

Salt damage to plants

Slick sidewalks and roads are hazardous. Deicers can help, because they lower the freezing point of water. When used correctly, deicers don't completely melt snow or ice, but make removal easier. Deicers melt through ice and snow to the hard surface, then spread out underneath. This undercuts and loosens the snow, so shoveling and plowing can be done.

Improper use of deicing agents may cause injury to plants. Excess salts from deicers impede uptake of nutrients. Plants cannot absorb sufficient water even when moisture is plentiful. Symptoms of salt injury include desiccation, stunting and dieback. Leaf tips and margins appear burned, and root systems may be injured.

To protect plants from salt damage, cover them with burlap or saran cloth to decrease exposure to salty slush. Accumulation of salt in the soil over several years may cause the progressive decline and eventual death of plants. Where deicing agents are used, flushing the soil with large amounts of water after the last freeze may minimize burn potential. In spring or during a thaw, remove as much snow as possible from the root zone of trees and shrubs.

Five chemicals are commonly used as deicers. They can be used alone but are often blended together or combined with other materials to enhance their performance. Calcium chloride produces heat and has a lower melting point than some other salts. Sodium chloride is relatively inexpensive, but it can burn plants and corrode metal and concrete. Potassium chloride, a naturally-occurring material, is also used as a fertilizer (muriate of potash), but its high salt index has the potential to burn foliage and inhibit rooting. Urea, synthesized from ammonia and carbon dioxide, is used primarily as a fertilizer and has a lower burn potential than potassium chloride. Calcium magnesium acetate (CMA) is a new salt-free melting agent made from dolomitic limestone and acetic acid (the principal compound of vinegar). CMA is being researched as an alternative to salts for environmentally sensitive areas. Studies have shown the material has little impact on plants and animals.

Different plant species have different tolerance to deicers. All deicers can cause browning or die-back if not used properly. As with any chemical, always read and follow label recommendations. Use only enough to break the bond between the snow/ice and pavement. Take particular care to plow or shovel treated snow and ice away from sensitive vegetation.