

Post Rock Answers

By Cassie Thiessen December 29, 2023

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Protecting Your Plants from Winter Hazards

Kansas weather can be unpredictable. We face extremes of high temperatures, low temperatures and often drought conditions. Our plants are put to the test to survive these conditions. However, there are many ways we can help them out this time of year.

When picking an ice melt it is important to know what you are applying, because they are not created equally. You may have noticed in past winters that the plants around your walkways or driveways look dried out and patchy. This is probably due to applying too much ice melt or an ice melt that was harmful to plants.

There are five main materials that are used as chemical deicers; calcium chloride, sodium chloride, potassium chloride, urea, and calcium magnesium acetate. Calcium chloride is the 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.

Sodium chloride is also known as rock or table salt and is the least expensive material available, but can damage soils, plants, and metals. It is effective to approximately 12 degrees F or higher. This means when temperatures get lower than 12 degrees F, as they often do in Kansas, sodium chloride will not be able to do its job. Potassium chloride can cause serious plant injury when washed or splashed on foliage. It is effective to approximately 25 degrees F, it can also cause damage to plant roots.

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.

Limited use of any of these products should cause little injury to plants. Problems accumulate when they are used excessively and there is not adequate rainfall to wash or leach the material from the area. Since limited use is recommended it is best to remove the ice and snow by hand when possible. Resist the temptation to over apply just to make sure the ice and snow melts. Keep in mind this can damage concrete surfaces as well as the plants and grass growing along the walks and driveways. These problems are normally latent and do not show up until spring or summer. If you have any questions about deicers stop by your local extension office or give us a call.

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Cassie may be contacted at cchiessen@ksu.edu or by calling Beloit (785-738-3597).