

Soil pH

The term "soil pH" is a familiar term to most gardeners, but many of these gardeners are unsure what role pH plays in plant nutrition. Understanding the role the pH level has in your garden will help you make a better decision as to what nutrients are required for healthy growth in your garden.

The pH level in the soil affects the growth of plants in various ways. In a soil with a balanced pH, nutrients are readily available to the plant in a form the plant can absorb easily. Beneficial bacteria and fungi will increase in numbers and in activity making the plant stronger and healthier. The prevalence of plant disease is greatly reduced. The solubility and potency of toxic elements is greatly reduced.

Signs of a soil that is too acidic or too alkaline include stunted growth, yellowing, poor yields, lack of blooms, weakness, and even the death of the plant. These symptoms can occur even though the soil has plenty of nutrients, lots of organic matter, sufficient moisture warm temperatures and sunlight.

The level of acidity or alkalinity in the soil is measured on a scale, similar to a ruler or thermometer, referred to as a pH scale. The scale ranges in value from 2 to 9, with 2 indicating an extremely acidic soil and 9 indicating a highly alkaline soil. Most plants require a neutral level around 5.5 - 6.5. An acidic soil is frequently referred to as "sour", while an alkaline soil is "sweet". (This does not mean that an alkaline soil is better than an acidic soil, a balance is needed.)

Acidity or alkalinity in the soil occurs naturally in the formation of soil. Since soil is formed by the breaking and erosion of rocks into fine particles over millions of years, the type of rock determines the initial pH level of the soil. Decaying plant material also affects the pH level during this process. The addition of a large quantity of organic matter, fertilizer or peat moss can affect the pH level especially if it is repeated year after year.

Essential plant nutrients are most available in a soil with a balanced pH level. The pH of the soil can be tested in a few minutes using a pH tester kit. Various types of kits are available at most nurseries and garden centres. Carefully follow the instructions given for that tester. Local laboratories can also give very detailed tests.

pH levels in the soil can be adjusted with the use of soil amendments. The additional of agricultural lime can reduce the acidity of the soil, while adding sulphur, peatmoss, or compost can decrease the level of alkalinity. Follow instructions carefully when adding amendments. It

is preferable to add less of the amendments, then retest the soil after 2 weeks and add more if necessary. This method reduces the risk of destroying good bacteria and fungi present in the soil.

The addition of organic matter such as well rotted manure, green crop and compost is definitely an asset as it helps to keep the pH balanced as well as provide nutrients for plant growth.

Once the soil pH is adjusted, it will be much easier to determine nutrient requirements for your garden.