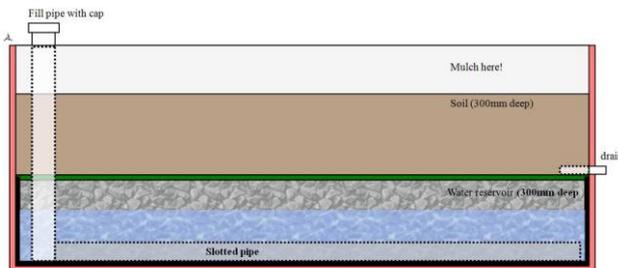


Wicking Gardens

A method to keep water & nutrients near your plant's root zone. The reservoir in the wicking system catches and retains water. The reservoir is filled with coarse aggregate (or coarse mulch in some systems); when filled with water, the chunky gravel allows water to wick upwards. The movement of water also prevents anaerobic soils. It's efficient, water-wise, you can go on holiday, and the closed wicking systems prevent tree roots gobbling up water & nutrients needed by vegetables.

Water will only wick about 300mm. The reservoir should not be deeper than this. A soil depth of 30cm is ideal. Soil will be moist, not wet. The reservoir is also 300mm deep.



Black "U" shape is the liner
Green layer is shade cloth or similar porous interface
Red is the wicking bed container.

Image courtesy Terra Perma, in Perth

<http://www.terraperma.com.au/free-resources-and-notes.html>

Terra Perma's fact sheet on wicking beds is informative and regionally relevant.

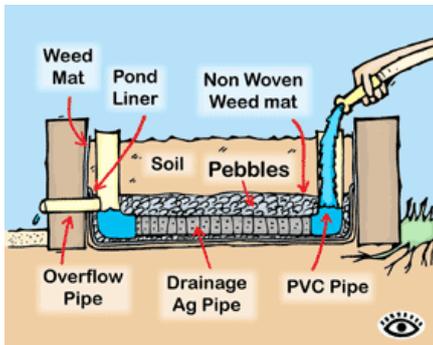
In drier areas wicking beds can be adapted to catch rain or even dew. In the northern hemisphere winters, wicking beds need to be drained to prevent the reservoir freezing!

Different types of wicking beds:

Closed (or Sunken) – the plastic liner is in the ground, filled with suitable growing medium, but closed off from the surrounding earth.

Open – the plastic liner is usually long and narrow to trap water that wicks up and out to feed adjacent trees/shrubs/crops. Water is fed into the reservoir through a pipe

Above ground – raised vegie bed, a box, timber, shade cloth foam box, etc, on any type of ground. A subterranean pipe probably not needed, although that's size dependent. You also need a drainage hole, to either flush your reservoir or to let out excess rainfall. A cap will prevent water loss until opened. Some wicking beds have two drain holes, one at the bottom & the other slightly above the reservoir. Up to you!



A raised or above ground wicking bed, left.

Image courtesy Urban Food Garden in Ballarat www.urbanfoodgarden.org

There's also very good how to build fact sheets under the Wicking Gardens tab.

The high sided corrugated iron raised planter beds are great for mobility but too deep for wicking. To correct, measure the depth to ensure you know where the water reservoir and vegie soil should be for optimum wicking & growing (300mm each), fill the base with soil/rubble, *level it*, line with plastic, gravel *level it*, insert drainage pipe, top fabric layer, fill with growing soil.

Ensure the reservoir is level, even if you're building it on uneven ground. A layer of shade cloth, or geotextile, or an old sheet, laid on top of the reservoir gravel will help prevent soil filling in the vital gaps between the gravel. It makes it easier to dig up & move if need.

The growing soil must be a good mix of organic goodies, compost, & mulch. Potting mix alone is not enough.

The wicking system can be adapted to fit aquaponic systems or worm farms, or you can add a worm tower into your bed, or a mini compost bucket. The concept of a wicking system is also highly adaptable to different conditions, locations, needs.

There's plenty of information on the internet, with ideas and images to fit your garden situation or needs. Use this to search: **wicking gardens site:au** to get Australian information.

Getting started with an above ground wicking system

- The walls, out of your chosen material (Is it non toxic? stable/strong? Will it get the right amount of sun?)
- Calculate the amount of gravel LxWx300mmH
- Plastic liner, don't puncture it! (if using timber sides, use a staple gun to fix along the liner's top edge)
- Slotted ag pipe for the reservoir (optional) allow enough length for both ends to protrude above soil level
- Sheet/shade cloth/geotextile fabric
- PVC pipe for drainage holes
- Organic materials to make your delicious soil
- A spirit level to ensure *the reservoir* is level
- Check the distance from hose & tap
- *Do not* use 'greywater' to fill the reservoir
- Optional, set a reticulation timer system to refill the reservoir if you are going away for a long period



A larger system will need a pipe within the reservoir to help fill it. "Ag pipe" is fine for this job. Shade cloth or geotextile goes over the gravel, then soil.



A smaller planter box has the reservoir of coarse gravel being direct filled with soil. This shallow bed is not suited to root crops or perennials, but suits leafy greens, flowers, and annual vegies.



Overflow points. The lower cap is off during heavy wet season falls. The upper outflow never has its cap on, and allows for regulation of water in the system does get too full.