New Forest Farm describes his process in his book [Restoration Agriculture](#).
- Stefan Sobkowiak shares his experience of transforming a conventional apple orchard in the feature-length educational film [Permaculture Orchard](#).

[National Geographic video short](#): A Forest Garden With 500 Edible Plants Could Lead to a Sustainable Future