

Comparison of different types of hydroponics

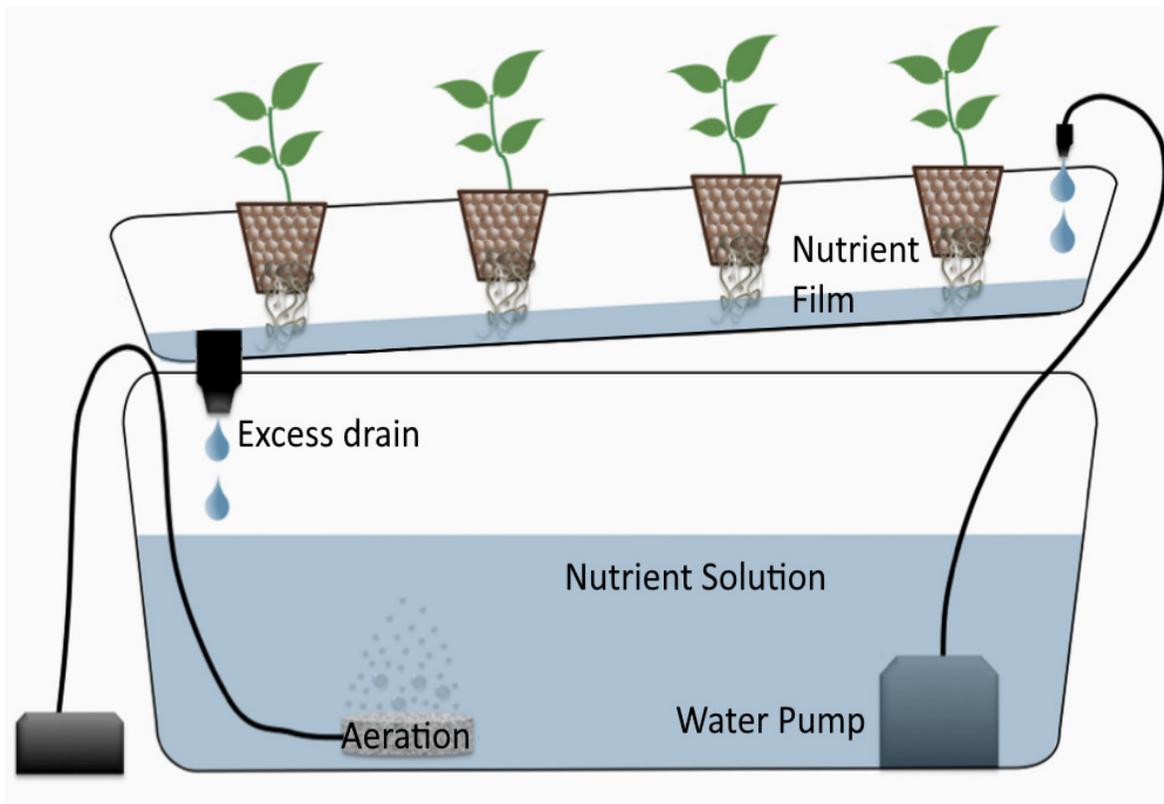
Hydroponics - is a method of growing plants without soil, by using mineral nutrient solutions and inert substrate.

There are several main types of hydroponics, the main of them:

- Nutrient Film Technique (NFT) System,
- Drip System,
- Flood & Drain System (Ebb & Flow).

Nutrient Film Technique (NFT)

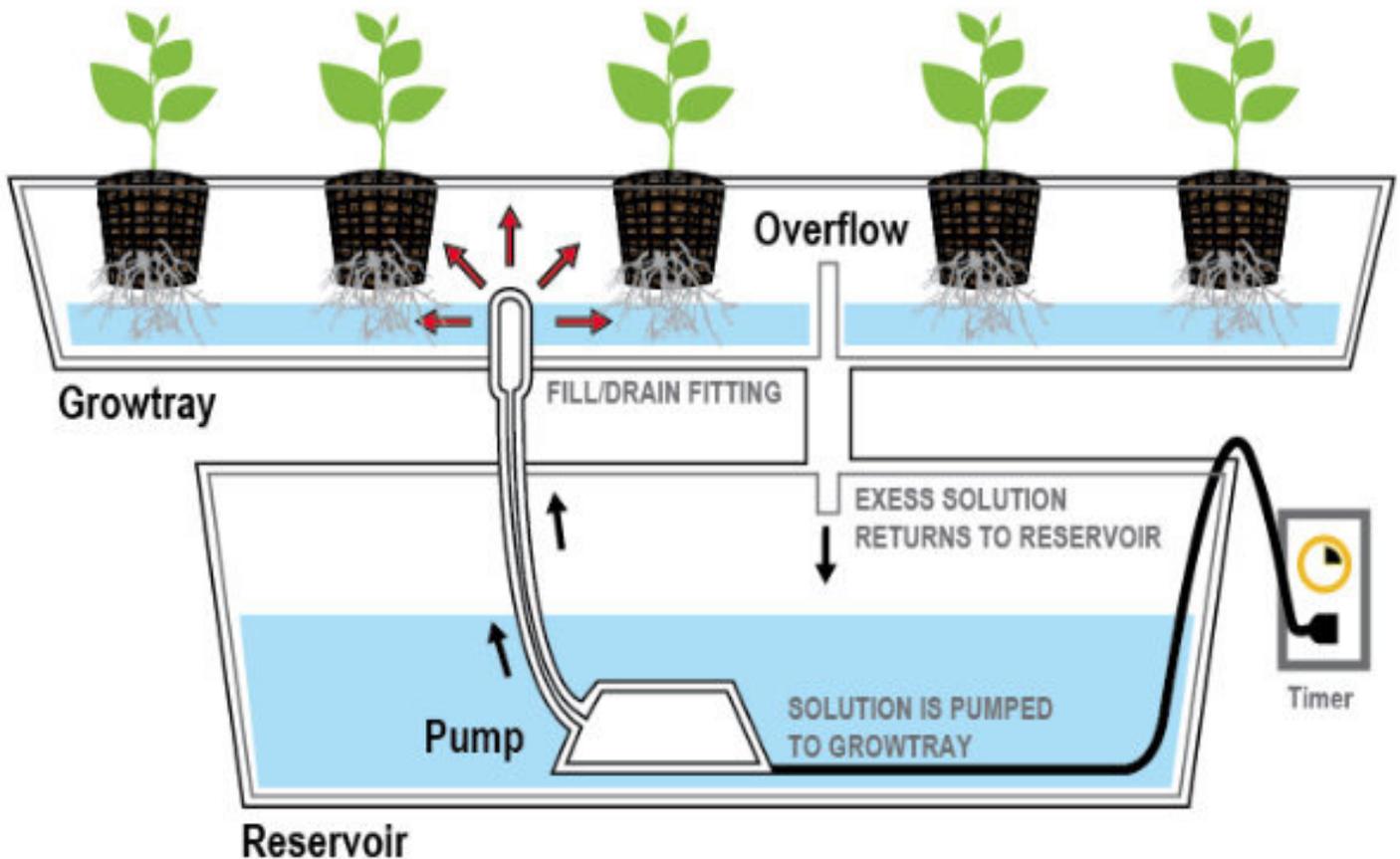
Plants are grown in channels that have a nutrient solution pumping through them and constantly running along the bottom of the channel. When the solution reaches the end of the channel, it drops back into a main reservoir and is sent back to the beginning of the system again.



Flood & Drain System (Ebb & Flow)

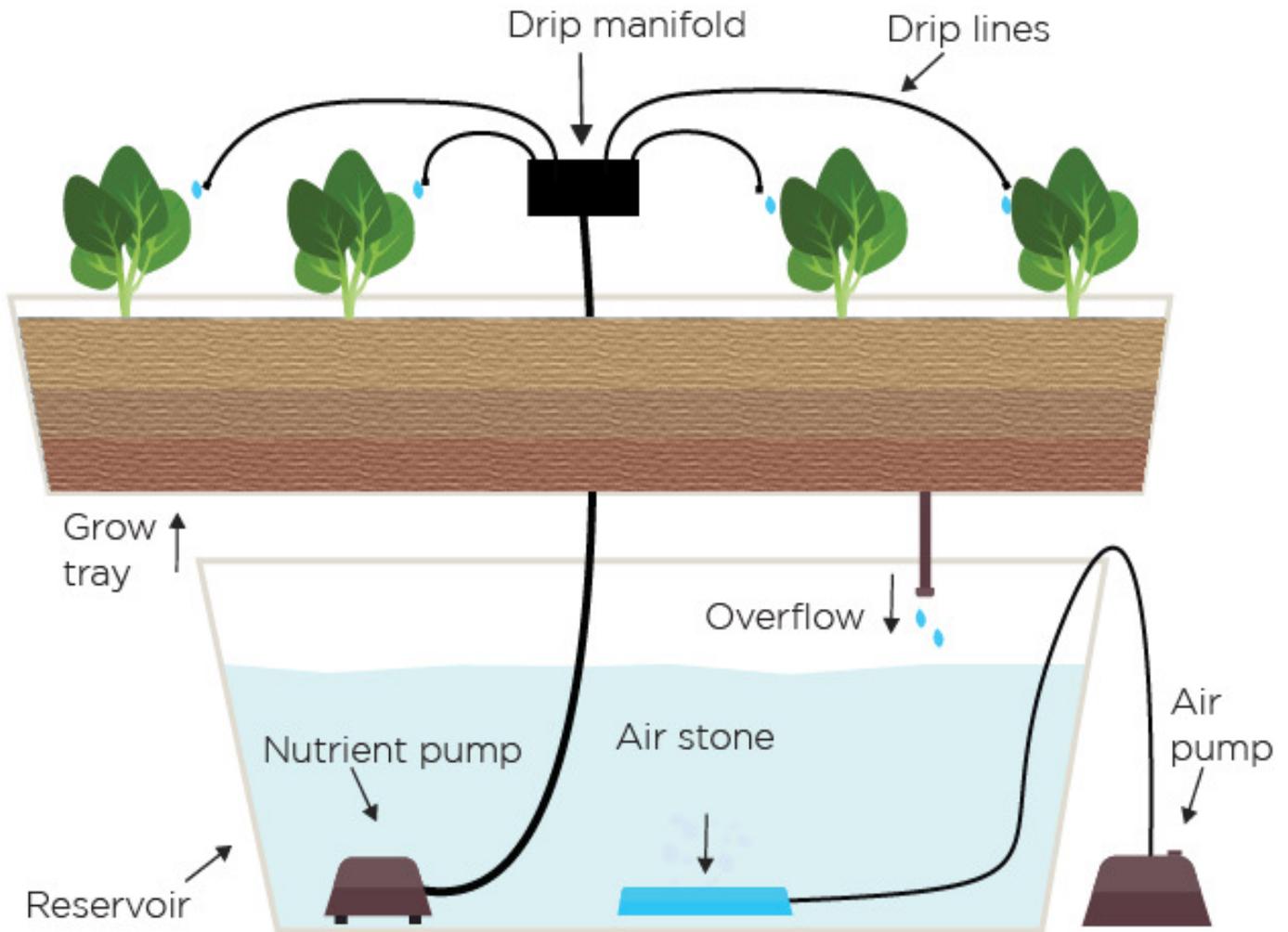
Plants are grown in a tray filled with a growing medium. The tray is “flooded” with your nutrient solution a few times per day.

After the tray is flooded, gravity drains the nutrient solution back down into the reservoir, waiting for the next flood cycle, and the process goes on.



Drip System

The system uses small emitters to drip the nutrient solution directly into plants root zone. Watering is repeated on a timer or on a humidity sensor of the substrate with plants.



There are two types of irrigation that can apply to drip irrigation:

1. With recirculation of the solution.

Then, as a substrate for growth, a large porous filler is used - vermiculite, perlite, expanded clay.

2. Without recirculation of the solution.

Normal watering until the substrate dries. Potting mixes such as Sunshine Abundance, based on coconut coir, perlite and pine bark, are used as filler.



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The main division of the methods of growing plants by hydroponics: the reuse of the nutrient solution or nutrient solution simply water the plant until the substrate dries.

All the main types of hydroponics provide for the return of the nutrient solution after irrigation to the tank and its reuse.

When we say “fertilizers for hydroponics” in the case of cannabis cultivation, we usually mean “Drain-to-Waste” technology. A Drain-to-Waste system delivers a nutrient solution to the substrate and the “run-off” is expelled.

	Drain-to-Waste	Recirculating
Advantage	Very simple to use. Just follow the Feeding Chart	Cheaper to use for high volume applications
	In small volumes it does not require special equipment	Nutrient solution and water is recycled
	The composition of the nutrient solution is always the same every watering	Reduced water use
	Significantly reduced the probability of biological infection of plants with bacteria and fungi	
Disadvantage	Relatively high water consumption	Requires advanced knowledge and extensive cultivation experience
	The high cost of growing in large volumes of growing	It is necessary to constantly monitor the pH and EC of the nutrient solution
	Need to flush excess salts (Not for Sunshine Boosters!)	<ul style="list-style-type: none"> ○ The consumption of the components of the nutrient solution is uneven, in large volumes, constant chemical analysis is required
		<ul style="list-style-type: none"> ○ Probability of water-borne disease transmission may be high
		<ul style="list-style-type: none"> ○ Without appropriate disinfection, algae and or biofilms may clog emitters



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