



Design for Everyday Living

liming the lawn

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Nearly every home owner desires an attractive lawn because this is one feature which most enhances the appearance of the average home grounds. Healthy, attractive lawns are not an accident but the result of a regularly and carefully executed maintenance program. This applies to the soil as well as to the turf grass itself.

Turf grasses will not grow well in highly acid soils, and since most soils in West Virginia are acid by nature, well established lawns will require applications of lime. Acid conditions of soils can be brought about by the leaching out of calcium and magnesium, the alkaline constituents, from the soil; yearly applications of nitrogenous fertilizers; the use of organic materials, such as compost or peat moss, used to condition the soil or as a top dressing; and the washing of sulfur from the air by rains into the soil.

Acid soils are commonly referred to as "sour" soils, whereas alkaline soils are called "sweet". The reaction of soils is measured by the quantity of hydrogen (H) in the soil which is expressed by a unit between 1 and 14, with 7 being called neutral. In West Virginia soils, pH may vary between 4 and 7. (See Publication No. 503, PREPARING SOILS FOR ACID LOVING PLANTS for additional information.) Soils with a pH rating of less than 7.0 are acid and those with a rating greater than 7.0 are alkaline. Most lawn grasses prefer a pH of 6.5.

Acid soils are not necessarily infertile, but an indication that the supply of calcium and magnesium is low and needs replenishing. More importantly, high acidity or low pH levels may also cause other nutrients to be unavailable to plants. The greater the acidity of the soil, the greater the need for lime.

WHAT IS LIME?

"Agricultural lime" or "ground limestone" are terms used quite loosely and include all types of lime. Lime is a compound of calcium or calcium and magnesium, capable of counteracting the harmful effects of an acid soil on lawn grasses.

There are three major types of lime and each has its advantages.

1. Ground limestone and calcic limestone-Calcium Carbonate (CaCO_3)- almost pure calcium carbonate, finely ground. Ninety-five percent of all lime used in the United States is calcium carbonate because it is the most abundant and cheapest form of lime. Also, it is not caustic or disagreeable to handle like burnt or hydrated lime. It may also contain varying amounts of magnesium carbonate. Limestones containing significant amounts of magnesium carbonate are called dolomitic limestones. Dolomitic limestone contains about equal parts of magnesium and calcium carbonate.

2. Burnt lime (CaO)-quick lime, caustic lime) acts more quickly than calcium carbonate. Gloves should be worn when using burnt or hydrated lime. Only 1/2 the rate of ground limestone is needed since burnt lime is twice as effective in neutralizing.

3. Hydrated lime [Ca(OH)_2]-or slaked lime-pound for pound is about 1½ times more effective and quicker to react than ground limestone (calcium carbonate).

FUNCTIONS OF LIME

Lime is primarily a soil amendment or conditioner and not a fertilizer, as is commonly thought. Lime performs several important functions: