

# THE GROWRACK™

## GROWING MICROGREENS

1. Place desired substrate in a 10" x 20" mesh tray and saturate.
2. Evenly sprinkle seeds on substrate to preferred density. (Some seeds should be soaked before, so make sure you ask your seed supplier for their recommendations or follow instructions on the seed packet if they are provided).
3. Spray seeds with a 3% Hydrogen peroxide solution (optional).
4. Stack trays together, place empty solid bottom tray on top and place heavy object such as a brick or stone on top. -OR- leave trays separate and cover each one individually with an upside down tray. Some people prefer this method to avoid damage of emerged seedlings, however it depends on how much space you have. Set aside to let germinate for around 3-4 days.
5. Meanwhile, mix your stock solution.
  - A. Get two clean 5 gallon buckets with lids.
  - B. Fill each bucket with 4 gallons, carefully measuring using a flow meter. If you have warm water that will help the nutrients mix easier, but is not necessary.
  - C. Label one bucket STOCK A, and the other STOCK B
  - D. Carefully measure 1,432g Calcium Nitrate and add to STOCK A bucket. Mix thoroughly using a drill and paint or concrete stirring attachment.
  - E. Carefully measure 824g Hort Americas 9-7-37 and 668g Magnesium Sulfate and add to STOCK B bucket. Mix the same way as STOCK A.
  - F. Place a 4-5" round airstone in each bucket attached a two outlet air pump to keep the solutions agitated.
  - G. Cover with lids and place in a location out of direct sunlight to prevent algae.
6. Fill your reservoir and slowly add equal parts STOCK A and STOCK B until your EC level reaches about 1.0-1.5. REMEMBER: it is easier to add more than to start over, so take your time. It is a good idea to keep records of the gallons of water and mL of your stock solution added each time you fill or top off your reservoir. Over time these records will give you a point of reference of what works best for you and your microgreens. I also like to include my water temp, EC and pH on these spreadsheets for future reference.



**7.** Check your pH. Adjust as necessary to reach about 5.8-6.0 using pH up or down. Same rule applies here that it is best to start with small amounts to get to your desired pH. For example, if your pH is 6.8 I'd start with as little as 10 mL pH Down to get a feel for it.

Give your water time to completely circulate before testing again and repeat until you reach the desired pH. You will most likely have to adjust your pH every time you add water to your reservoir. Try to keep the pH as consistent as possible.

**8.** You can purchase the BlueLab Grower's Toolbox from Hort Americas for \$199 if you do not have a [pH and EC meter](#). These are very important tools to have, and please don't forget to calibrate your [pH meter](#) regularly to get accurate readings. Once your water is at an EC of 1.0-1.5 and pH 5.8-6.0 it's ready to go.

**9.** Turn your GrowRack™ on and run the water adjusting the flow using the ball valves so each tier on your GrowRack™ fills with enough water to wet the substrate from underneath, but not to wash over the top. Each valve will have to be adjusted independently because the water pressure will be stronger on the bottom tier. You can put the pump on a timer for watering, but it will take a period of observation to know how often it needs to run depending on your growing environment. You want the substrate to stay consistently moist, but not wet, and you never want it to dry out. I recommend watering manually at first before you rely on a timer.

**10.** Now that you are set up, you can place your germinated trays in the GrowRack™.

**11.** Microgreens do well with a DLI of around 12 mol/m<sup>2</sup>/d. You can achieve this by putting your lights on a timer to run about 13 hours a day if you have the 3 light GrowRack™.

**12.** Ideal conditions are around 70-75°F and about 50% relative humidity if you have the ability to control these conditions in your grow area.

**13.** Air circulation is key to prevent fungus, especially in winter, so be sure to have some fans nearby to keep the air moving.

And remember, these are just general recommendations. Feel free to experiment with how long you run your lights or how often you water to find what works best for you and your crop. You may find that in the beginning you need to water more often compared to when you have more roots and a larger canopy depending on your growing environment.

