

## Hydroponic System from Hydro Harvest Materials List & Assembly Instructions

### Materials (per tower)

- 1 – ½ inch conduit pipe 20 inches long,
  - 1 steel plate (if towers will be positioned on a patio or deck) (optional)
  - 1–¾ inch conduit 5 feet long. (Not provided if shipped, available at any home center's electrical dept.)
  - 2 Square (shape may vary) Plates (Com Pots only)
  - 1 large ground pot
  - 1 –20" length of 1 inch PVC pipe (1 ¼ in. for Style Line garden)  
4 vertical pots per tower
  - Growing medium: coconut core/perlite or vermiculite and perlite
  - 1 nutrient pair for up to 3 towers.
- \*\*\* AUTOMATIC UNITS ONLY\*\*\*
- 1 nutrient line (white with blue nutrient line)
  - 1 yellow punch tool
  - 1 black capillary line per tower
  - Wire straps to secure capillary lines (1 per tower)
  - 1 poly figure 8
  - 1 Greenback Poly Connector Valve
  - 1 pump w' 1/2 in. male adapter
  - 1 digital timer
  - 1 – PVC Feeding T's per tower

Note: Not included with kit is a reservoir for mixing nutrient and ground cloth. A 44gallon Rubbermaid brute (FLAT bottom) garbage can with lid is the recommended container, as it doesn't allow light to penetrate it. Commercial grade ground cloth available at the farm.

Select a location that will receive a minimum of 4-6 hours of sun. You'll want to locate a source for electricity for the timer (as waterproof as possible) and water to refill nutrient container.

- Before assembly of your towers, place the coconut core blocks into the nutrient reservoir and put a brick or heavy object on top of block before adding water to dissolve the block. Keep the coconut core submerged until you are able to break up the core with your hands then drain off the excess water. Then combine the core with the perlite provided. This is one type of growing media.
- If using vermiculite/perlite growing media combine equal amounts together to make growing media. Slightly dampening the media when mixing will reduce dust.
- Sometimes the vermiculite/perlite will come premixed.
- If using groundcover, sold separately: stretch out the cover, fold over raw edges and attach with sod clips. 3 sod clips on folded ends (raw edges) work best. Then space rest of clips down sides.

## **Assembling Towers**

- Set the nutrient tank where you plan and space first tower ground pot 4-6 inches from the tank and each additional tower 4-6 inches from the next.
- Take the ½" metal (conduit) pipe and place it through hole in ground pot on the groundcover (if using) and turn until it cuts a hole into the groundcover. Remove ground pot. Then using a wood block or bolt tap the pipe into the ground about 2/3rds of its length, taking care not to damage the top of the pipe and make sure it is perpendicular.
- Slide Ground Pot back on pipe.
- Next take the ¾" metal (conduit) pipe and slide on top of the ½" metal (conduit) pipe.
- Then place the first square (shape may vary) plastic white plate (not used for Style Line Garden) on the pipe and slide down to fit snugly on the inside bottom of the ground pot.
- Then slide the one inch PVC (1 ½ in. PVC if Style Line) onto the pole. This PVC pipe can be cut to determine the height of the vertical pots as shown in illustration on page 4..
- Next add the second square plastic plate (not used for Style Line Garden).
- Now slide your first vertical pot onto the pole.
- Fill but do not pack each pot with growing medium as you add each pot to the tower.
- After filling the last vertical pot, place the remaining growing medium in the ground pot. Saturate your media completely with fresh water. This prevents losing it to wind and helps your new plants.

### **The following instructions are for automatic systems only**

- Clean reservoir thoroughly before using.
- Cut two holes in the lid of the nutrient reservoir, one for the nutrient line and one for the electrical cord. Make holes as small as possible (without crimping line) to exclude sunlight from the nutrient. A, 1 inch hole saw bit for drill works great!
- Thread nutrient line through the lid of the reservoir. Connect the nutrient line to the pump and place the pump at the bottom of the nutrient reservoir.
- Feed electric line of pump through the other hole.
- Place the PVC feeding T's snugly on the top of each tower pole.
- Take the white and blue nutrient line and thread through each tower.
- Thread the end of nutrient line into one hole in figure 8. Then bend and thread through other hole of figure 8.
- Take black capillary line and using the yellow tool provided; punch a hole into the nutrient line about 5 inches towards the tank side of the tower. Make sure capillary lines are equal in length for each tower in the system. Slip one end of the capillary line into the nutrient line. Attach the other end to bottom part of the PVC T with tape or electric wire strap. This way if you need to slide the pots off the pole, the feeding line will be attached to the PVC instead of the conduit pipe.

Now you will program the timer. Follow Simple Instructions on our website <http://www.hydroharvestfarms.com/supportandinstructions>. Setting the Timer is in the document library. Or follow these instructions: Set the clock to the correct time. Then you need to press the “program” button. On the LED read out you will see #1 and “on”. Using the hour and minute buttons, scroll to 9 am then press the program button again and the timer will say #1 off. Then using the hour and minute buttons scroll to 9:04 am, press the program button again and it will go to #2 on. Using the hour and minute buttons scroll to 12 pm and press the program button again and it will read #2 off and so on. Follow same procedure for each nutrient feeding for 3 feedings of 4 minutes. During longer summer days you may want to schedule 4 feedings. Do not feed at night. Important: make sure the mode is set to the AUTO position from the OFF position. Place a measuring cup under a black capillary line on the tower farthest from the pump to “catch” the nutrient. Run the pump for 1 minute exactly. You should have approximately a cup of liquid. If so, running for 4 minutes will put a quart of nutrient in each tower every time you feed. If significantly more or less you may have to adjust the time and / or flow at each feeding. Call the farm if you have questions or need help. Tip: use only water for the first 3-4 days until you are certain your timer is correctly programmed. Then add nutrient. This will prevent wasting nutrient in case you haven’t set up the timer correctly.

- If feeding manually, feed once in the morning, once in the afternoon or early evening. If home at mid-day an additional feeding is recommended (optional) it’s not necessary to feed at night, the plants won’t use the nutrients.

The following instructions apply to automatic and manual users

#### **Mixing the nutrients:**

- Pour entire blue pouch in one gallon water
- Pour entire white pouch into different gallon of water
- You’ve now made two liquid concentrates. Label them carefully.
- If you’re making a gallon of nutrient, put a tablespoon of each of the mixes (blue and white) into one otherwise pure gallon of water.
- The basic rule: one tablespoon of each per gallon.
- But if you’re making large quantities, put an ounce of each for every two gallons (just for the record, two tablespoons equals an ounce)
- For 44 gallons (the capacity of the Rubbermaid brute), put 22 ounces of each (blue and white) (use measuring cup) one after the other.
- Store nutrient concentrates in a dark place to prevent algae. MAKE SURE YOU HAVE LABELED THEM.

For Nutrients on-line and FREE Shipping go to  
**[www.hydroharvestfarms.com](http://www.hydroharvestfarms.com)**

We are always available for any questions or concerns, just email  
**[john@hydroharvestfarms.com](mailto:john@hydroharvestfarms.com)**

We always have a full line of Hydroponic Nutrients and Nutritionals, Media,  
Organic Pest and Disease Controls, Parts and Equipment available at the farm or  
on line.

Many of our items include FREE SHIPPING.

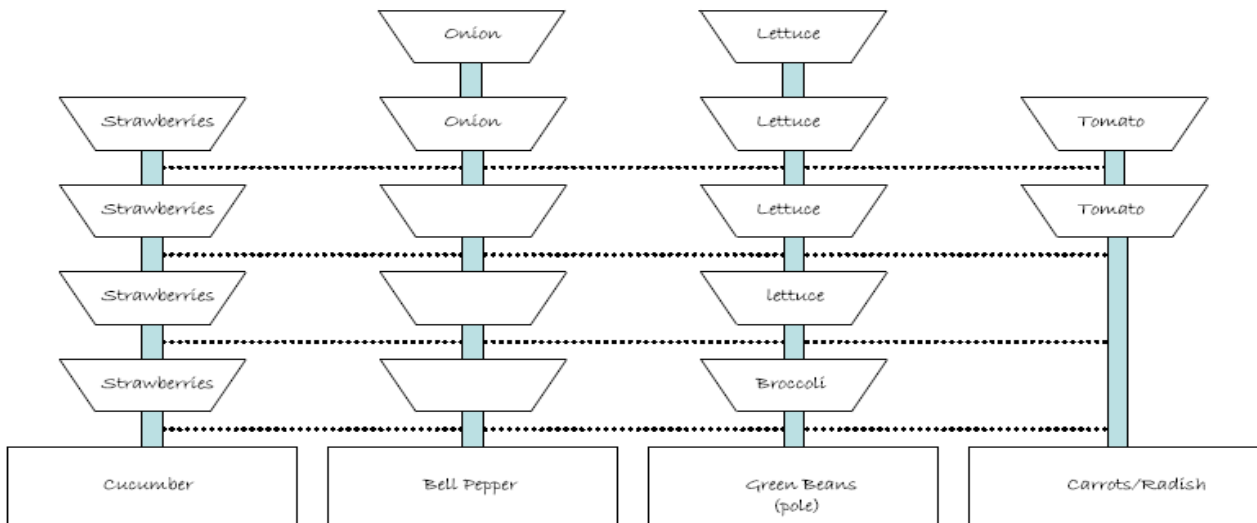
**For supplies or additional equipment:**

**[www.HydroHarvestFarms.com](http://www.HydroHarvestFarms.com)**

**Or call**

**813-645-6574**

*Hydroponic System Layout*



**You can grow a combination of any plants in your system.**

Example layout of a sweet sixteen garden. Pots can be relocated depending on what is being grown.

Mixing the nutrients:

- Pour entire blue pouch in one gallon water
- Pour entire white pouch into different gallon of water
- You've now made two liquid concentrates. Label them carefully.
- If you're making a gallon of nutrient, put a tablespoon of each of the mixes (blue and white) into one otherwise pure gallon of water.
- The basic rule: one tablespoon of each per gallon.
- But if you're making large quantities, put an ounce of each for every two gallons (just for the record, two tablespoons equals an ounce)
- For 44 gallons (the capacity of the Rubbermaid brute), put 22 ounces of each (blue and white) (use measuring cup) one after the other.
- Store nutrient concentrates in a dark place to prevent algae. MAKE SURE YOU HAVE LABELED THEM.

**For Nutrients and FREE Shipping on-line go to  
[www.HydroHarvestFarms.com](http://www.HydroHarvestFarms.com)**

Mixing the nutrients:

- Pour entire blue pouch in one gallon water
- Pour entire white pouch into different gallon of water
- You've now made two liquid concentrates. Label them carefully.
- If you're making a gallon of nutrient, put a tablespoon of each of the mixes (blue and white) into one otherwise pure gallon of water.
- The basic rule: one tablespoon of each per gallon.
- But if you're making large quantities, put an ounce of each for every two gallons (just for the record, two tablespoons equals an ounce)
- For 44 gallons (the capacity of the Rubbermaid brute), put 22 ounces of each (blue and white) (use measuring cup) one after the other.
- Store nutrient concentrates in a dark place to prevent algae. MAKE SURE YOU HAVE LABELED THEM.

**For Nutrients and FREE Shipping on-line go to  
[www.HydroHarvestFarms.com](http://www.HydroHarvestFarms.com)**