Winter Drying
Identification and Management

THE PROBLEM

Winter drying, winter injury and winterkill are synonymous terms applied to a foliage disorder common on evergreens in northerly climates. Winter drying typically occurs on warm, windy days following a period of cold (subfreezing) weather. Under these conditions, moisture loss through the foliage is greatly accelerated, while replacement of the transpired water is restricted because the soil is either frozen or too cold to permit water absorption throughout the roots, desiccation and death of the foliage results. In severe instances, buds may also be affected and death of twigs and entire branches may occur.

Shallow-rooted evergreens, which characteristically retain their lower branches, are very sensitive to winter drying. Recently transplanted evergreens are particularly susceptible to this disorder. The incidence of winter drying is greatest on poorly drained sites and in open, unprotected areas, which are subject to full sun and drying winds.

SYMPTOMS

Symptoms of winter drying typically become evident in the spring after the resumption of growth. On narrow-leaved species, symptoms usually begin as a browning of the tips of the affected foliage, while the browning begins at the tips and along the margins of broad-leaved species. Where buds have been killed, twig and branch dieback is also evident. Symptoms of winter drying are generally most pronounced on the windward side of the plant or the side, which receives the greatest amount of sun, usually, the south or southwest side.

CONTROL

Judicious selection of plant species and planting sites is essential in preventing winter drying. Susceptible evergreens should not be planted on poorly drained sites or open, windswept areas.

Maintaining the vigor of ornamentals through fertilization, pruning and watering during dry periods is helpful in preventing this disorder. Ensuring that evergreens are well watered in late fall is particularly important. Heavy mulches placed around susceptible species retard soil moisture loss as well as restrict soil freezing.

Windbreaks either temporarily constructed with burlap or permanently supplied by living trees and shrubs will reduce the effects of drying winds. Application of anti-transpirants such as Wilt-Pruf will also decrease the drying effects of wind and sun by restricting transpirational moisture loss.

Plants damaged by winter injury should have the dead twigs and branches removed in the spring. Fertilization of affected plants is also important for restoration of their vigor.