

# Food Forests: Growing Edibles from Soil to Treetops

Most gardeners have heard of “edible landscaping,” a once-radical idea that has become mainstream. The notion of having a designated plot with rows of food crops, separate from flower gardens, has given way to integrated designs in which attractive food crops are incorporated among ornamentals.

A food forest takes this idea a step further. It’s a way of growing edibles that mimics natural forest ecosystems. Different types of food-bearing plants — trees, shrubs, perennials, and annuals — are carefully selected and arranged to create a cohesive, relatively self-sustaining system. The plants benefit each other, and they create a welcoming space for wildlife.



Food forests are inviting spaces for kids, too! Pluck a blueberry here, grab a kiwi there — food forests create abundant opportunities for youth to experience new fruits, vegetables, and herbs, as well as new ways to grow them. Food forests inspire curiosity about the natural world and the complex interactions among plants, insects, birds, and wildlife. They provide an opportunity to help kids make the connection between nutritious food and health, which can then lead to a grasp of how human health is intricately connected to the environment.

## Designing a Food Forest

A food forest is, by design, more self-sustaining than a regular vegetable garden. Once the plants are established the plants nurture each other. In planning and planting a food forest, careful attention is paid to creating layers:

- Large fruit and nut trees create the **canopy**.
- Smaller trees, such as dwarf fruit trees, create the **understory**.
- Next are **shrubs** of various sizes, such as blueberries and currants.
- The next layer consists of non-woody (herbaceous) **perennials**, e.g. rhubarb, asparagus, and many herbs.
- The **soil surface** can be considered a layer, populated with groundcovers such as creeping thyme.
- The soil itself is a layer (called the **rhizosphere**) that is home to root vegetables.
- Finally, there’s a **vertical layer**, made up of climbing vines such as kiwis, that spans the other layers.

There are infinite possibilities in designing a food forest. Plant choices will depend on many factors, including your climate, soil type, and water availability. The “forest” might be small and consist of just a few dozen plants. Or it might be expansive, with winding paths among various plant groupings and areas with seating for instruction or contemplation. Some food forests are designed with native plants only; this option can introduce kids to less familiar food plants, such as huckleberries and serviceberries.

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Other designs include non-native food plants, such as apples, that are popular treats, as well as more exotic fare, such as guavas and papayas, that inspire curiosity about history and geography.

## Benefits of Food Forest Gardens

**They protect the soil.** Because most of the plants are perennial, there's little or no need to dig, rototill, or otherwise disturb the soil. This preserves the natural soil structure, its intricate ecosystem, and the remarkable array of life forms it sustains, including bacteria, fungi, insects, earthworms, and even small mammals. The deep roots of trees, shrubs, and perennials also help hold the soil in place, minimizing the erosion of precious topsoil.

**They recycle nutrients.** When plants shed their leaves, it creates a natural layer of mulch. This leaf litter feeds earthworms and soil microbes which, in turn, release the nutrients so they can be taken up again by the plants. Usually little to no additional fertilizer is needed in a food forest, except perhaps some compost around heavily harvested plants.

**They conserve water.** Perennial plants generally have deeper root systems than small, annual plants, so they can reach further into the soil for the water they need. If watering is necessary, an occasional slow, deep watering is usually adequate — rather than the almost-daily watering that many annual crops demand. Trees and tall shrubs provide shade for lower-growing plants, reducing water stress during the mid-day heat. Ground covers and fallen leaves conserve soil moisture.

**They offer an abundant harvest over a long season.** Spring asparagus, summer berries, fall apples, root crops through early winter and even into the following spring — depending on your climate, a food forest can have something to offer nearly year-round.

**They require less work!** Once the initial design and planting is done, the food forest becomes relatively self-sustaining, at least compared to a regular row-crop garden. The natural mulch means there's less weeding to do, and watering and fertilizing chores are minimized. Pests that might ravage a garden are often kept in check by the birds and other wildlife that are attracted to the welcoming environment that a food forest provides.

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