

Hydroponic Gardening

**Getting started with hydroponic
James Snelson**

What is hydroponic Gardening?

Hydroponic gardening is involves growing plants without soil by using water based nutrient solutions to provide sustenance to the plants and supporting the plant by some inert substrate other than soil.



7 Types of Hydroponic Systems

TYPE OF HYDROPONICS

Ebb and Flow (Flood and Drain)

Kratky Method

Nutrient Film Technique (NFT)

Deep Water Culture (DWC)

Wick Hydroponics

Drip Hydroponics

Aeroponics

Kratky Method

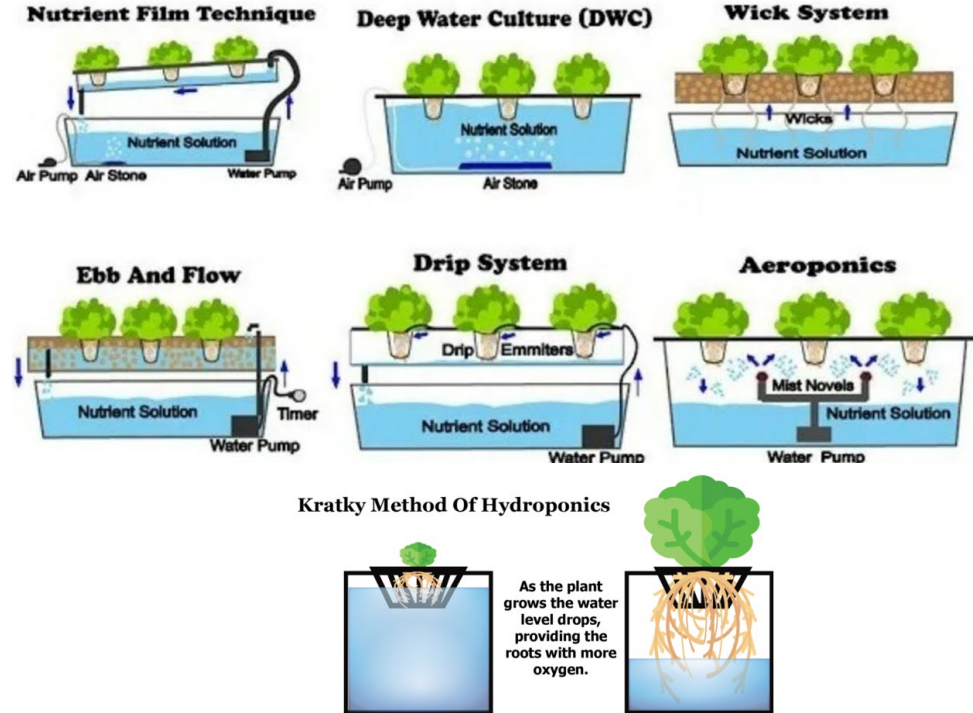


Image1: Haryana Hydroponics and Organic Farming <https://www.youtube.com/watch?v=IOExvoWdHOW>

Image 2: No Soil Solutions <https://www.nosoilsolutions.com/6-different-types-hydroponic-systems/>

Hydroponics vs Aquaponics

With hydroponics we create a water based nutrient solution by purchasing some concentrated nutrient mixing that to provide food for growing.

Aquaponics is a larger system that usually incorporates some type of fish living either in or in a separate system. Those fish provide nutrient to the water which is then fed to the plants and the water is recycled



<https://gogreenaquaponics.com/blogs/news/how-to-diy-your-aquaponics-system>

What's Needed to Get Started

- Determine your budget
 - Start small with the Kraty Method with a mason jar and a net pot
- Determine your system
- Determine a location
 - Indoor or outdoor
- Choose a containment and substrate
 - Net pots
 - Coco coir, Expanded Leca Clay pebbles, rockwool, pool noodle
- Choose a nutrient
- Plants
 - Starting seeds or buying plants
- Other tools
 - pH meter, pH Up/Down solution, EC meter



<https://happyhydrofarm.com/diy-kratky-mason-jar/>

Budget

You can spend as little as buying nutrient and a few items to spending \$1000's on systems and plants.

There are a ton of DIY options.

There are a lot of premade systems ranging in price and size

Things to budget for:

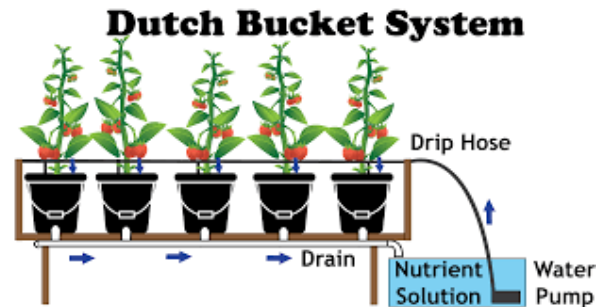
- The system
- Pumps, gravity, or flood
- Tools
- Nutrient
- Containment and substrate
- Plants
- Supplemental lighting

Look this up on YouTube: Grow Cheap Hydroponics In Recycled Containers Shorts Compilations | DIY Hydroponics | Kratky Method



Systems/Location

- How much space do you have?
- Will this be indoor or outdoor?
 - Indoor Considerations
 - Supplemental Lighting
 - Outdoor Considerations
- How much do you want to grow?
- What times of the year do you want to grow?
- What do you want to grow?...we'll talk about this more shortly



Substrate

The seeds and/or plants need to have some type of substrate to provide them with some support and some kind of containment for the substrate.

- Containment - Net Pots!!
- Substrate
 - Coco Coir
 - Rockwool
 - Expanded Leca Clay pebbles



Nutrient

- General Hydroponics
- FoxFarm
- Ocean Solution
- Jack's Nutrients



How to tell if I need more nutrient?

- Read and follow the nutrient solution instructions
- Look at the plants



Maintain The System

- pH
 - The pH of the system should be balanced to a pH between 5 and 6
 - Local water pH typically needs to be reduced
- Nutrient
 - Nutrient additions depend of the brand that is being used. Follow the manufacturer's instructions
 - Initial dosing may be high with lower weekly dosings
- Water
 - Make sure to maintain a good water level
 - Low water levels could damage pumps
 - Filtered tap water is great.
 - Don't use RO or Distilled water
 - Don't recommend using/mixing rain water
- Mold and fungal growth
 - Clean your system regularly to prevent mold, algae, and fungal growth.
 - If any of these are seen clean the system as soon as possible



Choose Your Plants

Plant options:

- Start seedlings
- Buy plants, clean and transplant to your system
 - If you buy plants they need to be removed from soil and the soil cleaned off the roots
- Great plants for hydroponics:
 - Leafy Greens
 - Herbs
 - Tomatoes (this can be challenging)
 - Some peppers
 - Strawberries



Supplemental Lighting

- There are a lot of different lighting options.
- They can be found locally at some of the big box stores and garden stores
- There are lots of options and lots of opinions.
- My recommendation it to find a light that is a specific grow light.



Resources

Big Tex Urban Farm

<https://bigtex.com/supporting-texans/big-tex-urban-farms/>

Bootstrap Farmer

<https://www.bootstrapfarmer.com/>



Contact Info

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