



NEWS AS IT HAPPENS

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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 turfgrass managers must watch the soil in which their grass is grown with rapt attention. Soil 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 plants (including turfgrass) 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 turfgrass. 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 soil and everything in it.

But it isn't enough just to monitor your soil. Even the water used to irrigate your facility bears careful consideration. Of course, it goes without saying that if the quality of water used is poor, the results from using it will also be less than desirable. These

sources of water can (and often do) contain impurities and elements that are detrimental to plant and soil health.

In places where water supplies are scarce, many superintendents must comply with legislation forcing them to use "gray" water. This municipal wastewater has been treated to remove harmful bacteria, but a closer look reveals that there are some undesirables to be found in gray water. These include bicarbonates, which "tie up" nutrients in the soil, making them unavailable to the plant. And they often have high pH levels.

Even superintendents fortunate enough to have their own wells are not necessarily immune to water problems. Various factors, including construction, agriculture, and urban sprawl are contributing to the contamination of aquifers around the globe.

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

Fortunately, there are ways to manipulate the pH levels of your soils.

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 used safely with and fertigation system. pH Booster is alkaline (pH = 11).

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) and is a safe alternative to corrosive (phosphorus, sulfuric, hydrochloric) acids. pH Reducer can be used to lower the pH of soils 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. You may also visit us on the Internet at www.growthproducts.com. Our E-mail address is questions@growthproducts.com. We may also be contacted via fax at (914) 428-2780.