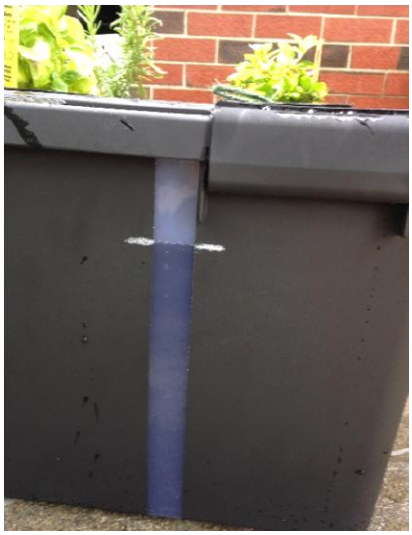
How to Make a Hydroponic Herb Garden

Last summer at the *Kemper Center*, we showed visitors how to plant and care for an *Indoor Kitchen Herb Garden*. All of our displays are here to show how the same gardens can be done at your own homes. This year I wanted to try something different…*Hydroponics*.

I started with a watertight 63 qt. container. It has room for the roots to grow and the water to flow through easily. The container is then sprayed painted black to protect the roots from sun exposure which produces algae. Use a piece of painters tape down the front of the container leaving a clear strip to monitor the water level. For total coverage, apply 2 to 3 coats of spray paint.



I chose 3” net pots for my herbs but you can use whatever size pot you want. 6 holes fit in the top of the container, 5 holes for the herbs and 1 hole to refill the water solution. A 2-7/8” drill bit makes the perfect size hole for the 3” net pots. When drilling, this container top had a grid on the inside which made it easier for spacing otherwise make a template to drill your holes.

Next, drill a small hole in the side of the container 2” from the top. Insert your tubing through the hole. Connect one end to a 12” air stone centered inside the bottom of the container and the other end to the air pump (for 20 gallons) on the outside. The pump continually circulates the water for root stimulation. Fill the container with water so it just touches the bottom of the net pot. At the clear strip, mark the water level.

The herbs may be started by seed or you can purchase established plants. Start seeds like you normally would but use rockwool instead of soil. If using established plants, carefully wash off all the soil. Thread the plant roots through the bottom of the net pot. Soak 2 or 3 cubes of rockwool and gently place them on the bottom of the pot then anchor the plant with hydrotone clay pellets. The rockwool helps the pellets from falling through the bottom of the pot.

It's time for the nutrients. I used *MaxiGro Growth Stimulator – Hydroponic Nutrient Solution – 10-5-14*. You may use any nutrient solution but make sure it is for hydroponics. I used a PPM/EC/cF (parts per million/electrical conductivity/conductivity factor) meter to monitor the nutrients for the herbs. The PPM number is used for hydroponics. (Below is a range of PPM nutrient solution for herbs).

This container holds 13 gallons of water. Directions on the MaxiGro said to mix 1 Tbsp. per 1 gallon of water. I want a PPM range to be around 700 to 1200. I used 8 Tbsp. for 13 gallons of water. My meter read 840 which are in the correct range.

PPM – Parts per million – measures the concentration of solids dissolved in the water.

EC – Electrical conductivity – measures the ability to conduct electricity. When you dissolve nutrients in water, the nutrient salts breakdown into electricity-conducting partials called as ions. The meter measures how well the nutrients dissolved into the water.

cF – Conductivity factor – is the same as EC. It is more common on older meters.

Plants	**PPM**
Basil	700-1120
Mint	1400-1680
Rosemary	700-1120
Thyme	560-1120

The PPM should read higher in the winter when they need more nutrients and lower in the summer when they need more water.

A good resource for garden pests is the *Advice, Tips and Resources* page found in *Gardening Help*. It has detailed information on all the pests that might decide to visit your garden.

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