

News Column for use 12/14/2020
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River Valley Extension District
12/10/2020

Choosing a Plant Safe Ice Melt

After an icy winter, have you ever noticed the plants around your walkways or driveways looking burnt or patches dying out? If so, it is time to look at the deicer you are using and find a more plant safe material to use. Keep in mind deicers can damage concrete surfaces as well as plants and grass. Five main materials are used as chemical deicers: calcium chloride, sodium chloride, potassium chloride, urea, and calcium magnesium acetate.

Calcium chloride is a traditional ice-melting product. Though it will melt ice to approximately -25 degrees F, it will form a slippery/slimy surface on concrete and other hard surfaces. Plants are not likely to be harmed unless excessive amounts are used.

Rock salt is sodium chloride and is the least expensive material available. It is effective to approximately 12 degrees F but can damage soils, plants, and metals.

Potassium chloride can cause serious plant injury when washed or splashed on foliage. It is effective to approximately 25 degrees F. Both calcium chloride and potassium chloride can damage the roots of plants.

Urea is a fertilizer that is sometimes used to melt ice. Though it is only about 10% as corrosive as sodium chloride, it can contaminate ground and surface water with nitrates. Urea is effective to approximately 21 degrees F.

Calcium magnesium acetate (CMA), a newer product, is made from dolomitic limestone and acetic acid (the principal compound of vinegar). CMA works differently than the other materials in that it does not form a brine like salt but rather helps prevent snow particles from sticking to each other or the road surface. It has little effect on plant growth or concrete surfaces and is effective to approximately 20 degrees F.

Limiting amounts and usage of these products will decrease the chance of injury to plants. Problems can occur when they are used excessively and there is no rainfall to wash the material away from the area. When applying deicers use them in moderation. Do not over-apply to make sure all the ice and snow melts away. These products are meant to help break up the ice so it can be removed, not dissolve it completely. When using chemical deicers remember to use them in moderation to protect your concrete and your plants. If you have any questions feel free to contact Kelsey in the Washington office by calling 785-325-2121 or emailing khatesohl@ksu.edu.