SOIL pH

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What is pH? pH has a scientific explanation that we won't get into here, but it is important to know that pH affects you everyday of your life, and is also an important part of gardening. Here we will explain the pH concept, what is means to you, and what to do with it.

What pH means.

pH is given as a number from 1 to 14. A pH value from 1 to 7 is called **Acidic**, and a value of 7 to 14 is classified as **Basic** or **Alkaline**. A number 7 is said to be **Neutral**, although in terms of soil this generally isn't feasible and there aren't many plants grown here that need an exactly neutral soil.

Plants are sometimes particular about their soil pH.

Plants will adapt to the particular soil that they are native to, and that preference will be handed down to their offspring. For example Rhododendrons are native to areas with acidic soil like the Pacific Northwest, so all Rhododendrons will have a preference for acidic soil. This preference also tends to run through family lines, so all plants from the family Ericaceae (Rhodies, Camellias, Pieris, Heather, etc.) prefer acidic soil. Some plants just do better if their soil preference is met, others will die if their soil has the incorrect pH. The good news is that the majority of plants do fine within the same general range of pH, and you shouldn't have to worry too much about them.

Rhododendrons, Pieris, Heather, and most Coniferous plants are going to do best in an acidic soil. This will affect the color intensity of the foliage, as well as general health and vigor. On the other side, Lilacs, lawn grasses and most annuals and vegetables crops are going to prefer a more neutral to basic soil pH. Hydrangeas aren't really specific, but their bloom color will be affected by the soil pH. A lower pH will result in a blue color, while a higher pH will turn the blooms more red-pink. A low pH will often encourage moss to grow in certain areas. A high pH caused by high soluble salts in the soil (usually fertilizer residue, or just not enough water) can severely burn many plants.

How to determine your soil pH.

It is almost guaranteed that if you live in this area, you will have acidic soil. High rainfall and clay soils contribute to this low pH. It would be very rare to find soil in this area that is basic, but amended soils can have a pH that is quite a bit higher than the natural soil. If in doubt, pH kits are available and could save you some headaches.

How to change your soil pH.

If you want to raise your soil pH (make it more Basic), the best thing to do is to add lime. Gypsum will also work. Basically, if the amendment has sodium or calcium in its composition, it will raise the soil pH. As far as making the soil more acidic, look for fertilizers/additives with the ingredients sulfur, magnesium, iron or ammonium. Magnesium sulfate is probably the most reactive, but be careful as it can burn plants if used in high quantities. If you are trying to change your soil pH, be aware of <u>all</u> the chemicals you put down. For instance, if you wanted to raise pH and to do so have add lime, but then next week if you use a fertilizer that contains ammonium sulfate, you have just counteracted your work as this will lower your pH.

Your soil ph will not change overnight. For best results, apply your pH altering products in the fall instead of spring, as they will then take effect over the winter months. For reference, it will generally take 100 pounds of pure lime to raise the pH of 1000 square feet of clay from 4.5 to 5.5 at a depth of 7 inches, and from 5.5 to 6.5 about 120 pounds will be required.