

Gypsum for calcium

I am somewhat familiar with gypsum, and its use as a deicing material. A local lawn care company is applying the gypsum over the entire lawn. Any idea why?

—CANADA

Gypsum—or calcium sulfate—is recommended when large amounts of calcium are desired without an increase in pH. Although gypsum releases a significant amount of calcium, the pH of the soil solution may actually be reduced slightly because of the release of sulfate.

The most common use of gypsum in the U.S. is the treatment of sodic soils which often result from contamination with salt water or deicing salts containing sodium. Sodium in low concentrations is toxic to plants and sodium ions disperse the mineral colloids, which then develop a tight, impervious soil structure. Calcium from gypsum replaces sodium on the exchange complex allowing excess sodium to be leached from the soil.

This replacement serves to flocculate the soil and increase its permeability.

The soil structuring ability of gypsum on sodic soils has led to the belief that gypsum will improve the structure of soils in general. However, gypsum has this effect only in soils deficient in calcium, particularly those with excess sodium.

Gypsum is recommended to minimize injury from deicing salt applications near turfgrass, shrubs and trees. If you are considering this, aerify the lawn

and then apply gypsum. This should help move the product deep down into the aeration holes and provide better results. Also, consider pre- and post-watering the areas to improve the performance.

Trees and flooding: a preview

Our June issue features an article by Drs. Rao, Beth Buchanan and C.J. Luley on the effects of flooding on landscape trees. For those of you currently experiencing long periods of standing water, we're including a preview of the article's main points. —ed.

Trees may be uprooted by water current, blown over after the soil is saturated, or be chronically weakened by the event.

Eventually, they will be predisposed to secondary factors such as insects and disease. Factors that will determine the severity of the flood damage include:

Season: flooding is less detrimental to woody plants during the dormant season than during the growing season. If flood waters recede before the growing season, the water might actually stimulate growth.

Duration of standing water: Most trees can withstand only one to four months of continuous inundation of the root crown.

Water level, movement and temperature: Tree mortality is higher when exposed to standing water as compared to saturated soils. Flowing water usually has higher oxygen content. Cold water holds more dis-

solved oxygen.

Sedimentation and scouring: If silt and sand deposits of three inches or more cover the tree roots, the roots may be deprived of oxygen. Trees that have evolved on flood plains like cottonwood, bald cypress, tupelo, and black willow can withstand moderate siltation.

Tree species and tree age: Very tolerant species are able to survive deep, prolonged flooding for more than one year. They include bald cypress, black willow, boxelder, and eastern cottonwood. Tolerant species are able to survive deep flooding for one growing season.

Somewhat tolerant trees survive flooding or saturated soils for 30 consecutive days during the growing season.

The somewhat tolerant species include American elm, American holly, honey locust, red elm, and water oak.

Intolerant species can't tolerate more than a few days of flooding during the growing season without significant mortality. They include, bitternut hickory, black cherry, blackjack oak, black walnut, and flowering dogwood. **LM**

Correction: the insect control article on page 28 of our April issue listed *Conserve SC*, a product soon to be available from DowElanco, as being used at a rate of .08 lb. to 4 lb. of active ingredient per acre. The correct rate is .08 to .4 lb. ai/acre. The product is expected to be available by mid-1997 for use against sod webworms, black cutworms and armyworms. —ed.



BALAKRISHNA RAO

Manager of Research and
Technical Development
for the Davey Tree Co.
Kent, Ohio

SEND YOUR QUESTIONS TO:

"Ask the Expert"
Landscape Management
7500 Old Oak Blvd.
Cleveland, OH 44130

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