Acidifying Your Soil

What You'll Need:	
Essential Items	**Desirable Items**
pH Soil Tester	T&C Soil Enhancer
Sulfur	Soil Pep
Aluminum Sulfate	Peat Moss

What is soil pH, and why should I care?

Soil pH is a measure of acidity or alkalinity. The pH scale ranges from 0 to 14, with 7 as neutral. Numbers less than 7 indicate acidity while numbers greater than 7 indicate alkalinity. Soils seldom have readings lower than 4.5 or higher than 9.5. Almost all soils in eastern Idaho are alkaline with typical readings from about 7.5 to 8.5, while most plants prefer a slightly acid pH of around 6.5.

The soil pH value directly affects nutrient availability. Plants thrive best in different soil pH ranges. Azaleas, rhododendrons, blueberries and conifers thrive best in acid soils (pH 5.0 to 5.5). Vegetables, grasses and most ornamentals do best in slightly acidic soils (pH 5.8 to 6.5). Soil pH values above or below these ranges may result in less vigorous growth and nutrient deficiencies. At pH values of 6.5 and above, phosphorus and most of the micronutrients (like iron and zinc) become less available. Most secondary and micronutrient deficiencies are better corrected by keeping the soil at the optimum pH value, than by adding more of the nutrient to the soil.

Lowering soil pH is achieved by adding sulfur, either in its slow acting elemental form with soil sulfur, or with fast acting aluminum sulfate.

You can use the following tables to calculate the application rates for both aluminum sulfate and sulfur. The rates are in pounds per 10 square feet for a loamy soil. Reduce the rate by one-third for sandy soils and increase by one-half for clay soil.

Pounds of Sulfur / 10 sq. ft. to Lower the Soil pH

Present pH	Desired pH			
	7.0	***6.5***	***6.0***	***5.5***
9.0	0.4	0.5	0.6	0.7
8.5	0.3	0.4	0.5	0.6
8.0	0.2	0.3	0.4	0.5
7.5	0.1	0.2	0.3	0.4
7.0	.	0.1	0.2	0.3
6.5			0.1	0.2

Pounds of Aluminum Sulfate / 10 sq. ft. to Lower the Soil pH

Present pH	Desired pH			
	7.0	***6.5***	***6.0***	***5.5***
8.0	1.2	1.8	2.4	3.3
7.5	0.6	1.2	2.1	2.7
7.0	.	0.6	1.2	2.1
6.5			0.6	1.5
6.0				0.6

Application of fertilizers containing ammonium or urea speeds up the rate at which acidity develops. Adding organic matter to your soils will also help lower the pH. As beneficial microbes in the soil break down the organic matter into humus, organic acids are formed that help acidify the soil.

Soil pH can be raised (seldom needed in our area) by applying ground agricultural limestone which contains calcium and some magnesium.

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