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## **NEWS RELEASE FROM THE OFFICE OF:**

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Soil is basic to all agricultural endeavors whether you are involved in farming, raising livestock or maintaining a home lawn or garden. The condition of the soil is important to productivity. However, soils do become less productive. Excessive soil acidity has long been recognized as one of the main reasons that soils become less productive. Many factors, natural and man-made, contribute to the creation of acidic soil conditions.

Various environmental, climatic, and cultural factors can affect formation of acid soils. The most common factors are parent material, leaching, and cultural practices.

Soil pH is a measure of hydrogen ion activity in the soil solution. The soil pH scale extends from 0 to 14; thus soil pH in the range of 6.6 to 7.3 is rated neutral. Although a decrease in soil pH from 6.0 to 5.0 does not appear significant, there is a 10-fold increase in soil acidity for every whole unit change in soil pH.

The most important benefit of liming acid soils is a reduction of the potentially toxic elements hydrogen, aluminum and manganese. Optimum nutrient uptake by most crops occurs at a soil pH near 7.0. The availability of fertilizer nutrients such as nitrogen, phosphorous and potassium generally is reduced as soil pH decreases. Fertilizer efficiency and crop performance is reduced when soil acidity is not controlled. Soil pH also affects the types, concentrations and activities of soil microorganisms. As pH drops below 5.5, the population of soil microbes changes and is reduced due to aluminum and manganese toxicity and lower nutrient availability.

All limestones are not the same and may react more or less efficiently based on the particle size and neutralizing value of the limestone material. Smaller particles have more surface area, react more rapidly to change soil pH, and thus have a higher efficiency rating. The ability of a limestone to neutralize soil acidity also depends upon its calcium carbonate equivalence or neutralizing value, which is expressed as a percentage. If a soil test indicates low magnesium, dolomitic limestone can be used to correct both the nutrient deficiency and pH.

Lime can be applied at any time. It is always recommended to have your soil tested to determine the correct amount of lime and fertilizer needed for your home lawn, garden, pasture or hay meadow.

For additional information on soil acidity and liming refer to the Gregg County Extension web page at [www.gregg-co@tamu.edu](http://www.gregg-co@tamu.edu) or contact Dennis Smith at Gregg County Extension Office by e-mail at [dg-smith@tamu.edu](mailto:dg-smith@tamu.edu) or telephone at: 903-236-8429.

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