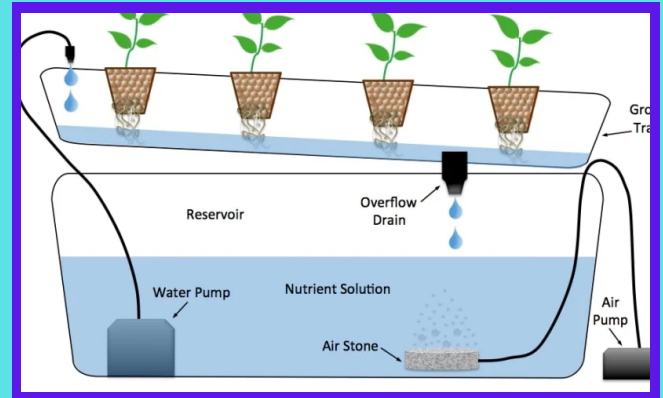


Hydroponics

Hydroponics is simply the growing of plants without soil. Plants don't need soil, but they do need the vitamins and minerals that soil can provide for them. Plants also need light, water, carbon dioxide and oxygen at the root zone.



Substrate or Grow Medium

A substrate or grow medium allows the plant roots to grow like they are in soil. Rockwool is what your lettuce is grown in. Pearllite, vermiculite or clay pebbles are examples of substrates that work well in hydroponics.



Propagation

In soil gardening, propagation is a way of making new plants from a parent plant by placing it in water and allowing roots to grow. In Hydroponics, we often refer to propagation as the way we grow roots to the proper size for transplant into the system.



Nutrient Solution

With no soil, the plant utilizes a nutrient solution to feed the plants. The solution includes Nitrogen, Phosphorus and Potassium plus other micronutrients (calcium, magnesium, boron, zinc and others).



Transplant

When seedlings are ready to grow to full size they need to be transplanted. Transplanting gives roots more room to grow.



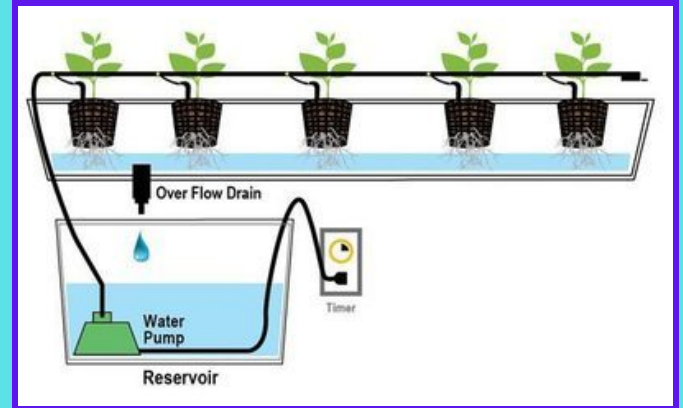
Net Cups

The cup where the plant is grown and propagated. The cup sits in the nutrient solution.



EC Electrical Conductivity

EC stands for electrical conductivity, which measures the potential for a material to conduct electricity. EC becomes higher the more nutrient is in a solution (also sometimes called total dissolved solids). EC can all be measured as Parts Per Million (PPM). Plants' needs vary depending on if they are vegetative (green only), flowering or fruiting. Lettuce works well at 800 (.8) to 1500 (1.5) EC.



pH - Potential Hydrogen

pH is a measure of how acidic/basic water is. The range goes from 0 to 14, with 7 being neutral. pHs of less than 7 indicate acidity, whereas a pH of greater than 7 indicates a base. The pH of water is a very important measurement concerning water quality. In hydroponics, pH needs to be between 5.5 and 6.2 - and some plants like different pH.



Kratky Growing Method

The Kratky method (named after B.A. Kratky) is a passive growing method. This means that no pumps or electricity are needed during the growth cycle. A young seedling is placed into the system filled with hydroponic solution. Throughout the growth cycle, the water level drops as the roots grow, creating a growing 'air zone' for the roots. By the time the plant is ready for harvest, the nutrient water is nearly depleted.

