

ADJUSTING THE pH OF YOUR SOIL

In growing plants, the term pH is used to express the degree of soil acidity or alkalinity. Vinegar and lemon juice are examples of weak acids, while milk of magnesia and household ammonia are alkaline products. Other terms often used by Texans to express the pH of soils are sweet and sour - a sweet soil being alkaline and having a high pH and a sour soil being acid with a low pH. Acid soils are fairly common in much of East Texas, while alkaline soils are predominant in most other areas of the state.

The pH of a soil is expressed as a number ranging between 0 and 14. Values below 7.0 are acid while those above 7.0 are alkaline. If a soil has a pH of 7.0, it is classified as neutral. Soils in Texas generally have a pH between 4.5 and 8.5, but exceptions do occur.

The significance of soil pH is that if your soil is too acid or alkaline, naturally occurring soil nutrients, or those that you add, are often not available to the plants. This is especially true of acid soils. You can generally garden successfully if your soil is too alkaline, but soils that are too acid need to be corrected.

The ideal pH for growing most vegetables lies between 6.0 and 6.8. If your soil pH is below 6.0, limestone should be applied to adjust the pH upward. In most instances, dolomitic limestone should be used if possible, as it supplies magnesium which is often deficient in many of our acid soils.

If you're gardening in an alkaline area of our state and the pH of your soil is near 8.0 adding sulphur will lower its pH and often correct chlorosis of iron deficiency symptoms which are especially common on beans and peas.

If you feel your soil pH is out of "kilter," contact your local county Extension agent and request information on testing your soil's pH. Commercial soil testing kits are available from garden centers and nurseries that will give you an indication of your soil's pH. Lime or sulphur should not be applied to your soil unless the need warrants their use.

If your soil's pH is known, the following tables can be used as a guideline for applying lime or sulphur to adjust its acidity or alkalinity.

Pounds of Limestone Needed to Raise Your Soil's pH

<u>Change in pH desired</u>	<u>Pounds of limestone per 100 square feet</u>		
	<u>Sandy Soil</u>	<u>Loamy Soil</u>	<u>Clay Soil</u>
4.5 to 6.5	5.0	13.5	19.5
5.0 to 6.5	4.0	10.5	15.5
5.5 to 6.5	3.0	8.0	11.0
6.0 to 6.5	1.5	4.0	5.5
Above 6.0	Not necessary to add lime		

Pounds of Sulphur Needed to Lower Your Soil's pH

<u>Change in pH desired</u>	<u>Pounds of Sulphur per 100 square feet</u>	
	<u>Sandy Soils</u>	<u>Clay Soils</u>
8.5 to 6.5	4.5	7.0
8.0 to 6.5	3.0	4.5
7.5 to 6.5	1.0	2.0

Do not add sulphur if pH is 7.0 or below.