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For Publication in *The Daily Mountain Eagle*

Most of us home gardeners, landscapers, plant enthusiasts, (or farmers for that matter) know or at least have often heard that we should lime our crops, flowers, gardens, and lawns periodically. While most of us know that we are supposed to add lime, few of us actually know why we are doing it. I have heard many reasons for liming over the years including controlling plant diseases, killing harmful insects, making fruit or vegetables sweeter, or even preventing bugs from entering buildings, houses, etc. As good as they sound, none of these are actually true!!!

There are some very good and tremendously important reasons for liming, however. Most soils in Walker County tend to have a low pH, that is to say they are acidic. In some cases, they are very acidic. Most of our plants grow best at a soil pH of 5.8 to 6.5 or so. There are a few exceptions such as azaleas, blueberries, camellias, gardenias, and a few others that prefer a very acidic soil.

For most plants, when the soil's pH falls below 6.0, they begin to have problems. Vital nutrients such as phosphorous, potassium, calcium, and magnesium are lost or become unavailable. This means that all that expensive fertilizer that we buy and put around our plants is going to waste.

The worst problem; however, with low pH soils is that certain elements such as aluminum and manganese (both of which are found in soils everywhere) become available for the plants to take up and can be toxic to the plant in large amounts. So, at low pH's our plants are getting less nutrients and more toxic materials, no wonder most of them do not lime very acidic soils.

So how do our soils get to be acidic and why do we have to keep on liming? First of all (and probably the most significant) is the type of materials our soils are made from. Walker County is a part of the Appalachian Plateau which means our soils were derived from sandstone, shale, and a few other types of rock. This being the case, our soils are naturally more acidic than soils of the limestone valley and Blackbelt regions of the state.

Soils that receive more rainfall tend to be more acidic. The water actually leaches calcium, magnesium, and other liming materials out of our soils leaving more acidic elements. The more rainfall our soils receive the

more acidic they become. This is why our Alabama soils tend to be more acidic than soils in the desert southwest for example.

Finally, the use of fertilizers tends to acidify our soils over time. While this is true of all fertilizers, it is especially true of fertilizers such as ammonium nitrate, ammonium sulfate, and many others. It is also true of many organic fertilizers including cottonseed meal.

Liming materials such as ground agricultural lime, dolomitic lime, basic slag, or even to some extent wood ashes can be used to raise your soil's pH and make the soil less acidic. Use caution if you use wood ash around living plants because it is very caustic and can damage your plants.

Lime moves very slowly through the soil, only about one inch per year. The slow movement of lime through the soil makes it very important to mix the lime with the soil by hoeing, spading, or tilling prior to planting new ornamentals or garden spots. For established plants, apply up to five pounds of ground limestone per 100 square feet of bed area per application. This is approximately equal to one ton of lime per acre. The only way to tell how much lime your soil needs for the type of plants you are growing is through a soil test. If your soil test calls for more than one ton of lime per acre, space your applications approximately six months apart and apply the five pounds per 100 square feet until you have met the recommendation.

While it is difficult to "overlime" most plants using standard agricultural or dolomitic lime, it is very easy to do with wood ash, hydrated lime or "burned" lime. I do not recommend these around living plants. Also, your acid loving plants such as azaleas and blueberries can suffer from iron deficiency if you over lime them.

### **Last call for upcoming programs**

Our 2006 Master Gardener class is scheduled to begin on Monday, February 6. The class will meet each Monday evening from 4:00 until 8:30 at the Extension Office. The cost of the program is \$75

We are also taking registration for our Master Tree Farmer program. This program is designed to help private landowners to better manage their forest and timber land. The Tree Farmer shortcourse will begin on Tuesday, February 7 and will meet each Tuesday from 6:00 p.m. until 9:00 p.m. The registration for the Master Tree Farmer Shortcourse is \$100.

If you have questions, need more information, or wish to register for either of these programs, contact the Walker County Extension Office at 205-221-3392.