



hydroponic

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Cruising Review

How to Make a Hydroponic Garden to grow food at Home



Structured Data

This webpage QR code

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Cruising Review used the pandemic year to experiment with growing food at home using hydroponics. This same technology will be used for the AirBNB electric yacht, which will be in European lakes in a few years.

PDF Version of the webpage (first pages)

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Hydroponics and Growing Food At Home

When the pandemic became reality, it made me seriously consider growing my own produce. The first step was incorporating nutrient rich food into my diet, which started with making sprouts. Sprouts are nutrient dense food (many times it's mature version) and easy to make. Soak in distilled water for 12 hours, then put into a strainer above a bowl (to capture any drips) and cover with a cloth. Spray distilled water to keep moist a few times a day. Within a day, move entire bowl, strainer, and seeds into the refrigerator (yes, cool temperature only increases the nutrients). The target is producing seeds with roots no longer than 1/2 centimeter. For the science, please see my research links at: <http://8swiss.com/sprouts/index.htm>

Once you have your sprouting process master, the next level is growing out the sprouts into plants to make produce.

I've been experimenting with Mason jar hydroponics since March 2020. Here is what I've found so far:

1. Start your seeds as if you were making sprouts to eat. Soak in distilled water for 12 hours, then drain water and keep seeds moist and covered until they sprout. Most seeds take only a day or two. Then put them in the planting media (Rockwool works just fine). I put 5-6 sprouted seeds in each Mason Jar net pot/Rockwool, then thin as needed.
2. Use a simple heating mat from Amazon (\$12 a VivoSun 10 inch x 20.75 inch AC powered) to keep the seedlings and water between 68-75 F. This is crucial for fast development. I use a digital (laser) thermometer to routinely check. If you live in a cool climate, just leave it on all the time even through plant growth. Again, double check water temperature with digital thermometer. If the water temperature gets above 75 F, then simply move the mat a bit so the Mason jar is not completely above the heat.
3. The key to plant health is root health. Do not let algae grow in the Mason jar or containers. The plant roots should be white. The water temperature should be 68-75 F. I used distilled or carbon filtered water. If you have city water, filter out the chlorine.
4. Once plants have started to grow slowly add fertilizer once a week, in very small amounts. I use a plastic syringe from Amazon to proportion fertilizer into distilled water container, mix, and then add to the plant water reservoir.
5. Plants need dark time too. Don't use artificial grow lights more than 12 hours per day. I put all my plants on a southern exposure windowsill and use LED (red and blue) grow lights (inexpensive from Amazon). Plants love real sunshine, so use the real Sun when possible on the windowsill.
6. While some plants are great for the Mason jar hydroponics, some need more space. For Basil, peppers, and cherry tomatoes the Mason jars seem fine. But for larger plants like regular sized tomatoes, I move up in size to a black colored 5 gallon bucket. For smaller plants, you can use the 1 gallon buckets also available on Amazon. Use black colored containers to prevent any light from growing algae in the bucket. For 5 gallon size, you can put up to four net pots per lid (use circle cutter saw for the standard 3 inch diameter net pots - same ones for the Mason jars). When plants are started in the Mason jar containers, but root mass is getting too big, then move up to the 5 gallon bucket size. I also put a simple aquarium airstone in the 5 gallon bucket and run 12 hours per day to mix up the water. Fertilize with 1-2 tablespoons of liquid fertilizer per week. It's amazing the huge sized tomato plants you can grow in these bigger 5 gallon buckets.
