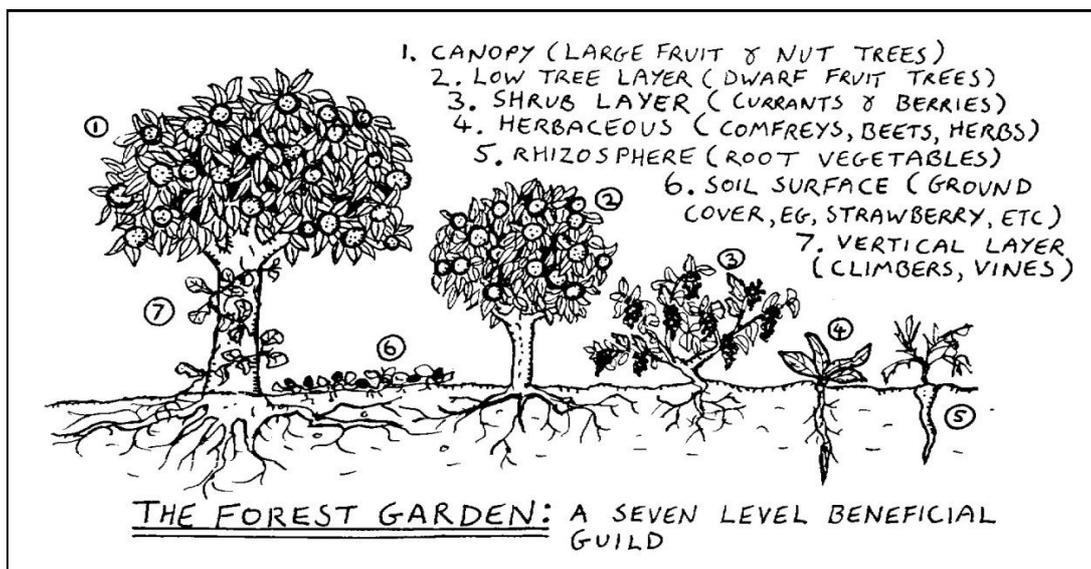




Food Forest Design



1. **Canopy Trees** – these trees are selected to grow up and over all the rest and to provide gentle dappled shade – not to completely block the sun out. They can provide timber, nitrogen fixation, fruit or nuts yields and a home for birds and animals. Bunyas, Pecans, and Icecream Beans.
2. **Lower Trees**– generally these are fruit trees as in natural forests most of our common fruit trees where protected under the canopy, which certainly suits Perth's summer heat. You might have citrus, sapotes, carambolas, accerola, jubejube, payayas.
3. **Shrubs** – lower growing plants – these provide another layer and food that will also attract different birds and insects increasing biodiversity – Cape gooseberries, vine berries, nightshade, blueberries, midyims, and small nuts.
4. **Herbs** – herb flowers attract beneficial insects into the food forest floor, these should be specifically chosen dynamic accumulators, medicinal herbs, and self regenerating/seeding. Dandelions, comfrey, borage, herb Robert, Indian Ginseng, thyme, sage, parsley, etc.
5. **Root crops** – Using the underground area increases the yield and diversity again. We could plant carrots, sweet potatoes, Galangal, and Arrowroot for food or flowering bulbs for winter yield in a deciduous canopy.
6. **Groundcovers** – Generally legumes that feed the soil or dynamic accumulators– Purple vetch, clover, yarrow, Peanuts. We could have sweet potato doing this also but should add a vetch or something for nitrogen fixation.
7. **Edible Vines** – food vines growing up canopy trees – passionfruit, lablab, beans, peas, yams, even grapes. Larger perennials will need a stronger trellis tree, and some pruning will be required. You can use annual vegetables to avoid issues.

You will also notice we have a pond in the food forest, this adds even more layers of edibles, in aquatic plants, and more importantly it attracts and provides a home for predators, beneficial insects and pollinators.

Two key principles of creating a food forest or forest garden, plant stacking to use light, water and nutrients and highly diverse planting to mimic a natural forest.



As you can see from the first picture each tree is at a different height, this means it has access to enough sunlight to grow but not so much it needs to be protected. Similarly the canopy plants have the competition of the layers below to keep them under control but also the moisture recycling and leaf litter compost to keep them sustainably feed and watered. Adding in the rest of the layers maximizes the yield, resilience, diversity of the system, thus giving us a poly-culture, not a monoculture like most farms and vegetable beds.

Food forest are a excellent way to create a sustainable food production system in WA's poor soils, without this carefully created diverse water management and nutrient recycling of this density of plants a food system cant exist without heavy human input. In permaculture we model our system on natures models, in WA natures model of existing on very poor unstable soils is to slowly create a forest.

Permaculture allows us to speed up our forests carbon bank and manage the succession of trees. A good knowledge of tree types and functions is important, as plants are specifically chosen. For example, when establishing the first trees of the forest we will choose hardy pioneer plants that do this job naturally in nature, nitrogen fixing legumes like acacia, wattle, albizia, honey locus, tagasate and leucaena all provide great host trees for the next years more delicate food production trees. If we plant a wattle first, let it get to 6 foot, then plant a mango inside the canopy, we nitrogen fix, shade, wind protect and bacterially protect the mango. In 2-3 years when the mango is strong and hard and the wattle is to large, we can prune the wattle down to add more light, but don't remove it as it can still fix nitrogen and provide mulch.

These concepts and techniques can become quite detailed and very helpful in combating our drying climate and poor soils in WA. If you would like to learn more about these ideas in the permaculture toolkit and knowledge bank please head to PermacultureWest's resources, course and workshop pages to skill up or seek out a skilled permies assistance.

Thanks goes to Joe from Tass1Trees for his generous supply of more than 50 different varieties of fruits and nuts for our display. This diverse range is essential when setting up a food forest or simply choosing the best plants for your yard.

Tass1Trees (Joe) can be contacted on 0419 988 344 or via <http://www.tass1trees.com.au>