

COASTAL GARDENER COLUMN

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Q: I have been informed that the pH (acid-alkaline balance) of the soil in my yard is too acidic. What is the best way to adjust the pH?

A: First, let's discuss soil pH a bit. The pH scale goes from 1 to 14 with 1 indicating pure acid or very acidic, and 14 indicating very basic conditions or a very alkaline situation. Pure water is neither acidic nor basic, it has a pH of 7 or is "neutral." The pH scale is logarithmic not linear. Therefore, a pH of 5 is 10 times more acidic than a pH of 6 and 100 times more acidic than a pH of 7. Likewise a pH of 9 is 10 times more basic than a pH of 8 and 100 times more basic than a pH of 7.

Soil pH is important because it affects the ability of a plant to absorb nutrient elements from the soil. Nutrient elements vary in their availability at different pH conditions in the soil. Therefore, nutrient deficiencies can be induced by a soil pH that is too low (acidic) or too high (alkaline).

Plants are also sensitive to soil pH. Blueberries, for example, grow best in very acid soils. They like a soil pH in the 5 to 5.5 range. Many desert plants (sagebrush, cacti, etc.) can tolerate alkaline pH conditions in the 8 to 9 range. California soils, under "normal" conditions, generally are in the 5 to 8.5 range. Most crop plants and trees and shrubs grow best in soils with a slightly acidic to neutral pH (5 to 7.5) because most mineral nutrients essential for plant growth are most available in that pH range.

Most well water in the Santa Maria area has a pH of 7 to 7.3, therefore, over time soils irrigated with this water will assume the same pH. However, many of the fertilizers we use in our gardens tend to be acidic, having a pH in the 6-7 range. Also if you use peat moss in potting soil or to improve your garden soils, its presence will also lower the pH. Raw peat moss, depending on its source, has a pH of 5 to 5.5.

Now that you are thoroughly confused, what is the bottom line? Be aware that the fertilizers you buy can over time affect soil pH. If you wish to make the soil more acid (lower the pH), use "soil sulfur" or peat moss and/or acidic fertilizers such as ammonium

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sulfate or ammonium nitrate. If you wish to make your soil more alkaline (raise the pH), use hydrated lime and/or a fertilizer such as calcium nitrate.

Send your landscape and garden questions to: **The Coastal Gardener, 624-A West Foster Road, Santa Maria, CA 93455.**