Senior Organic
GARDENERS

Self-watering containers

By Rob Danforth

It's a lie! You are the waterer. However, so called "self-watering containers" are highly recommended as a great convenience for the urban gardener since you water less often and you water from the bottom rather than the top.

Self-watering containers are great for plants that need constant moisture (e.g. vines including squash, cucumbers & tomatoes) but **not great** for Mediterranean type herbs (e.g. rosemary, oregano, sage, thyme) that need regular wet and then dry periods to intensify the flavourful oils.

Recycled container with rocks, scrub pad – needs a terry towel wick; Large container + 4 soil cones

The standard self-watering container has a water reservoir in the bottom of the container, an air pocket above the water between the water and the potting mix, and a syphon system of a potting mix cone or a wick dipping down into the water to draw water up into the potting mix. Most of these containers have a water access/overflow hole so you can add water with a spout watering can into the access hole instead of at the top of the plant, and the same hole allows overflow to drain away to prevent water from eliminating the necessary air pocket between water and potting mix (note: roots need water + nutrients + air).

You can purchase these standard pots or make your own from recycled materials. Select a container (e.g. tub, bucket, pickle barrel), place rocks, clay shards, or sturdy inverted pots in the bottom to about 3 or 4 inches deep, add a porous fabric (e.g., nylon scrub pads, burlap) to make a floor, covering the rocks/shards/pots and to keep the potting mix from descending into the rocks/shards/pots. Drill a hole (1 in./3 cm minimum in diameter) just below the fabric floor so there is an air pocket under the fabric but high up from the container bottom. (Note: rocks in the bottom holding up the floor will fill from the container bottom to above the access hole)

Before adding potting mix, insert a strip of rolled terry towel down into the very bottom of the container and up the side to the top (two rolls one across from the other but not near the drilled access hole – works twice as well). These will wick water from the bottom reservoir up into the fertilized potting mix. Alternatively, run a rolled terry towel from the pot bottom up the center to the top and hold it in place as you fill the pot.

Some self-watering containers do not have a side access hole but instead have a spigot standing up from the bottom like a short straw, and this spigot is the overflow hole. The top of the spigot is below the floor far enough down to provide the necessary air pocket. When water fills the reservoir to the top of the spigot, the excess water drains down the spigot and out the bottom of the pot (like the overflow drain in a bathtub or sink) – handy when rain water overflows the reservoir.

These self-watering pots are watered from the top until the reservoir is filled. Top watering always does two things: it condenses the potting mix by reducing the necessary air pockets throughout the mix itself, and it leeches the water soluble plant nutrients out of the mix. In short, the potting mix functions like a tea bag and the "soil tea" collects in the water reservoir.

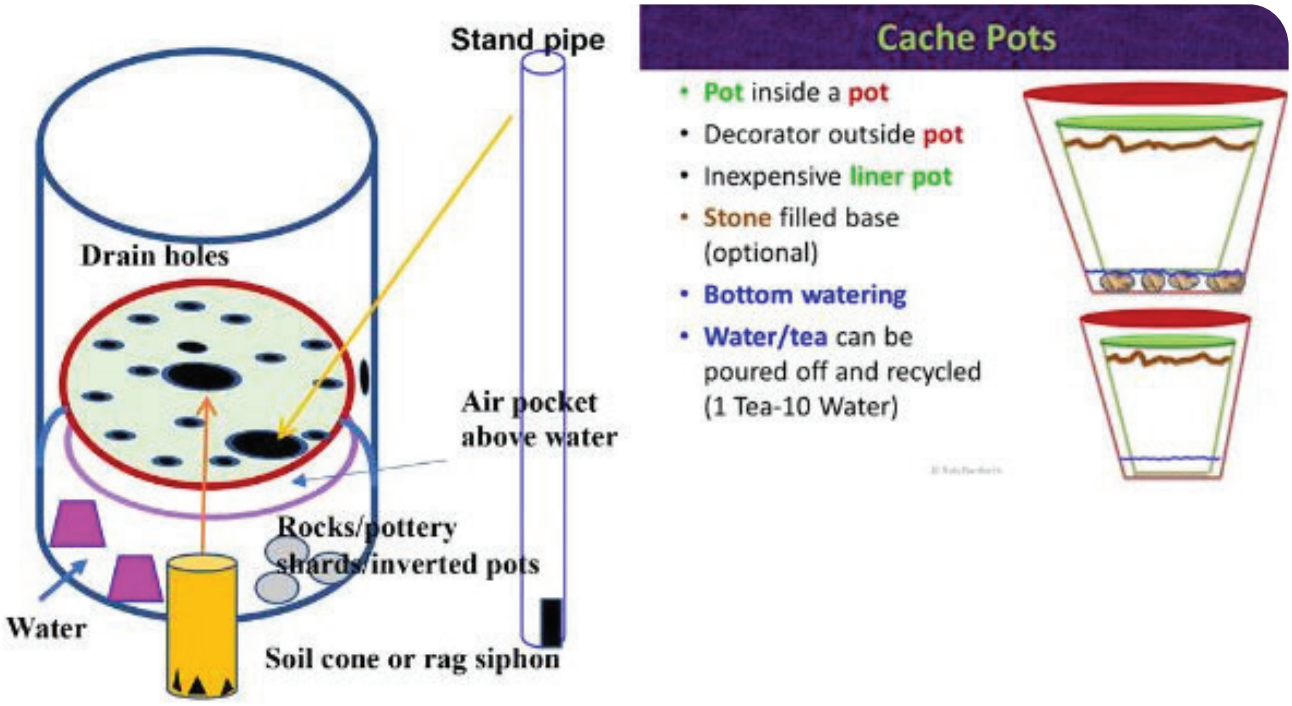
Thankfully, in self-watering pots you do not lose the "soil tea" which runs away in ordinary pots. This soil tea will be re-absorbed into the pot. However, you must aerate the potting mix so air can still get to the roots.

Tip: a two-pronged Jekyll weed fork is excellent to aerate but a chop stick or knitting needle works just as well. Pierce the soil in numerous places and just wiggle the tool. Round tools are best; a blade is not recommended as it cuts and damages roots.

Tip: If you wish to water these pots from the bottom, insert a stand pipe (clear plastic tube or PVC pipe) from above the potting mix at the top, down to the bottom of the pot and pour water down the stand pipe. However, be sure the drain pipe is working so excess water will run out from under the pot and so the air pocket above the water is not eliminated. A spout watering can will be handy for watering down the plastic tube; most shower head watering cans have removable shower heads to convert to a spout can. Depending on the size of the plastic tube, you may need a funnel. For do-it-yourself gardeners, the top 3 inches of a any plastic bottle with the right size opening to match the stand pipe opening might serve as a water funnel.

Another option is to use a cache pot: a pot within a pot with rocks, glass beads, or shards in the bottom of the outer pot to create a water reservoir and keep the inner pot slightly above the water. If you top water, excess water can be drained off and recycled or you can flood the outer pot periodically to water the inner pot from the bottom and then drain off the excess water after 20 minutes. In this case, save the run-off which is full of water soluble plant nutrients leeched from the potting mix, dilute it (1 part "soil tea" to 10 parts water), and water with it the next time you water. Do not let the inner pot remain standing in water as this arrangement will not perform as a self-watering pot. A pot sitting in water eliminates the needed air pocket, prevents drainage, and may make the soil in the inner pot become swampy. Plants may drown

Before you fill the container with potting mix (2/3) and compost/sheep manure (1/3) – both organic and no smell – be sure to wet the mix so it clumps in your hand but not wet enough to have water run out when you squeeze it. If you fill the container with dry mix, the first watering will shrink the mix by at least a ¼ or a 1/3. You will have to keep adding mix until the shrinking stops at 1 inch/3 cm down from the top of the container. This can be annoying and a waste of time and pot growing space..



Homemade self-watering garden bucket planter, and a Cache Pot system

Once the container is filled and planted, if the mix was wet, the first watering can be from the bottom but if the mix is dry, the first watering should be from the top in order to start the syphoning process. Water taken up by the plant, and water evaporating from the top of the potting mix will create a mini vacuum to draw water up from the reservoir into the potting mix in much the same way a plant draws water and nutrient up from the roots and then releases water into the air through the leaves ("transpiration") creating the sucking power for the plant to draw up more water through its straw-like stem. We are all aware that plants needing water will droop

alarmingly like a balloon without air since water fills out and helps stiffen stalks and leaves.

Self-watering containers are labour saving as they reduce the number of times gardeners need to water and fertilize.