

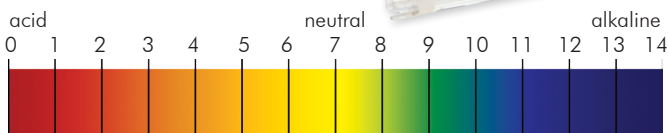


care guide for pH meters



What is pH?

pH is a measurement of how acidic or alkaline a solution is. It is measured in numbers; the lower the number, the more acidic the solution. The higher the number, the more alkaline the solution.



Why maintain the correct pH levels?

Plants absorb each nutrient element only within a certain pH range and because this range is different for various nutrients, there is only a relatively small pH range in which all nutrients are available.

Plants can generally survive within a pH of 5.5 to 6.5. Below 5 pH there is a danger of burning and destroying the sensitive root tissues, whilst at pH levels of 7 and above, some nutrients may become unavailable to the plants. The optimum level is about 6.4 to 6.5 pH, with anything in the range of 6 to 7 pH being acceptable. Different manufacturers of nutrients will advise you slightly differently on what is the ideal pH level for your plants. Unless an automated controller is being used, the pH level should be manually tested and corrected daily.



How to spot if your pH levels are wrong

It is advisable to monitor the pH of your nutrient or growing medium as incorrect pH can cause the following:-

- Yellow and/or wilting plant leaves
- Collection of salts on top of the growth medium (signifying poor nutrient absorption)
- Spots on plant leaves (signifying a deficiency)
- Excessive fungal growth in the nutrient reservoir or tank



Maintaining your pH meter

If you don't look after your pH meter then incorrect measurements of pH levels may occur. As a minimum, you must always wash the pH electrode (the measuring part of the instrument) in clean water. Do not touch the pH electrode unless using a damp tissue or cloth for cleaning and then only using extreme care.

When not in use, ensure the pH meter electrode is kept moist in either de-ionised water or a pH 7 solution. If the sensor is allowed to dry out completely, the instrument's performance will be effected and its warranty invalidated.

If an electrode has been allowed to dry out or becomes slow to respond it may be rejuvenated by soaking the electrode overnight in rejuvenating solution. After overnight soaking, rinse the electrode and then soak in a 4 pH buffer before giving the electrode a final rinse. The electrode should then be ready for use.



Calibrating your pH meter

To ensure accurate measurements, it is necessary to calibrate pH meters on a regular basis. For this you will require pH buffer solutions. These standard, inexpensive solutions are used to check that the pH reading is correct. If it is not, it can be easily corrected following the procedure for the specific instrument.

Generally pH electrodes have a limited working life, dependant on the frequency of use. This life is approximately twelve months or 365 measurements.



How to adjust your pH levels

This is achieved by using solutions usually called 'pH up' or 'pH down'. If your nutrient solution is too high, you can use pH down to correct it. If your pH level is too low, use pH up to correct it. It is important to adjust your solution one drop of pH up or pH down at a time, as it is very strong. Ideally, mix one drop of your pH up/down with a litre of water prior to adding it to your solution, for gradual pH adjustment.

