

Freeze Injury to Woody Ornamentals

Alan Windham, Professor, Plant Pathology

The recent Easter freeze has caused more damage than I can remember in recent years. During the Winter of 2007, a combination of record dry weather and a very cold February after a relatively mild Dec and Jan had already caused damage to recently planted arborvitae and cypress and established Japanese holly (Figure 1). Damage from extreme lows in the mid-teens to low 20's over the Easter weekend has killed new growth that developed during recent warm weather.



Figure 1

Many plants that had produced young shoots were damaged. Normally, hardy plants such as nandina, mahonia, crape myrtle and viburnum were damaged; some severely. New growth was also killed on plants such as Foster and blue holly. Some of the hardest damage to estimate is on Japanese maple (Figure 2). It's clear that foliage is a total loss on many of these plants, but how much damage is there to twigs, branches and even the trunk of these beautiful trees? To use a cliché, only with time will we know. Flower buds on azalea have been killed on many cultivars; also, some of the damage remains undiagnosed as foliage looks healthy on azalea but if you look at many of the stems, the bark has split and pulled away from many stems (Figure 3). These shoots will die in the next weeks or as late as early summer, long after the initial damage.



Figure 2

So the bottom line is: What should be done? In most cases there is no need to rush and prune away damaged shoots or branches. Wait until the extent of the damage is clear, then prune away dead shoots and branches. In many cases, you can wait until new growth appears and prune away dead shoots. If conditions remain dry, irrigate plants but withhold fertilization. In some cases plants will need to be replaced as all above ground plant parts have been killed.



Figure 3

The damage from this freeze may be unprecedented, at least in recent history. The damage that we are seeing in landscapes is not the result of poor care by our grounds maintenance professionals or do-it-yourself gardeners. This damage was caused by warmer than normal temperatures (80's) followed by a drop of almost 60 degrees F in some locations over a 48-72hr period over Easter weekend.