FloraMaX

Silica

For preventing limp growth and fruit rot

Fast growing plants are often susceptible to leaf wilt and fruit rot especially when exposed to heat from HID lamps. FloraMax Silica produces unique benefits:

- Improves the rigidity of stems and leaves
- Prevents leaf wilt during extreme heat
- Increases weight and shelf-life of fruit
- FloraMax Silica is readily absorbed by plants.
- Dosage 0.25ml/L (1 ml/Gal) | Pack: 250ml // 1L // 5L // 20L // 1kL

TESTIMONIES

"We never grow without Silica. It gives us consistency all year round. Weight and potency are improved and are reliable from crop to crop"

"The plants are much stronger... more resistant to diseases and rot... able to withstand the shock of higher growroom temperatures AND STILL DELIVER formidable results"

It is important to maintain the pH of nutrient solutions between 5.0 and 6.5. This helps ensure all nutrients are available for root up-take.

WHEN TO ADJUST pH

The working nutrient pH should be checked at the following times:
1. When the nutrient solution is first made.
2. After the addition of top-up water or additives - especially if either are highly alkaline (Fig 9.1).
3. In recirculating systems, pH should be checked on a daily basis because the uptake of water and nutrients causes pH to change.

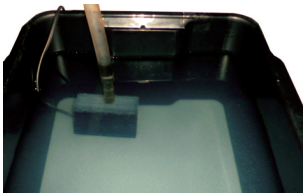

Fig 9.1. This is what can happen to a working nutrient solution when pH is above 7: Calcium, sulfate, copper, iron, manganese and zinc can precipitate on the bottom of the reservoir. In this form and location, they become unavailable to the roots. Precipitates can also cause plumbing blockages. To help prevent precipitation, use a nutrient that possesses a high pH buffering capacity.

HOW TO ADJUST pH

Step 1. Measure the pH: Use an electronic pH meter. Before measuring the pH, ensure that the nutrient is well stirred and that the sampling container is clean.

Step 2. Choose a target pH: It is unnecessary to hold pH at a single point value. So, choose a target pH that provides both a safety margin and minimizes the amount of pH maintenance. For example, if your pH tends to continuously rise (the most common trend), then at each adjustment, reduce the pH to about 5.0 using pH Down. This will give you a much larger pH "safety" margin than, for example, 5.8. If pH tends to fall, at each adjustment increase the pH to about 6.0 using pH Up.

Flowering Enhancer locks pH below 6.5 and reduces pH maintenance at least 500%

Step 3. Adjust the pH: Add a small amount (e.g. 1ml per 50 litres) of pH Down / pH Up. Then stir well and check pH. Repeat this process until the target pH is reached. For pH Up, pre-dilute the dose 100-fold with water before adding.

MINIMIZING pH FLUCTUATION

1. Use a nutrient that is highly pH buffered, particularly when using very alkaline water.

2. For recirculating systems, supply at least 10 litres (2.5 gal) of nutrient for each large plant. Failure to do this will magnify pH (and EC) fluctuations, especially during hot and dry weather when water uptake and evaporation are both excessive. To avoid excess water uptake and high evaporation rates, keep the air temperature below 30 deg C (86 deg F) and relative humidity above 50%.

ELECTRODE MAINTENANCE

Calibrating pH meters: It is essential to calibrate using at least two pH buffers. pH buffer 4.0 and 7.0 are ideal for nutrient solutions.

Dry storage of pH electrodes: This causes dehydration of the glass electrode and the precipitation of salts within the interstices of the frit itself (Fig 9.4). The consequences are slow response times and loss of accuracy and precision. To avoid these problems the electrode tip must be permanently stored (immersed) in a specially formulated storage solution (Fig 9.3). Note, pH buffers 7.0 or 4.0 and distilled water are NOT suitable for this.

Fig 9.2 Always clean the electrode with distilled water after use. Then keep the electrode immersed **(Fig 9.3)** in a proper "storage" solution when not in use - the No. 1 maintenance tip for prolonged electrode life !

pH electrode contamination: Unless the 'frit' and glass tip of a pH meter electrode is properly rinsed after use, it will invariably become contaminated with impurities (Fig 9.2). This causes similar symptoms to dry storage. Contamination may be so severe that re-calibration is not possible without prior cleaning or replacement. To prevent contamination, always avoid measuring harsh chemicals such as highly caustic solutions (e.g. pH Up and silica additives), or concentrated nutrient.

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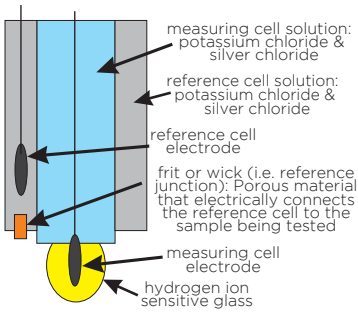

Fig 9.4 Schematic layout of glass pH electrode. Loss of accuracy is invariably explained by different degrees of blockage of the 'frit' or 'wick' - often caused by dry storage, testing of harsh chemicals (e.g. pH Up or concentrated nutrient), or failure to rinse the electrode properly after use.