

Soil pH

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In a nutshell, Soil pH is simply a measurement of the acidity or alkalinity of a soil. Soil pH is critical because it affects the health of plants. Before a nutrient can be used by plants it must be dissolved in soil water (most nutrients dissolve best when the soil is slightly acidic to neutral). The good news is... Soil pH is easy to check and can be altered / corrected.

The scale range of Soil pH goes from 0 to 14 with the lower end of the scale being **Acidic pH (0 to 6)** and the higher end of the scale being **Basic pH (8 to 14)**. Most garden and landscape plants prefer a pH in the range of **6 to 7.2** which is considered closer to **Neutral pH**.

Consider this... If you have a plant that prefers a Soil pH in the range of 6 to 7.2, and your Soil pH is 5 (strongly acidic), your plant is going to have major challenges. On the other hand, some plants prefer acidic soils to do well. An example is Azaleas which prefer acidic soils to do best.

Steps to the Correct Soil pH Levels: **1-** Determine the best Soil pH for the particular plant or plants you are growing. This can be found on the package or by asking the lawn and garden professional where the purchase is made.

2- Determine the Soil pH in your garden area. Do this by taking samples from a few different areas and testing the mixture. One method to test is using a Soil pH dye kit where you saturate the soil sample with a dye and the resulting color change tells you the pH range. Another way is to send your soil sample to a local county extension agent or work through a local master gardener to get the test results. A third way to measure is with a pH meter.

3- Match up what you will be planting to what your actual Soil pH is. If you are planting something that needs neutral soil and your pH level is acidic then you need to add something to the soil to raise the pH level to neutral for example.



Changing the Soils pH Levels:

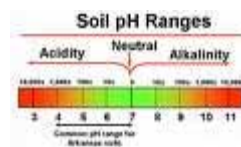
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Lime is usually added to acid soils to increase soil pH. The addition of lime not only replaces hydrogen ions and raises soil pH, thereby eliminating most major problems associated with acid soils but it also provides two nutrients, calcium and magnesium to the soil. Lime also makes phosphorus that is added to the soil more available for plant growth and increases the availability of nitrogen by hastening the decomposition of organic matter. Liming materials are relatively inexpensive, comparatively mild to handle and leave no objectionable residues in the soil.

The application of anhydrous ammonia as a nitrogen fertilizer contributes to lowering the Soil pH. Other elements to add to your soils to lower the pH levels are:

- **Acid Sphagnum Peat**
- **Iron Sulfate**
- **Aluminum Sulfate**
- **Elemental Sulfur**

Note: Consult a local county extension agent or Master Gardener if possible before changing your pH levels because each region has unique sets of environmental circumstances. They will be able to tell you specifically what to add to your Soil for best results.



Examples of Soil pH Preferences for Plants:

Flowers & Soil pH preferences: Acid Soil: **Azaleas, Hydrangea, Protes, etc.** Slightly Acid to Neutral Soil: **Roses, Tulips, Waratah, etc.** Neutral to Alkaline Soil: **Carnations, Daffodils, etc.**

Fruit Crop Soil pH preferences: Acid Soil: **Apples, Macadamia, Nectarine** Slightly Acid to Neutral Soil: **Grapes, Peach, Pears, Apricot, etc.** Neutral to Alkaline Soil: **Cherry, Plum, Almond, etc.**

Vegetable Crop Soil pH preferences: Acid Soil: **Blackberry, Blueberry, Potato, Pumpkin, Strawberry, Watermelon, Rhubarb, Sweet Corn, Sweet Potato, Raspberry, Squash, Tomato, Turnips, etc.** Slightly Acid to Neutral Soil: **Beans, Brussell Sprout, Carrots, Colards, Cucimber, Eggplant, Garlic, Mustard, Parsley, Peas, Peppers, Radish, Spinach, Watercress, etc.** Neutral to Alkaline Soil: **Cabbage, Asparagus, Beetroot, Broccoli, Cabbage, Cauliflower, Celery, Cress, Leek, Lettuce, Muskmelon, Okra, Onion, etc.**

Field Crop Soil pH preferences: Acid Soil: **Cotton, Oats, Peanuts, Linseed, Lupins, etc.** Slightly Acid to Neutral Soil: **Barely, Corn, Kale, Canola, etc.** Neutral to Alkaline Soil: **Chickpeas, Field Peas, Lentils, Safflower, etc.**

Soil pH Scale Description:

MultiBloom

OMRI

Note: The pH scale is based on the powers of 10. For example... a pH level of 5 is 100 times more acidic than a pH of 7.

- **pH of: 5.5 and less** = Strongly Acid
 - **pH of 5.5 - 5.9** = Medium Acid
 - **pH of 6.0 – 6.4** = Slightly Acid
 - **pH of 6.5 – 6.9** = Very Slightly Acid
 - **pH of 7.0** = Neutral
 - **pH of 7.1 – 7.5** = Very Slightly Alkaline
 - **pH of 7.6 – 8.0** = Slightly Alkaline
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