

SULFUR - The Forgotten Turf Nutrient

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During the years 1957 through 1962 only 10 to 13 states were listed as having a Sulfur deficiency in their soils. Today there are at least 29 states deficient in this amazing life giving element. Sulfur is essential to the healthy growth of turf as well as all plants. Here are some of Sulfur's benefits to turf: 1) Improves water penetration in soil. 2) Increases availability of iron, manganese, copper, zinc and boron to the plant. 3) Improves soil structure. 4) Builds healthy protoplasm and plant tissue to help resist drought, disease and winter damage. 5) Enhances color. 6) Promotes turf growth and density. 7) Aids the turf response when used in combination with nitrogen. 8) Helps keep alkalinity in balance. 9) Aids nitrogen release from organic matter. 10) Improves recuperation capacity.

WHY IS THERE AN INCREASED NEED FOR SULFUR NOW? Substantial amounts of sulfur used to be in the air because of coal burning industries as well as coal burning home furnances. Sulfur would be carried to the soil and plants by rain. During the '50's as much as 200 lbs. of sulfur per acre would be included in the annual rainfall in the Chicago area while the rural areas of Kentucky only received 5 or 6 lbs. of Sulfur per acre annually. Today, because of very little sulfur coal burning and environmental controls eliminating sulfur emissions the amount of sulfur returned to the soil in rainfall has been practically eliminated. Before the popularity of today's high analysis plant food, most fertilizer had a high concentration of sulfur contributed by ingredients such as ammonium sulfate, superphosphate, potassium sulfate, sul-po-mag. But because of lower costs and greater availability, higher analysis sources of nutrients are used containing little or no sulfur. As a consequence, two of the most important sources of sulfur that have been washed out of the air by rain and a normal ingredient in fertilizer have almost been eliminated. The sul-

fur present in the soil is eventually used up or leached out. The more nitrogen used, the more sulfur is needed for proper turf growth. Depleted sulfur must be replenished or severe turf damage can result.

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HOW MUCH SULFUR DOES TURF REQUIRE? Normally grass contains as much sulfur as phosphorous. The more nitrogen that is fed the more phosphorous, potash and sulfur needed. For example, if 4 lbs. of nitrogen were fed each thousand sq. ft. of turf it would require 1 lb. of phosphorous; 2 lbs. of potash and 1 lb. of sulfur. Sandy soils would require more sulfur because of leaching tendencies.

CAN SULFUR BE TOXIC TO GRASS? The major sulfur villain is sulfur dioxide usually produced by smelters. This atmospheric contamination can completely kill plants. It is rare that sulfur added to the soil will harm plants. However, in arid or poorly drained soils, high concentrations of sulfates can cause problems by making calcium unavailable.

SULFUR DEFICIENCIES. Plants deficient in sulfur have very similar symptoms to those with a nitrogen deficiency; yellowing of leaves, faint scorching of leaf tip continuously until the whole leaf withers and dies.

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