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# SURVEY BULLETIN



## Winter Drying Damage Advisory

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The unusual weather conditions we are experiencing this winter could be especially damaging to evergreen plants. Winter injury, also known as winter drying, normally is not a plant reaction to cold temperatures. Rather, plants become active on warm sunny days and require water for their leaves to transpire. If the soil around the roots is frozen, the vital water is not available and the leaves or needles wilt and die. If you have ever seen evergreens in the spring that have brown, dead needles above what was probably the snow level, then you have probably observed winter drying injury. Large trees, say those over 3 metres tall, have deeper roots and usually are not damaged.

In northern Ontario, the potential for winter drying injury this year is intense. Because of the light snow cover, soil is frozen to a deeper level than normal, and plants normally covered by snow are exposed. Data from the Atmospheric Environment Service, Environment Canada, indicate that snow depths for northern Ontario are less than half the normal for this time of year. Also, the amount of sunlight received in January and February was well above normal. Sunny weather seems to be the pattern. A warm sunny period before the soil has thawed around plant roots is almost a certainty. While opinions vary regarding what is typical weather, southern Ontario conditions this year are not as severe as those in the north.

What can be done to protect against winter drying? If you have mulched the soil and provided foliar protection by shading or wrapping with material similar to burlap, your efforts will pay big dividends this year. It is not too late to protect foliage, and in a sense, the job will be easier because there isn't much snow. This protection not only reduces the temperature around foliage; it also lowers foliar activity. Stomata, the pores through which water vapor is lost, tend to remain closed. This reduces drying and plants are less likely to be injured. There are also sprays, available at most garden supply stores, that have been reported to provide protection against winter drying. These materials are antitranspirants, also known as antidesiccants. They have been developed as protectants against wilting during transplanting. Most are a form of leaf coating that allows tissues to breathe but prevents water loss. The theory is sound. If you subscribe to a "what have I got to lose?" philosophy, you could profit by spraying your evergreens.

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GREAT LAKES FOREST RESEARCH CENTRE
Box 490 • Sault Ste. Marie Ontario