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Deicing Salts and Your Landscape

Public safety and liability issues are top of mind amongst home owner associations and commercial properties. Certainly there is significant demand for safe and clear sidewalks and driveways throughout multifamily sites and office buildings.

It has been known for a long time that deicing materials degrade concrete surfaces and accelerate rust on steel products. **What about your trees and shrubs?** Yes, the use of salt does cause landscape problems. These problems are especially acute with streetscapes where most of the surface is paved and trees growing in confined sites.

How does salt affect plant material?

1. Just like in a human being, the intake of salty foods makes us thirsty. Salts will draw the water out of cells and make the plant appear that it is drought stressed. This damage can happen in two ways: The first is through the soil where the soils become loaded with salts interfering with water uptake. The second is through the air, as salt spray along roadways where the brine solution will become an aerosol and spray on plant foliage.
2. As salt levels increase, this can also change soil structure. Soil structure changes cause the soil particles to disperse and compact impeding air and water movement where the roots grow.

What does salt damage look like?

1. Damage begins with marginal browning on the leaves. As salts accumulate this browning will increase causing the entire leaf to burn. This symptom is similar on conifers as the tips of the needles will brown. As salts increase, more needles will turn brown. Conifers are more sensitive to salts than leafy (deciduous) plants.
2. Drought coupled with hot dry summer weather will exacerbate symptoms.

How can you manage salts in the landscape?

1. Increase the amount of sand and gravel in salt mix.
2. Exclude salt runoff. Build planters higher than the sidewalk grade decreasing the runoff into the planter.
3. Use solid steel plates over sidewalk grade grates to exclude or redirect the brine runoff.
4. If you suspect that there is salt loading in the soil the only way to treat this is to have the soil tested by an independent laboratory or Colorado State University.
 - (www.ext.colostate.edu) Site search - Magnesium Chloride Toxicity in Trees.

From the results, a recommendation may be made including adding water to flush the salts out and / or the use of calcium sulfate to release the salt from the soil.