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ABSTRACTS

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Any chemical has the potential for tree injury if it is applied improperly. Chemical injury can be caused by a wide range of materials, and the list grows each year. However, most injury to trees occurs from deicing compounds, pesticides, herbicides, underground gas, and miscellaneous chemical spills. Sodium and chlorine reach trees by run-off from melted ice and snow and by spray splashed from passing vehicles. Melt run-off enters the root zone and makes it difficult for roots to draw water and essential nutrients from soil. Some trees take up the sodium and chlorine in toxic amounts, injuring leaves and twigs. Three major problems with pesticide use around trees commonly occur: 1) in compatibility of mixtures, 2) intolerance of materials, and 3) unfavorable environmental conditions. Herbicides are often harmful when used improperly or carelessly. Two types of damage around trees are common: 1) damage to nontarget plants, and 2) injury from mixtures of herbicides and fertilizers. Natural gas displaces oxygen in the soil and favors the growth of anaerobic bacteria, which further reduce the oxygen level. As the level drops, the roots become starved for oxygen.

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Currently there are five readily available registered insecticides for homeowners to use against this insect. With an array to choose from, however, homeowners wishing to control these caterpillars are often in a quandary as to which insecticide to use. I have tested all five pesticides to determine their efficacy. Caterpillars caused 72% defoliation on trees sprayed only with water. Defoliation was 5% on trees sprayed with Sevin and methoxychlor, 10% on trees treated with a combination of methoxychlor and malathion, 13% on trees sprays with Orthene, 18% on trees sprayed with Dipel, and 43% on trees sprayed with Imidan. Since most homeowners would find 20% or less defoliation an acceptable level, four of the five insecticides tested and the one combination of insecticides provided that level of protection.