

# Growing an Edible Forest

From *Gaia's Garden* by Toby Hemenway  
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## I. Working *with* Nature in the Garden

Most gardeners work very hard to keep weeds out of their gardens. They chop out woody seedlings (baby trees) so that their vegetable gardens will not become forests. But these gardeners do not need to fight against nature like this. Instead, they can work *with* nature to plant an edible forest garden.

In an edible forest garden, trees are very important. Trees are the most productive plants in the world, and in an edible forest, the trees are on the gardener's side. Tree roots make the soil more stable and prevent **erosion**. Trees also help gardens stay moist, so they don't need to be watered as often. Fallen leaves from trees turn into **mulch**, which then turns into a nutrient-rich soil. Additionally, trees provide habitat for beneficial animals, birds, and insects. Because tree roots go so deep into the earth, trees are the plant kingdom's best collectors of nutrients and water. And because tree branches reach up so high and wide, trees are also nature's best collectors of sunlight. When trees are planted in a garden, they share their energy and nutrients with the other, smaller plants, and the whole garden grows better.



Trees are very important in an edible forest.

## II. Benefits of Edible Forests

An edible forest garden is a very dense and productive garden. Almost every cubic inch is filled with leaves, flowers, or fruit, from the tops of the trees to the bottoms of the tubers growing underground. It is full of birds, small animals, and beneficial insects.

Another appealing reason to plant an edible forest garden is that edible forests are **low-maintenance**. Thanks to the trees, edible forests need less water than traditional gardens and have fewer pests. The trees' fallen leaves renew the soil and at the same time prevent weeds from growing. Trees and most other plants in an edible forest are **perennial**, which means they have deep roots and grow for many years, so gardeners do not need to worry about planting new seeds each season.

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**erosion**—when something is destroyed or lessened by wind or water

**mulch**—a material (leaves, straw, etc.) that is spread over the ground to help plants grow and stop weeds from growing

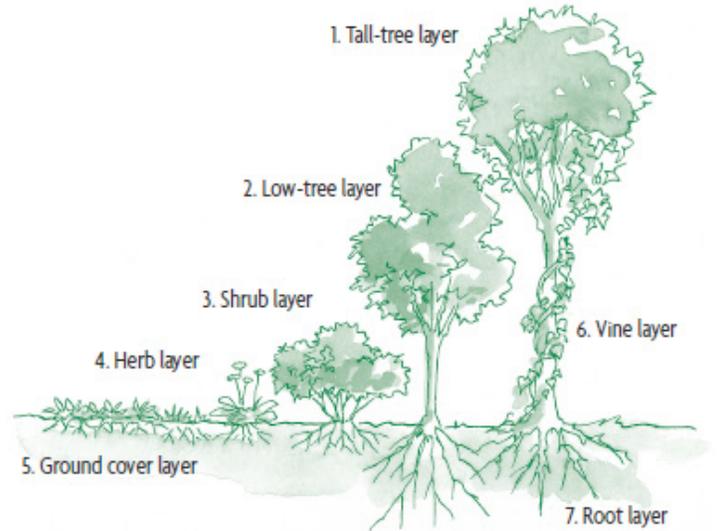
**low-maintenance**—not needing much care or attention

**perennial**—living for many years

### III. The Seven-Layer Garden

An edible forest is a layered garden. The seven layers of a forest garden are tall trees, low trees, shrubs, herbs, ground covers, vines, and root crops. Here are these layers in more detail.

1. *The tall-tree layer.* The tall trees in an edible forest are mostly fruit and nut trees, such as apple, pear, plum, cherries, chestnuts, and walnuts. There needs to be lots of space between the trees to let light in to the lower layers.
2. *The low-tree layer.* The next layer is made of smaller trees, such as apricot, peach, nectarine, almond, and mulberry. **Dwarf varieties** of bigger trees are also good choices for this layer. These trees can be pruned to have many openings to let lots of light through to the lower layers.
3. *The shrub layer.* This layer includes flowering, fruiting, and wildlife-attracting shrubs. Examples include blueberry, rose, hazelnut, and bamboo.
4. *The herb layer.* The “herbs” in an edible forest are plants with non-woody, soft stems. They can be vegetables, flowers, cover crops, cooking herbs, or mulch crops. They are mostly perennial, but sometimes gardeners choose to plant a few **annuals**.
5. *The ground cover layer.* These are very low plants that grow close to the ground, such as strawberries, nasturtiums, and thyme. They are very important because they make it difficult for weeds to grow.
6. *The vine layer.* In an edible forest, some plants, like grapes and kiwis, grow up the trunks of the trees.
7. *The root layer.* A forest garden grows both up and down. The last layer is plants that grow underground. These should be plants with shallow roots, like garlic and onions, which are easy to dig up without disturbing the other plants.



The seven layers of the forest garden.

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**dwarf varieties**—trees that have been bred to be smaller than most trees of their type  
**annuals**—plants that live only for one year or one season

#### IV. Designing an Edible Forest

There are several things to remember when planning an edible forest. First, it's important to remember that an edible forest is a perennial garden. The trees will get bigger and the garden will change over the years. So the gardener should always plan the garden based on the full size of trees, making sure to leave room for sunlight to reach the lower layers. Secondly, it's important to include plants with many useful functions. Some of the most crucial functions include:

- *Nitrogen fixing.* These are plants like fava beans that take in lots of nitrogen and contribute the nitrogen to the soil to help other plants grow well.
- *Mulch.* These are plants that help build the soil.
- *Beneficial insects.* Many plants attract pollinating insects that help the whole garden grow.

Finally, it's important to consider which plants can tolerate shade and which prefer lots of sun, and to place the plants accordingly.

After three or four years, the fruit trees in the garden will begin to have fruit, and the garden will have begun to fill out. In ten years, the trees will reach their full height. After ten or twenty years, the garden will be a mature and graceful environment.

#### History of Edible Forests

Edible forests are a new idea in North America, but they have a long history in other parts of the world. People in Africa, Asia, and South America have been growing edible forests for thousands of years. When Europeans first traveled to these other continents, they did not realize that what they thought was a wild jungle was actually someone's carefully planned garden! Every plant was useful for food, firewood, building materials, or medicine. Unfortunately, today many of these edible forests have been replaced by Western-style agriculture, with each plant in its own row—a less productive, less varied, and less pest-resistant method of growing food.