

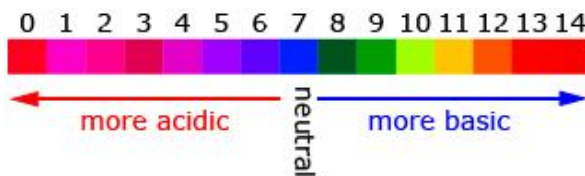
Is pH Really Important to Our Violets?

by Bob Green

Absolutely! pH is just as important as water, fertilizer, and adequate light.

The symbol pH refers to the degree of alkalinity or acidity of one's growing medium. The pH scale is divided into units from 1 to 14, with its midpoint being 7. Think of the scale in relation to a thermometer. Just as a thermometer measures temperature with 32 degrees Fahrenheit, or 0 degrees Centigrade, as a reference point, the pH scale measures alkalinity and acidity, using the value 7 as a reference point. The value 7, or pH 7, is called neutral; which means the growing medium at pH 7 may contain substances that alkaline and acidic, but they are in even balance. A pH reading greater than 7, such as 9, means the growing medium is alkaline; while a pH reading less than 7, such as 5, indicates that the growing medium is acidic.

On the pH scale, each unit is ten times greater than the previous unit, as one progresses each way from pH 7. Thus, pH 6 is ten times more acidic than pH 7, pH 5 is a hundred times more acidic, and pH 4 is a thousand times more acidic than pH 7. In the other direction, pH 8 is ten times more alkaline than pH 7, and pH 9 is a hundred times more alkaline than pH 7.



The essential nutrient elements in one's growing medium are readily available to the plants only when the pH is in the range of 6.4 to 6.9. If one's growing medium is outside the pH range of 6.4 to 6.9, the plants' nutrients may become "locked up"

and not available to the plants. Phosphate, for example, is one of the most insoluble elements the African violets need. It insures good root growth, gives a constant push to blossom production, promotes sturdy plant development and strong stems, and brings out the redness in leaves. Phosphate is most soluble when the pH is slightly acid (pH 6.2 to 6.5). In most growing mediums, phosphate is fixed to soil particles and unavailable for plants to utilize when the pH falls between 5 and 6, or when the pH rises above 7.5. If the growing medium remains outside those limits, plants can become starved for lack of available (soluble) phosphate – a condition called "phosphate lock up."

To correct "phosphate lock up" plant again, one's growing solution (one tablespoon of water) several times in place of

Dolomite
Lime

and make the phosphate available to the medium may be soaked with a limewater dolomite lime to one gallon of warm regular waterings. This procedure should only be used if the growing medium is acidic (below 6.4 on the pH scale). If the growing medium

is alkaline (above 7 on the pH scale), the growing medium may be soaked with a solution of vinegar water (two tablespoons of white vinegar to one gallon of warm water) several times in place of regular waterings; or one can sprinkle finely ground sulfur on the growing medium (one teaspoon of sulfur to a 4" pot), and water in well with warm water (several times in place of regular waterings).

**WHITE
VINEGAR**

If dolomite lime is unavailable, and one's growing medium is too acidic (below 6.4 on the pH scale), one might use a solution of one-half teaspoon of Epsom salts and one-half teaspoon of whiting to one gallon of warm water to correct the acidity.

A fairly good sign that one's plants are suffering from "phosphate lock up" is a yellowish edging around the sides of the plants' leaves. If one can rule out too much light, another good indication that the growing medium is too acidic are "tight centers" in the plants, with new developing leaves being very rigid and tightly curled. Signs that could indicate growing medium that is too alkaline include pale leaves, leaves with brown edges, and very slow plant growth.



One may periodically test one's growing medium, rather than guessing if the pH is in the proper range, by using a kit designed for that purpose. For years, we used the inexpensive Sudbury Soil Tester, which is no longer available, except as novelty items on E-bay. Today, one can procure other inexpensive soil testers from big box stores like Walmart, Home Depot, and Lowe's. The instructions are easy to follow.

As a preventative measure, to minimize the acid buildup in one's growing medium from repeated applications of fertilizer and the natural tendency of peat moss (which makes up a large percentage of most growing mediums) to maintain the growing medium on the acid side of the pH scale, one may use the limewater solution or the Epsom salts/whiting solution once a month in lieu of regular watering, and repotting into fresh growing medium (within the pH range of 6.4 and 6.9) at least every four to six months.