

Vertical Gardening - by Terra Perma

Vertical gardening is a space saving strategy for small areas utilising walls, trellis, or any upright medium for plants to spread vertically and minimise their horizontal footprint.

As experienced gardeners we would like to stress that it is not a better, more desirable or easier gardening technique, but a way of growing productively in challenging areas restricted by space, light or lack of soil resources. Such spots include balconies, atriums and forecourts, south facing walls, patios and decks.

Unfortunately the modern building trend of a large homes on a postage stamp of land, with limited outdoor space is a typical arrangement. This trend (high land cost max house footprint) in housing is the current norm so many of us will have these homes and must do the best we can with the very limited space.

Water - The lynch pin of vertical gardening.

Success with vertical gardens is all about keeping the 'bed' watered/wet. How to get water into the soil, and keeping it there is always the tricky bit.

The smaller the packet of soil in the vertical garden 'bed' the quicker and easier they will dry out. The less water it can hold, and the less roots and thus plants it can support. Many techniques you see on the internet i.e. clear soda bottle 'beds' just won't work in hot dry climate of Perth. Also designs that use shade cloth to wrap the soil and material bags will dry out very fast.

What soil to use ?

The biggest issue other than the water is having soil that supports plants but doesn't get 'used up'. If you use all compost in longer term pots the soil will shrink down and compact in the bottom ruining you plant roots and soil. Use lots of 'inert' soil additives like vermiculite, biochar, zeolite these have a high surface area and act like a sponge but don't break down. You will need to do occasional liquid feeding but you wont need to report every time. A mix of 1/3 vermiculite, 1/3 cocopeat, 1/3 well blended compost is a good mix.

Consider - Do you need to elevate the soil ? Why not just elevate the plants ?

A large on ground planter box will produce much more plant, be cheaper and easier to manage. A simple wire or string, mesh, lattice, or anything that can be climbed or attached to, will allow the plants in your planter box to climb many meters up a vertical wall.

A frames, trellises, arch ways, and other vertical supports allow plants to temporarily use a vertical space in your garden without needing trees or buildings, this can be done for extra productivity or effect. These can be made out of weld mesh, wire doors,

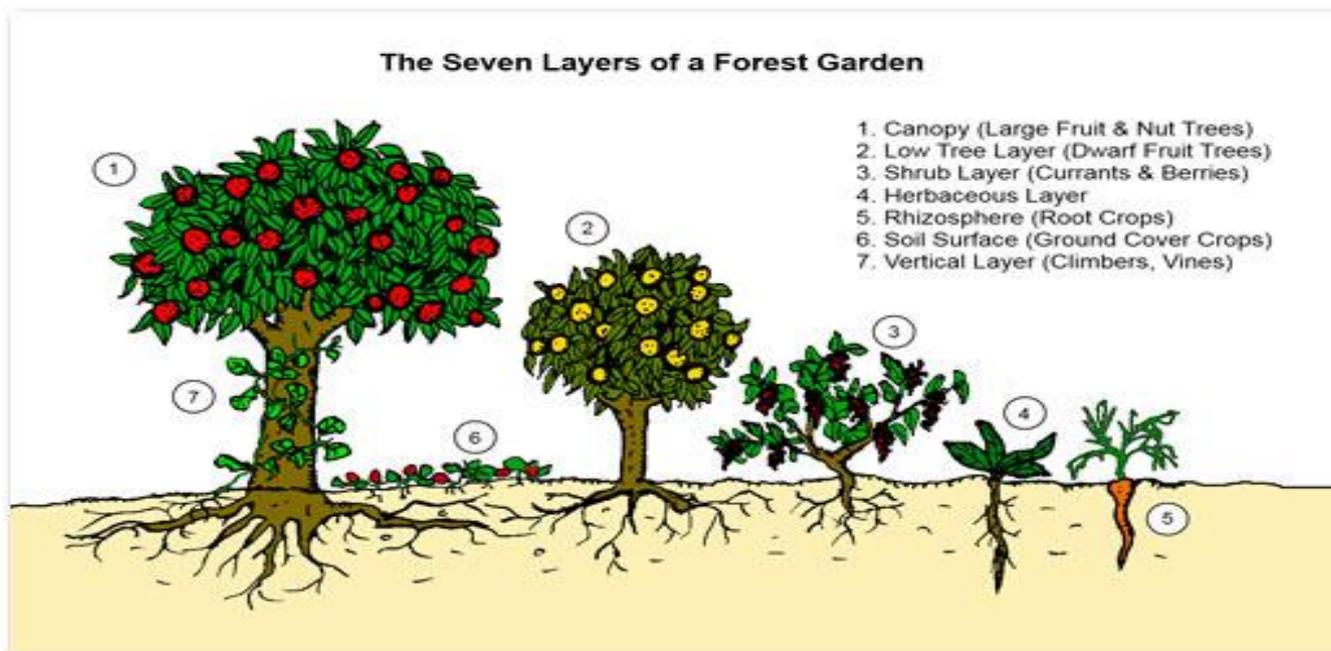
Climbing plants you might want in your garden include: peas, beans, cucumbers, pumpkins, nasturtiums, sweet potato, yams, gourds, chokos, lablab (perennial beans), wisteria, jasmine, lilac, hops. Also those needing heavier support like passionfruit, and grapes.

Or densely planted trees of varying heights. Stacking trees to the northern sun maximise the use of the sunlight resource, and shares the harsh summer sun between many plants.

Nature, our ultimate teacher, uses the vertical dimension all the time.

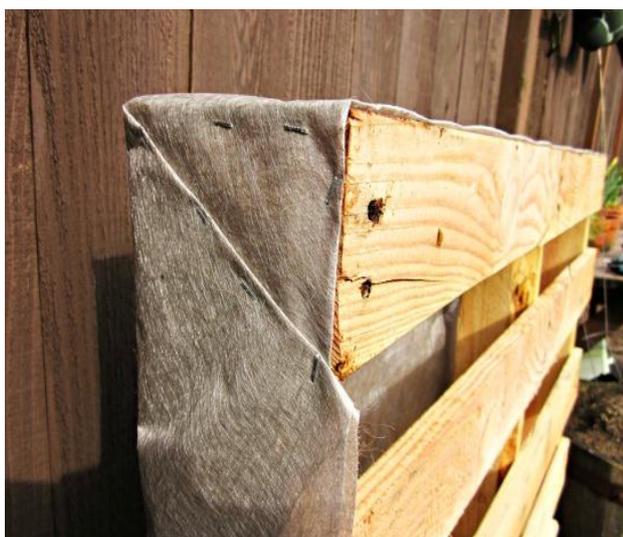
Most plant communities exhibit some form of vertical stacking to maximise light, water and microclimate, the obvious example being the forests of the world. Despite many different forest types, they commonly display around seven layers of vegetation organised vertically to share the maximum number of resources. If the sun comes from the north your tallest plant is on the south side.

Any gardener, irrespective of the available square meter area, will also greatly maximise their own resources and likelihood of success if they mimic nature by stacking plants in this way. Food forest production yields in three dimensions, as opposed to a standard two dimensional cropping arrangement.

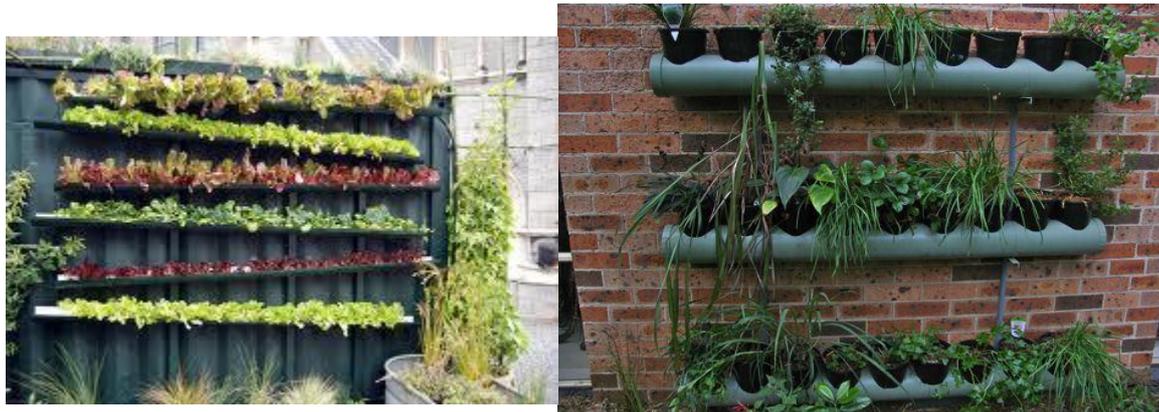


Types of 'bed' -

Mesh cages of soil or Pallet cage for soil



PVC tubes or Gutter row beds



Pots in PVC and Hanging Bags - Light to use but dry out easily, not recommended for summer.



Stacked Bread Trays



This is a great reuse idea that Sustainable Outdoors came up with. You can see some of these vertical gardens in the Fremantle area. The main benefit here is no 'tool skills' needed, these stack by default, are strong, stable and modular. Simply fill the bread trays with potting mix, cut out a section of mesh and poke the plant into the soil. You should be able to just top water with retic but make sure the water is reaching the bottom.

Vertical Barrel Planters



This style has inherent resilience as they have lots of soil, water holding and nutrient management. Normal vertical gardens will need daily watering in summer these should only need weekly watering. See the Terra Perma Website for a video on how to build these beds. <https://vimeo.com/109423119>

You can get olive barrels on gumtree and at salvage stores you should pay between \$15-\$30 a barrel, buying in bulk normally gets you a discount . Try search 'plastic barrel' or try WA Barrels in Doubleview 0425 003 335.