
Soil pH

Dave Palmer Extension Agent I - Hillsborough County Extension Service

Question: What is this pH stuff all about?

Answer: pH refers to how acidic or alkaline a soil is. Sometimes acidic soil is referred to a “sour” and alkaline soil is referred to as “sweet”. pH is measured on a scale from 0 to 14 with a pH of 7 referred to as neutral, neither acidic nor alkaline. If soil has a pH below 7 it is acidic and if soil has pH above 7 it is alkaline. Most plants grow best in a pH range of 5.5 to 6.5. Some plants, such as azaleas, gardenia or ixora grow best in soils that are more acidic - a pH range of 4.5 to 5.5. Other plants do best in a high pH soil, that is, a pH over 7. All plants have a pH range that they grow best in.

Question: How do I know the pH range of a particular plant? How do I know the pH of my soil?

Answer: Many publications include a listing of pH ranges for common plants. Some information is available on-line at:

http://edis.ifas.ufl.edu/scripts/htmlgen.exe?DOCUMENT_MG092

A number of types of pH test kits are available, or have the customer call the local County Extension office - many have a pH testing service for a small fee.

Question: Can soil pH be adjusted? Under what conditions should soil pH be adjusted?

Answer: Soil pH can be adjusted, but only temporarily. Natural soil conditions will eventually prevail - sometimes quickly, sometimes more slowly. Whether soil pH should be adjusted depends on the situation. To adjust the soil pH slightly to put in a vegetable garden is fine because it's a temporary planting. Changing a high pH soil to grow azaleas or gardenias is very difficult if not impossible. It would be a never-ending uphill battle. The problem in this situation is not soil pH, but plant selection. It is much better to properly select plants for specific conditions, such as pH, than it is to permanently adjust conditions, such as pH, to grow an inappropriate plant.

Question: Assuming the situation is appropriate, how can pH be raised or lowered?

Answer: First, get the soil tested so the existing pH is known. Never attempt to change soil pH without testing. Ask the customer to measure the area under consideration and read the directions on the product. Usually, dolomitic limestone is used to raise pH and sulfur is used to lower pH. Soil pH usually changes slowly, and it is difficult and dangerous to try to change soil pH quickly.

Conclusion: Pick plants that are suited to the soil pH, rather than try to change their soil pH to suit inappropriate plants. If you do want to raise or lower the pH of the soil, test the soil first, read the product label and use the product properly. Soil pH should be changed only moderately and slowly to avoid damaging plants. Most Florida landscape plants are tolerant of a wide range of soil pH. *(Source: Florida Certified Nursery Professional Manual (FCNP) published by FNGA)*

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Employment Opportunity - Affirmative Action Employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, age, handicap or national origin. U.S. DEPARTMENT OF AGRICULTURE, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF FLORIDA, IFAS, Florida A. & M. UNIVERSITY COOPERATIVE EXTENSION PROGRAM, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING.