

pH - Watch it Like a Hawk

Soaring high among the clouds, a hawk carefully surveys the ground below, dutifully monitoring the landscape for even the slightest movement (and for its next meal).

Similarly, today's growers must watch the media in which their plants are grown with rapt attention. Growing media is constantly changing, and even a slight variation can affect its properties. Perhaps the most important of these factors is pH, since all plants have a "target pH" at which they grow best.

Most container crops grown in soilless media do well at pH levels between 5 ½ and 6 ½. It is in this range that all of the essential nutrients are most available to the plant. A pH level that falls outside of this range can make things extremely difficult for you and your crop. Vital macro- and micronutrients can become unavailable and ever-important beneficial microbial activity will slow and even stop.

Nitrogen, for instance, is most available at the higher end of this range. This is due to the fact that it is the most favorable pH level for the soil microbes that mineralize the nitrogen in organic matter and those organisms that fix nitrogen symbiotically. In a nutshell, pH affects the whole ecology of your media and everything in it.

According to Dr. George Elliott at the University of Connecticut, it is critical for growers to consider the pH of

their soilless media, water, and fertilizer – as well as how each will affect each other.

"Because soilless media do not have as much buffering capacity as soil, they may be less reluctant to changes in pH. However, for the same reason, it is also very difficult to maintain any initial changes that are made" he said. "The pH level of a soilless media is not a static situation by any means. Changes happen over time and can be greatly affected by factors like water alkalinity or basicity or fertilizer pH levels, which tend to be acidic."

"In an incubator, most of these changes might occur over a one-week time period, with some residual activity for approximately another month," continued Elliott. "However, in a real-life setting, things are not as controlled, and there are many other factors to consider."

Because pH can rapidly change as a result of so many factors, Elliott says that growers are well advised to monitor their media on a regular basis to make sure that the net result is staying on an even, desirable course.

Fortunately, there are ways for growers to manipulate the pH levels of their growing media.

Growth Products' pH Booster (0-0-25) Liquid Potassium Solution is a crystal clear concentrate solution containing a very safe and reliable

source of potassium from potassium carbonate. It has an extremely low phytotoxicity level, does not contain chlorides, and has the lowest salt index of any potassium source. pH Booster will adjust both water and soil pH levels. Since its crystal clear solution does not settle out, pH Booster can be directly siphoned from the original container with a high ratio proportioner. pH Booster is alkaline (pH =11), and will raise the pH levels of your stock tank and growing media.

And if your pH is on the high side, **Growth Products pH Reducer (Citric Acid Solution)** is the solution for you. This natural product is created from citric acid (the same stuff found in oranges) is a safe alternative to corrosive (phosphorus, sulfuric, hydrochloric) acids. PH Reducer can be used to lower the pH of soilless media and water, or as a mixing tank buffer. Additionally, it chelates micronutrients that may be otherwise unavailable, and contains a natural wetting agent to help it permeate quickly.

To learn more about any of the products in the Growth Products Line, call us at (800) 648-7626. visit us at www.growthproducts.com, or email questions@growthproducts.com.