

HOW TO BUILD A SMALL WICK SYSTEM



We recommend a “store-bought” module for this super-easy hydroponic project, the AutoPot®. AutoPots® are patented kits which are essentially “self-feeders”. They can be used for hydroponic setups (no soil) or can be planted with traditional potting soil. The heart of the unit is the special “Smart Valve”, which regulates the flow of nutrient solution into the holding tray.

When connected to a simple gravity-fed reservoir, the Autopots® automatically provide irrigation to plants on-demand, then remain closed until the medium dries somewhat. This simulates the wet/dry cycle of natural rainfall, and makes for a very productive system.

We have included this system in our free hydroponic plans not so much as a “build it yourself” project, but because we wanted to introduce you to this amazing system. Some very successful commercial greenhouses are set up with nothing but rows and rows of AutoPots®.



Our instructions here provide two large pots, and the total cost is about \$60 (not including a lamp and food). You can easily add more modules later to make a whole "AutoPot® farm" if you would like.

SUPPLY LIST:

- ◆ AutoPot® basic module (comes with grommet and 1/4" tubing): <http://www.hydroponics-simplified.com/cheap-hydroponics-supplies.html#closet>
*Please note the new generation Autopots® are square, they look different from our photos here, but it's the same product.
- ◆ Extra 1/4" black irrigation tubing if a longer length is needed [Home Depot]
- ◆ 2 gallon bucket [Walmart]
- ◆ Growing medium: 50/50 Coco coir & perlite: <http://www.hydroponics-simplified.com/cheap-hydroponics-supplies.html#media>

TOOLS NEEDED:

- ◆ Power drill; 1/4" drill bit



Here's how to build the system:

1. Using the power drill, drill a 1/4" hole near the bottom of the bucket. Carefully seat the provided grommet into the hole, making sure it flares out evenly inside and outside the bucket.

Push one end of the 1/4" tubing into the grommet so it extends only about 1/4" inside the bucket.



2. The bucket is going to be the nutrient reservoir, so it must sit up higher than where the

AutoPot module will reside. The fluid is gravity fed into the AutoPot trays. No pumps, no timers, no aerators! Now insert the other end of the tubing to the inlet port on the AutoPot. Just follow the instructions provided. Guess what? You just built an AutoPot® hydroponic system!



3. Now test the pot for proper operation of the Smart Valve. Pour some water into the holding bucket. Water should slowly fill the holding tray below until it reaches a level of about 1". Then it should cut off.



4. Filling the pots- Each kit comes with a round "root mat" which sits in the bottom of each plant pot. It keeps the medium in and helps wick up the nutrient solution to the plant roots. The growing medium is actually the "wick" for this hydroponic system.

The recommended growing medium is: 50/50 Coco Coir and perlite. You cannot use LECA (clay balls) in the wick action AutoPots. More on growing medium and ordering info in the Tips 'N Techniques section below.

5. Plant your young seedlings in the pots and place the pots in the holding tray. You are ready to rock 'n roll now, time to add food.

6. Nutrient solution is a pretty care-free chore in this system. Because the fluid is not re-used, once mixed, you don't have to worry about strength or pH. Mix it and forget it! A 2 gallon bucketful will last several days, depending on the size of the plants and the climate.

So mix up a 2 gallon batch of your favorite nutrient formula, then adjust the pH (read our recommendations below). That's it... watch it grow!

WICK SYSTEM OPERATING TIPS 'N TECHNIQUES

LIGHTING:

You can use just the light from a sunny window if all you are growing are houseplants. Anything else requires some supplemental lighting. A T5 compact fluorescent "grow light" will do fine for houseplants, herbs, and leafy green veggies like lettuce. This one is available for under \$75, including the 125 watt compact T5 bulb:



You can order this lamp and bulb here: <http://www.hydroponics-simplified.com/cheap-hydroponics-supplies.html#lighting>. You can get off much cheaper by getting a fluorescent "grow stick" at Walmart for about \$25, but you will not get the lush growth a better light setup will produce. For best results, upgrade to the 200 watt bulb listed on our supplies page.

If you are interested in fruiting veggies like tomatoes, or serious herbs, you will have to upgrade to an HID lamp. Learn more about HID lighting and see our special combo lamp deal here: <http://www.hydroponics-simplified.com/hydroponic-lights.html>. One final note: the grow room must be kept cool. Use a fan on low in there to cool it down. HID lamps will really add some heat.

NUTRIENTS:

We highly recommend the **Flora Series** nutrient solutions put out by GH (General Hydroponics). This stuff is superior, easy to use, and reasonably priced. It consists of 3 parts (Flora Grow; Flora Micro; and Flora Bloom). If you have hard water, get the Hardwater Flora Micro instead. For this small garden, order a quart of each of the three solutions: <http://www.hydroponics-simplified.com/cheap-hydroponics-supplies.html#nutrients>. Stick with Flora Series, follow the label directions, and you can't go wrong!

The growing area (and therefore nutrient bucket) should be kept cool (55-70°). This is especially important for the cool-season crops like lettuce and broccoli. Learn more about hydroponics nutrient solutions here: <http://www.hydroponics-simplified.com/hydroponic-solution.html>. We also provide a nifty little mixing chart there for the Flora nutrients that you can print out and save.

For each 2-gallon batch of nutrient solution, add 2 tsp. of each of the 3 parts, separately. Never mix the nutrient solutions together, only add to the water. As the plants mature, change the ratio of the nutrient solution as directed on the bottles, or in Stella's mixing chart.

pH- It is a very good idea for any serious hydroponics project to keep the pH of the water in the proper range, which is 5.5 to 6.5 (6.0 is ideal). If the pH is out of range, some of the nutrients get "locked out" and the plants suffer. GH puts out a simple test kit with pH up & down solutions **cheap**. It will last you through *many* gardens: <http://www.hydroponics-simplified.com/cheap-hydroponics-supplies.html#nutrients>.



GROWING MEDIA:

We recommend a 50/50 Coco Coir and perlite mixture for the AutoPots. Line the bottom of the pots first with the provided root mats. You cannot use LECA (Hydroton or clay balls) in this system.

This is a brick of Coco-Coir, you can order one here: <http://www.hydroponics-simplified.com/cheap-hydroponics-supplies.html#media>




Perlite can be bought at any garden center. Coco Tek must be ordered from a hydroponics supplier. Learn more about hydroponic growing media here: <http://www.hydroponics-simplified.com/hydroponic-growing-medium.html>.

EXPANDING THE SYSTEM:

This modular growing system is very easy to expand. You just buy more modules and "t" into the irrigation tubing to provide nutrient solution to each grow tray. Of course, after about 2 modules, it will be necessary to provide a larger reservoir for the solution. But as we said earlier, you can create an entire greenhouse filled with nothing but Autopots... the hydroponics "no brainer".





We hope you will try out our plans for this cool little wick hydroponics system. You will be amazed at the size and quality of produce you can reap from this one unit. It provides a great introduction to hydroponics for adults and children alike, and it's just plain FUN.

Our guess is that once you get a taste of hydro in this way, you will go on to bigger and better things. This field of horticulture is wide open! There are many different methods for you to try, and you'll just get more knowledgeable and skilled at it as time goes on.

You might try growing heirloom tomatoes, medical herbs or even orchids. Or you might just enjoy munching on your own healthy, homegrown salad micro-greens! No matter which way your interests take you, you are sure to enjoy this clean, healthy, prolific, earth-friendly gardening method. We just love hydroponics and know you will too.

Visit our website: <http://www.hydroponics-simplified.com> often for updates on equipment, lighting, nutrition, plants and seeds, pests, grow-closets, and plans for several other different growing systems. We provide simple information, insider secrets, and easy-to-follow instructions to get you up and growing in no time...



Enjoy!
Simon & Stella

Disclaimer: Many of the clickable links in this ebook are affiliate links, meaning that if you buy through one of those links, we receive a very small commission (just about enough to keep the website up and growing!).

Rest assured, however, that we use these products often and highly recommend them. If you see it here, rest assured that it has our personal stamp of approval! If you do choose to order supplies through our links, please accept our thanks for your valued patronage.