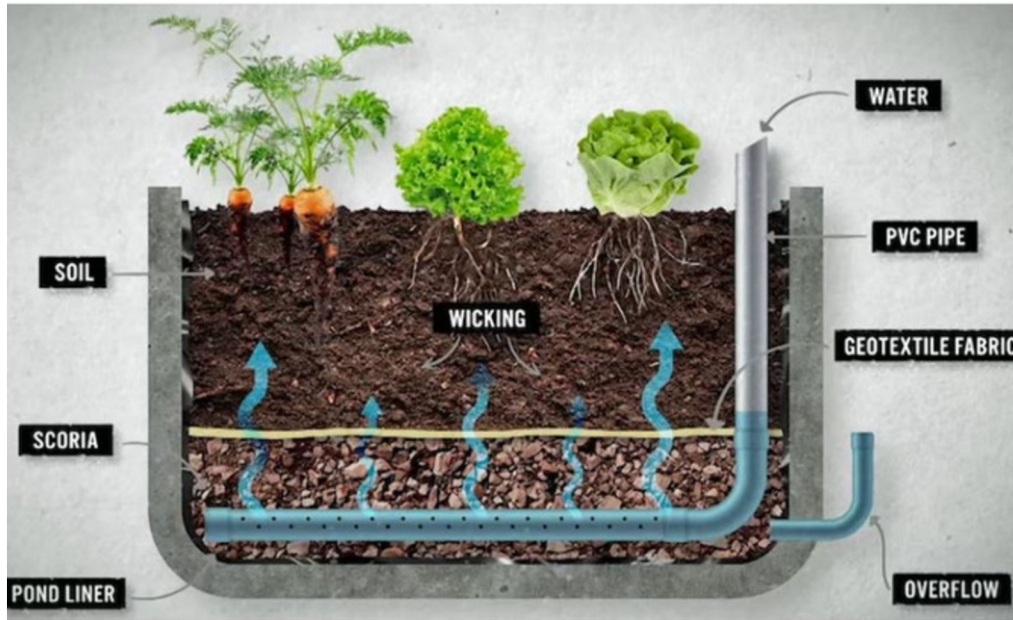


How to Build a Wicking Bed



What is a “Wicking Bed?”

A “wicking bed” is a type of raised bed with a built in water reservoir in the bottom. Unlike traditional raised beds that require drainage at the bottom, wicking beds are sealed at the bottom to hold a pool of water below the soil line. This allows the soil to “wick” up moisture from below, reducing the need for external waterings.

Benefits

A wicking bed can be a good choice in the following situations:

- Community garden where there may not be individuals available every day to water plants
- Locations that are far away from plumbing and other irrigation sources
- Very dry climates with limited rainfall
- Can allow a gardener to be gone for a week or two without worrying about watering the bed

How to Use

Simply take a house and fill up the water reservoir using the pipe that extends out of the soil. Water from rain will also drain into the reservoir. This water will then wick back up into the soil from below. Periodically refill as water level seems to be low or soil seems dry.

Considerations

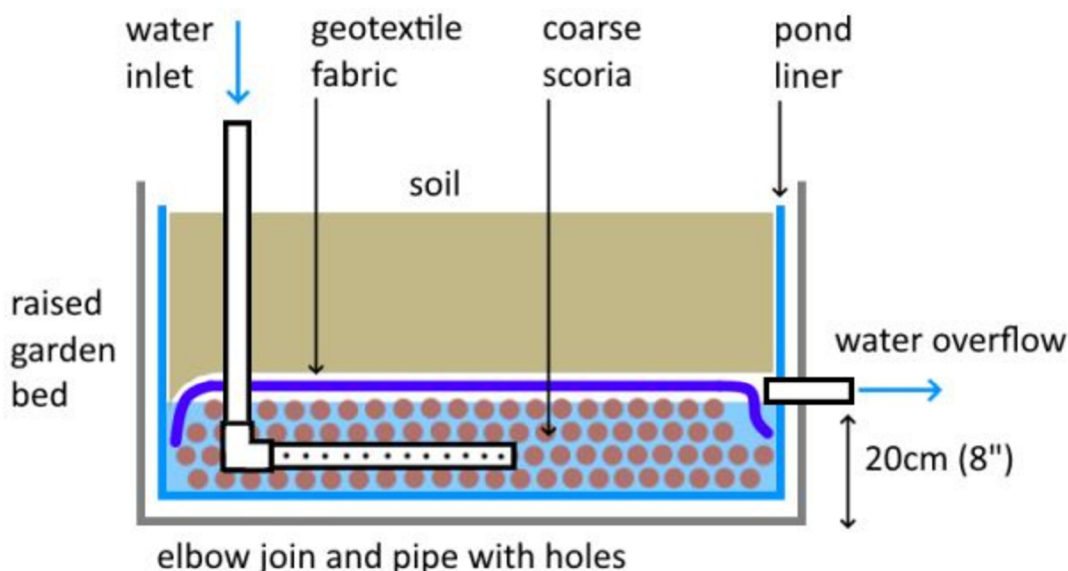
Although a good choice for many situations, wicking beds do have some drawbacks. As such, consider these notes:

- Wicking beds run the risk of the bottom section of soil never drying out. This can lead to root rot and fungal disease if not careful. Because of this, only plant annuals, not perennials, in wicking beds
- Because the bed has not drainage, fertilizer should not be used in a wicking bed. Excess fertilizer can collect in the water reservoir and build up, concentrating salts near plant roots. Use organic compost instead.
- If the soil depth is too deep, top layers of the bed may remain dry as water can only wick up so far. A depth of 1 to 1.5 feet is a good rule of thumb.

Assembly Steps



1. Find or assemble your garden bed. A closed container that can hold water works best, but you can also use a bed without a bottom.
2. If your garden bed does not hold water by itself, then you need to create a watertight seal to hold water. To do this, follow these steps. Otherwise, skip to step 3
 - a. Line the bottom of your box with old carpet. This will protect your plastic from rocks and sharp edges on the ground. If your container has rough edges, nails, etc., also line the sides with carpet up to a height of 1 foot.
 - b. Install pond liner or other thick plastic sheeting in your bed. This will hold your water.
 - c. Add another layer of carpet on the bottom and sides of the plastic to protect the plastic liner from the gravel you will install next.
3. Add an inch of scoria (red lava rock) or other large gravel to the bottom.
4. Lay a PVC pipe with holes in it or perforated drainage tubing in the bottom of the bed. Attach this to a PVC tube that extends above the top of the box. This is how you will fill the reservoir with water. Place a removable cap on it to keep mosquitos and bugs out.
5. Add another 8-10" of scoria or gravel.
6. Drill a drainage hole in the side of the box level with the top of the gravel line. Install a drainage pipe so excess water drains out of the box.
7. Spread out geotextile (landscaping) fabric on top of the rocks. This will prevent soil from draining into the water reservoir.
8. Add a 1 to 1.5 feet of soil on top of the fabric. Leave room at the top of your box for mulching. You're all done!



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