

# Healthy Soil – pH



Good gardening begins underfoot in a healthy soil. One component of healthy soil is having the proper pH. So, just what is pH? Soil pH is a measure of the soil acidity or soil alkalinity. The proper pH balance in the soil affects how well a plant absorbs nutrients, and therefore, how well it grows.

So before planning that new garden or changing one to accommodate new conditions, learn more about soil pH.



As a gardener, even if you're a novice, you can never take for granted that the essential elements in a soil will automatically be available to your plants. Availability of these elements is dependent on the soil pH level. Plants need the correct pH (acidity/alkalinity) level which controls how well plants utilize the nutrients available in the garden soil.

Most garden plants thrive in soil that measures 6.0 to 7.0 on the pH scale as it is at this level that all essential elements present in the garden soil are readily available to the plants. Generally, soils in moist climates tend to be acid and those in dry climates are alkaline.

## Testing your soil pH

You can have your soil pH checked by a professional or you could invest in a good soil pH tester and test the pH level of your soil on a regular basis. Soil test kits are available for purchase from Adams.

Soil acidity and alkalinity is measured on a scale of 0.0 (very acidic) to 14.0 (very alkaline). Soil that measures 7.0 on the pH is scale is neutral soil. Soil that measures 7.5 or higher on the pH scale is alkaline and soil with a pH of 4.0 and 5.0 are regarded as acid soil.

pH 0-2	Strongly acidic
pH 3-5	Weakly acidic
pH 6-8	Neutral
pH 9-11	Weakly basic
pH 12-14	Strongly basic

## Adjusting your soil pH

Once you have determined the pH you can amend your soil, if needed to accommodate the plants in your garden using materials available at Adams.

### Raising the soil pH to make it more alkaline

Generally speaking, it is easier to make soils more alkaline than it is to make them more acid. Because different soil types react in different ways to the application of lime you will have to add more

lime to clay soils and peaty soils than you will in sandy soils to achieve the same result.

To increase your pH by 1.0 point and make your soil more alkaline:

- Add 4 oz. of hydrated lime per square yard in sandy soils
- Add 8 oz. of hydrated lime per square yard in loamy soils
- Add 12 oz. of hydrated lime per square yard in clay soils
- Add 25 oz. of hydrated lime per square yard in peaty soils

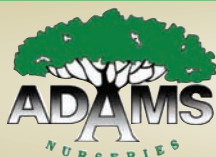
Correction of an overly acid soil should be considered a long term project, rather than trying to accomplish it in one year. It is better to test your soil each year and make your adjustments gradually. The addition of hardwood ash, bone meal, crushed marble, or crushed oyster shells will also help to raise the soil pH.

### Lowering the soil pH to make it more acid

If your soil needs to be more acidic, sulfur may be used to lower the pH if it is available. To reduce the soil pH by 1.0 point, apply 12oz's of soil acidifier per 100 sq. foot. If soil is predominately clay, increase to 15 oz. The sulfur should be thoroughly mixed into the soil before planting. Sawdust, composted leaves, wood chips, cottonseed meal, leaf mold and especially peat moss, will lower the soil pH.

### Warning!

- Always read and follow the manufactures recommendations when using chemical products.
- Use appropriate protection such as a dust mask, and gloves.
- The best way to adjust pH is gradually, over several seasons.
- Lime should be applied only when tests show it to be necessary.
- If the soil is excessively alkaline, you may find that you are better off to build a raised bed using topsoil purchased from Adams.



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