



Building a Wicking Bed

Gardening Australia **SERIES 25 Episode 10**

Sophie shows how to build a self-watering garden bed

"I'm really happy with my vegie patch," says Sophie, "but after two years and constantly adding organic matter to the soil, the soil's still not as good as it could be and I expect it will probably take about five years to get to that point. It also means that in summer I have to water daily."

So she has an alternative - a vegie garden that's easily maintained, uses very little water, doesn't take much space and is quick to set up. She's got three wicking beds that have given Sophie and her family stacks of vegies throughout the summer.

Wicking beds water plants from below rather than above. They're basically containers with water reservoirs at the base - like a giant self-watering pot. Moisture is drawn up through the soil via a process called capillary action or wicking. This allows moisture to be more evenly distributed through the soil, creating better growing conditions for the plants.

Materials

You can build a wicking bed out of any sort of **container**, but Sophie likes to use big, old wooden vegetable crates. They're around 120cm wide and long, and a little over 70 cm high. She's lucky enough to get them from a local market gardener for just \$15 each.

As well as a container, you'll need a couple of pieces of old **carpet** to line the bottom - and some **builder's plastic** to line and waterproof the interior of the container.

Sophie's using **geotextile fabric** to separate the water reservoir from the soil, but she says you can use old shadecloth instead.

You'll need **scoria, gravel or another aggregate** to fill the bottom of the reservoir. Sophie uses scoria because in her area she can pick it up for free from people wanting to get rid of it.

For the watering tube, Sophie's using a piece of **PVC pipe and an elbow**, bought from the salvage yard. She's also picked up an old **metal cap** that will go on the top to prevent mosquitoes getting in to breed in the reservoir. She's also got some **agricultural pipe** of the same diameter to join to the PVC pipe - the former will coil around the bottom of the container. She's also got a tiny bit of **PVC tubing** to act as an overflow outlet.

Of course, the most important element is really good quality **vegie garden soil** that's high in organic matter - that's essential for the wicking to work effectively.

Method

The wicking bed needs to be placed in full sun - and it needs to be stable, so use a spirit level for that. Check for any protruding nails and other sharp objects - either hammer them in or pull them out to get rid of them.

Next, put down a layer of carpet on the base and follow with the black plastic on the base and up the sides. Sophie clamps the plastic in place, then adds a second layer of carpet that covers the black plastic bottom and goes another 20cm up the sides. This will prevent the scoria or other gravel from puncturing the black plastic.

Sophie then adds scoria to a depth of 100 mm on top of the carpet to hold everything in place. She's connected the agricultural pipe to the upright PVC and coils the flexible pipe around the bottom of the reservoir, on top of the scoria. The PVC upright goes against the side of the container.

She uses an old paver to hold the coil in place while she covers it with another 10cm of the scoria.

Next she drills an overflow hole through the side of the container, where the scoria meets the soil. An overflow outlet will prevent the soil becoming supersaturated. Sophie's old piece of narrow PVC pipe goes through the middle to keep the outlet waterproof.

Next, a layer of geotextile fabric goes over the top of the scoria to prevent the soil clogging the water reservoir.

Finally, the soil goes on top. It needs to be around 30 cm deep - the optimal height to get soil wicking properly.

The last step - and the one that's always the most fun - is to plant it out.

"The soil will take a little while to start to wick by itself - a week or so - so until that point, you will need to water from above," says Sophie. "Just keep an eye on the soil and make the decision when they'll cope by themselves. But be warned - once you've built one of these things, it's quite addictive and like me, you mightn't be able to stop at one!"