# **Movement of Fertilizer Nutrients and Pesticides**

### (Continued from Page 17)

1991, analyses of water samples will continue. Data analyses, interpretation and preparation of the final report will also take place.

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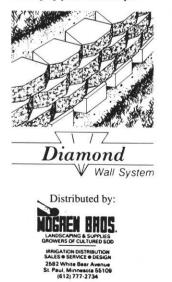
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# Drought/Winter/Stress Evident in the Landscape

## By Deborah Brown Extension Horticulturist Minnesota Extension Service

The fall of '89 and the winter of '89'90 have combined with the past two years' drought to leave us a legacy of injury, dieback and outright death of plants in the landscape.

The first hint that something was amiss was the large number of people calling the University to complain that they had planted daffodils last autumn (sometimes as many as 500!) but they had nothing to show for their efforts this spring. When told to dig in the garden where they had planted them, all they found were the soft, rotted remnants of those once-firm bulbs that had been so full of promise last September.

Next were calls and samples of arborvitae from throughout the state. These evergreens looked fine, for the most part, all winter long, but as soon as the weather started to become warmer and windy, the exposed south or west side of each turned yellow, then brown and brittle. In most cases, they'll have to be replaced.

Now we're seeing a trend of calls about trees that have leafed out slowly, sporadically, or not at all. Sometimes it is the upper 1/4th of the tree that has died back. In others, only the lower 1/4th remains alive. Shrub roses that have been perfectly hardy for years died down to the base, where tiny new shoots are just coming out. Other trees and shrubs have leafed out, but are drying and dying back.

In an attempt to aid many of these plants that look so ragged, people want to fertilize them. Unfortunately, this just adds to the stress they're experiencing by giving them a push to send out new growth at a time when they haven't even the ability to pop out normal spring growth. All people can do is prune out dead, brittle growth and water regularly once the weather turns hot and dry. Some plants will come back; others will have to be removed and replaced.

# Watering Evergreens Essential

By Deborah Brown Extension Horticulturist Minnesota Extension Service

So many evergreen shrubs and trees were damaged by last year's unfavorable weather—little autumn rainfall, extreme cold in December without benefit of snow-cover on the ground and the drying effects of sun and wind. They looked green early in the spring, but turned brown, yellow or orange rapidly, once temperatures began to climb.

There's no way to guarantee your evergreens will be okay this winter, but regular watering throughout the growing season can insure that they don't go into winter under moisturestressed conditions. Several inches of woodchip mulch laid beneath each plant also helps stem moisture loss through evaporation and holds off the date at which the soil freezes, to a point a little later in the season.

Unless it's dreadfully hot, a good soaking every seven to ten days should be adequate. Then as weather cools in autumn, that interval can be stretched to two weeks or more, depending on rainfall. Never water evergreens if the soil is already moist. Unless they're planted in sandy soil, you run the risk of rotting their roots.

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