

DIY Two Bucket Sub-Irrigated Planter

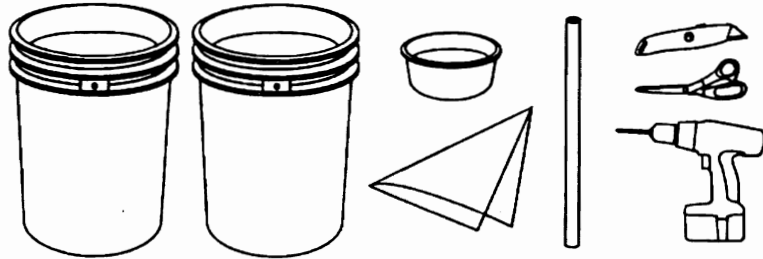
A Sub-Irrigated Planter (SIP) is an easy to build system that allows you to easily and effectively water your vegetable plants on your roof, balcony, or fire escape.

How does it work?

The water reservoir inside of an SIP ensures that plants cannot be over watered and will only consume enough water to stay healthy. The plastic covering reduces evaporation and returns water vapor to the soil and protects the fertilizer from being washed away by rain.

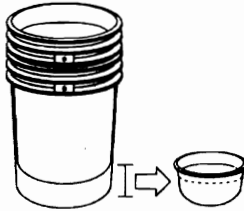
Materials & Tools

- 2 five gallon food-grade buckets- must be able to stack inside one another. You can often get free-used 5 gallon buckets from any grocery store. Just call ahead to see if any are available.
- 1" plastic pipe or tubing (pvc pipe works fine) about 3" longer than the height of one of the buckets
- smaller plastic container (a used salsa or hummus container works really well)
- power drill with 1/4 inch drill bit
- box-cutter
- clear plastic or plastic bag large enough to cover the opening of one of your buckets
- snips or heavy duty scissors



Step 1 | Measure your buckets

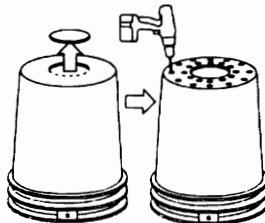
Stack the two buckets together and place them in front of a light source in a darkened room, allowing you to see the space created between them- this space will act as your water reservoir. Measure the height of this space and transfer this measurement to your smaller plastic container, starting from the bottom. Add 1/8" to this height and measure the diameter of your container at that height.



Step 2 | Drill your holes

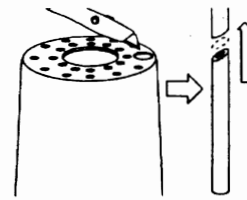
Turn the first bucket upside down and mark the center. Around the center draw a circle whose size to the diameter you just measured on your plastic container. Using this circle as a guide cut a hole in the bottom of the bucket that is just smaller than the diameter of your small plastic container. If you have a jigsaw, use this to cut the hole. If not, drill a series of small holes around the perimeter of the circle and use your snips or scissors to finish the job.

On the same bucket drill roughly 25 1/4" holes evenly spaced around the larger hole you just made.



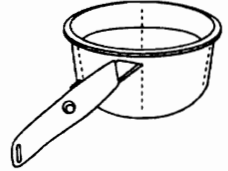
Step 3 | Drill a hole for your watering pipe and cut your tubing

Drill or cut a hole in the bottom of the bucket that corresponds to the diameter of your watering pipe or tubing. Cut the bottom of your tubing at a 45-degree angle to prevent the tube from clogging in your bucket.



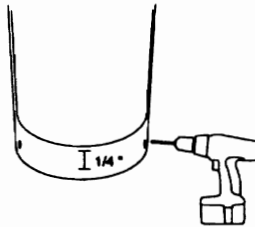
Step 4 | Cut slits in your small container

With your box cutter slice 4 vertical slits in the sides of the smaller plastic container making the slices evenly spaced around the perimeter of the cup. Do not cut through the bottom or lip of your cup.



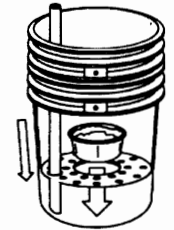
Step 5 | Stack your buckets together and drill your overflow holes

Place the bucket with holes in it inside the other bucket. Place the buckets in front of a light source as you did earlier and drill two 1/4" overflow holes on opposite sides of the outside bucket. These holes should be a quarter inch below the bottom of the inside bucket.



Step 6 | Add your potting mix and plant your seedlings

With the buckets stacked together, place the plastic tube through the hole you made for it angled end first. Pack the small plastic container with wet potting mix and set it inside the large hole in the center of the bucket. Fill the first bucket 3/4 full with damp potting mix making it fairly compact. Plant your seedling and top off the bucket with potting mix.



Step 7 | Add the fertilizer

Water your seedling from the top, for the first and only time to saturate the soil. From then on, water your plant using the pipe. Take one cup of fertilizer and sprinkle it around the outside edge of the bucket leaving as large of a space of plain soil in the middle as possible. Take your clear plastic or plastic bag and make two slits in it, large enough to fit your seedling and watering tube through, respectively. Place the plastic over the top of your bucket while gently feeding your seedling and watering tube through the slits. Secure the plastic with a zip tie or string.



Step 8 | Watering tips

When watering fill the reservoir until water comes out of the overflow holes. With this system it is impossible to over-water your plant. Every few days take a look at your reservoir and fill as necessary.