

LOUISIANA HOME LAWN SERIES

A guide to maintaining a healthy Louisiana lawn



Sulfur

Sulfur (S) is a secondary macronutrient relative to the primary macronutrients of nitrogen, phosphorus and potassium, but is still essential for plant growth. Sulfur is also applied to reduce soil pH. Understanding the role of sulfur in turfgrass growth and soil pH is important for developing a sound fertility plan for your home lawn.

Sulfur plant uptake: Sulfur is available for plant uptake in the form of SO_4^{2-} . It is important for turfgrass growth as a component of the amino acid cysteine and coenzymes used in various reactions in the plant especially related to stresses. Natural sources of sulfur can include organic matter and several mineral forms. Sulfur becomes more available from complexed sources as the soil pH becomes acidic. However, pH ranges acceptable for turfgrass growth are generally suitable for mineralization (release) of sulfur by microbes when decomposing organic matter.

Sulfur losses: Sulfur can be lost in the soil through leaching, especially in more alkaline (a pH greater than 7) and sandy-textured soils. Leaching occurs when water moves available nutrients downward through the soil where they are inaccessible to plant roots for uptake. As soil pH decreases, available sulfur complexes with iron or aluminum to form insoluble precipitates..

Sulfur deficiency: Younger turfgrass leaves will show the first signs of deficiency with yellowing leaf tips and browning leaf edges. However, sulfur is not the only essential nutrient or stress that can lead to leaves yellowing. That is why a soil test is needed to identify deficient nutrients. Also check to make sure diseases or insects are not causing leaf yellowing. Over time sulfur deficiency in turfgrass will lead to stunted growth with declines in wear and environmental stress tolerances. Sulfur deficiency can be corrected through fertilizer application. However, be cautious when applying sulfur because excessive sulfur can contribute to greater issues for plants in waterlogged soils.

When to apply: Always have your soil tested and follow the recommendations before applying any fertilizer. Sulfur is generally applied to lower soil pH or to add sulfur to sulfur-deficient soils. If elemental sulfur is being used to adjust soil pH lower, it is acceptable to apply year round. Application of some sulfur sources may cause fertilizer burn, therefore application during less stressful environmental periods can alleviate potential burn if irrigation is not available.

January	February	March	April	May	June	July	August	September	October	November	December
Turfgrass dormant			Turfgrass active growth season						Turfgrass dormant		

Fertilizer sources: Listed below are some common sources of sulfur. Release times may vary depending on product source and environmental conditions during time of application. Read manufacturer's label for more information before applying any product.

Source	Release
Ammonium sulfate	Quick
Elemental sulfur	Quick
Gypsum	Slow
Magnesium sulfate	Quick
Potassium sulfate	Quick

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