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Alternative Ice Melters

Symptoms of Salt Injury

During spring and early summer, many landscape plants show injury from salts that were applied to streets and sidewalks during the previous winter. Concentrated salts in soil over several years may cause progressive decline and eventual death of plantings. Symptoms of salt injury include: browning of tips or entire needles of evergreens, needle drop, sparse leaf production on many types of plants in spring, brown leaf margins on broadleaved plants throughout the summer, and dead plants. Lawn grasses may turn brown or die back, this usually occurs in a strip close to the road or a walkway.

Reducing Salt Injury

Salt injury may be reduced in a number of ways:

- Limit salt applications to high risk areas; strictly limit applications after March 1.
- Prevent ice build-up. Apply ice melters in a thin, even layer before accumulation begins.
- Use the least amount of ice melt material possible. Keep surfaces as dry as possible.
- Use salt alternatives such as coarse sand, sawdust, or plain clay cat litter for traction (messy if tracked indoors).
- Use a barrier such as snow fencing to reduce salt spray and runoff; mulch around plants to absorb salts.
- Heavy spring rains usually flush salt from soil. If there has been inadequate rainfall, you may flush salt from soil with a hose. Do this as early in spring as possible (during a thaw) – once the plants show symptoms, it is too late.
- Use salt tolerant plants when possible: Contact Cornell Cooperative Extension for a list of tolerant plants.

A few light applications of salt near grass and flower beds will usually not harm the plants, especially if the salt is applied in mid-winter when the plants are dormant. Salt applications to plants that are beginning to wake up from winter dormancy are much more damaging.

Salts commonly used for ice melting are sodium chloride (table salt or rock salt) and calcium chloride. Sodium chloride carries a risk to burn if more than ½ lb. per square yard is applied to an area where it can seep into root zones. Calcium chloride is less harmful than sodium chloride, but may still cause plant injury. Less damaging than pure salt is a mixture of sand, sawdust or plain clay kitty litter mixed with calcium chloride. These mixtures manage sidewalk ice and snow effectively and are fairly long-lasting, but are messy when tracked indoors. Mix one part calcium chloride to three parts sand, sawdust or litter.

Alternatives to Using Salt

Salt alternatives each have their pros and cons. Magnesium chloride is fast acting and less corrosive to pavement than calcium or sodium chloride, but may cause plant injury and is more costly than rock salt. Magnesium chloride must be stored in a dry area. Calcium magnesium acetate is biodegradable and will not harm the environment, but it is very expensive. Do not use fertilizer – it is ineffective and likely to run off site where it can pollute our water.

Sources:

University of Delaware Cooperation Extension, New Castle County. Ice Melt Chemicals Pose Risks to the Environment, July 23, 2003 http://ag.udel.edu/ncc/jm-icemelt.html
University of Wisconsin Publication A2970. Salt Injury to Landscape Plants, 1999. http://cecommerce.uwex.edu/pdf/A2970.PDF

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