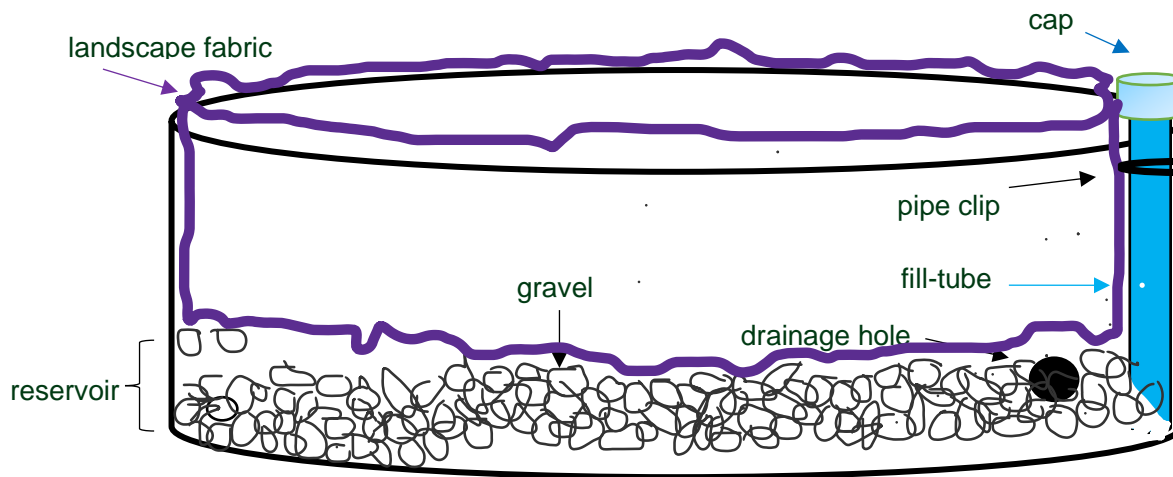


Appendix E: How-To Guide to Stock Tank Sub-Irrigated Planters

Watch our [instructional video](#) on the GrowNYC Youtube channel.



WHAT IS SUB-IRRIGATION?

Sub-irrigation is the process of watering plants from below, instead of above. The sub-irrigated planter works when you pour water into the fill-tube, and it flows down into a reservoir below the soil. Once the chamber is full, the water wicks up through the soil and seeps into plants' roots. This system helps to keep soil consistently moist, preventing evaporation from the topsoil, so you won't have to water as often. This also allows the plant's roots to grow deep and keeps the plant sturdy.

MATERIALS

- galvanized steel stock tank (sizes vary but 6'L x' 2'W x 2'H recommended)
- 2 ½ feet long, 1 inch diameter rigid PVC pipe and cap for fill-tube
- 1 or 2 pipe clips + screws
- course size gravel, enough to fill the tank about 3 inches deep
- landscape fabric, long enough to cover the gravel and line the sides of the tank
- soil to fill the tank

TOOLS

- drills + drill bits
- measuring tape
- scissors

BUILDING THE PLANTER

Step 1: Drill a drainage hole at least a ½ inch in diameter about 2 inches from the bottom of the tank.

Step 2: Cut one end of the PVC pipe at a diagonal so that the pipe doesn't sit flat against the bottom of the tank.

Step 3: Attach the PVC pipe against the side of the inside of the tank using the pipe clips and screws



Step 4:

Cover the drainage hole with a small piece of landscape fabric then fill the tank with gravel about 3 inches high.



Step 5:

Cover the gravel with landscape fabric to keep the soil separate from the gravel. Use enough landscape fabric to line the inside of the tank as well as covering the gravel and fill-tube.



Step 6:

Fill the tank with soil.



Step7:

Plant, water, and watch your plants grow!

IMPORTANT THINGS TO NOTE:

- The landscape fabric prevents soil from clogging up the spaces between the gravel.
- Dense soil will not work well in this system. To keep soil lightweight and well-aerated, use a mixture of compost, vermiculite, peat, and sand.
- The drainage hole helps you figure out how much water to pour into the fill tube. When water flows out of the drainage hole, the reservoir is full.

*This guide was adapted from growpittsburgh.org.