

# LOUISIANA HOME LAWN SERIES

A guide to maintaining a healthy Louisiana lawn



## Calcium & Magnesium

Calcium (Ca) and magnesium (Mg) are secondary macronutrients relative to the primary macronutrients of nitrogen, phosphorus and potassium. They may need to be applied less frequently; however, they are still essential for plant growth and function. Understanding the role and availability of calcium and magnesium is important for developing a sound fertility plan for your home lawn.

### Calcium

**Calcium plant uptake:** Calcium is available for plant uptake in the form of  $\text{Ca}^{2+}$ . It is involved in cell wall formation and cell division and is particularly important in rooting and root function. Calcium deficiencies in turfgrass are less common in finer-textured soils but do occur in highly acidic or sandy soils. Soils with higher CEC (cation exchange capacity) are able to retain calcium for plant uptake. Soils with high concentrations of sodium require the addition of calcium because sodium affects calcium availability for plant uptake.

**Calcium deficiency:** Visual symptoms of calcium deficiency include deformed leaf formation, red to brown leaf coloring, leaf tip discoloration and stunted, discolored rooting. Calcium deficiency is not very common in most soils, but where present, it can be managed by altering soil pH or adding supplemental fertilizers or amendments.

**When to apply:** Always have your soil tested and follow the recommendations before applying fertilizer. Like most macronutrients, calcium should be applied when the turfgrass is actively growing.

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 calcium. 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
Calcium carbonate (agricultural limestone)	Varies
Calcium nitrate	Quick
Gypsum	Slow
Magnesium/calcium carbonate (dolomitic limestone)	Slow

# Magnesium

**Magnesium plant uptake:** Magnesium is available for plant uptake in the form of  $Mg^{2+}$ . Magnesium is important to turfgrass because it is needed for production of chlorophyll, which is important for photosynthesis. Deficiencies can occur in acidic soils or soils with excess calcium, potassium or sodium and in sandy soils. High calcium fertility can lead to magnesium deficiency due to leaching. Leaching occurs when water moves nutrients downward through the soil, where it is inaccessible for root uptake.

**Magnesium deficiency:** Visual symptoms of magnesium deficiency include yellowing of older leaves and leaf edges turning a dark color. Over time turfgrass growth will become stunted and negatively affect root growth. Relative to calcium, magnesium deficiencies are more common. Magnesium deficiency can be corrected by adjusting soil pH or through fertilizer applications.

**When to apply:** Always have your soil tested and follow the recommendations before applying fertilizer. Magnesium should be applied when the turfgrass is actively growing.

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 magnesium. 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
Magnesium sulfate (Epsom salt)	Slow
Magnesium/calcium carbonate (dolomitic limestone)	Slow

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Pub. 3624-UU (Online Only) 6/19

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