

Water Quality

To successfully grow amazing plants, good water quality is absolutely necessary. Depending on geographical location, water quality varies immensely. Doing a proper evaluation of the quality of your water source is essential before setting up. There are certain things to consider such as the amount of solids dissolved in your water supply. This can be measured by parts-per-million (PPM), Total dissolved solids (TDS), or Electro conductivity (EC). You will also want to test the initial PH of your water. Proper pH is essential for proper nutrient uptake, as the plants cannot absorb any nutrients given to it without the pH being in range. The pH scale is measured from 0 to 14 with a lower number being more acidic and a higher number being more alkaline or basic. 7.0 is neutral. For soil applications, the pH range is from 6.0 to 7.0, while in hydroponics the pH range is 5.5 to 6.5. You can adjust the pH of your solution with pH up and pH down adjusters. Sodium hydroxide (KOH), is used to adjust pH up, While phosphoric acid (H_3PO_4) is commonly used to adjust pH down. Use extreme care with these adjusters as they can cause chemical burns. Always wear protective clothing and equipment such as glasses and gloves.

Just like the Richter scale used to measure seismic activity, every full point change signifies a 10 fold increase or decrease in strength. For example, water with a pH of 5.0 is 10 times more acidic than water with a pH of 6.0, 100 times more acidic than water with a pH of 7.0 and 1000 times more acidic than water with a pH of 8.0. With such an intense change between each point, accurate measurement and control are essential to a healthy grow. There are several different ways to measure the pH of your water. You can use a continuous monitor which keeps the probes in your solution 24 hours a day giving you complete real-time monitoring of the pH, dissolved solids, and temperature of the solution. You can also get more portable PH and conductivity pens and probes to use as well. There are several brands out there, the most commonly used our BlueLab and Hannah. U can also purchase soil probes for testing soil and medium pH. Some other methods included adding an indicator to the water and measure the color change. It is effective, but not as accurate as quality instrumentation. It is always recommended to use as accurate methods as possible to

avoid any detriment in your grow. Many growers choose to utilize reverse osmosis (RO) systems to eliminate the headache of poor water sources. RO water is free from almost, if not all, solids and contaminants such as chlorine and fluorine. By doing this, the grower is free to add whatever they choose to the water, offering complete control.