SNOW DAMAGE

Snow storms during the past few weeks have deposited large amounts of snow over wide areas in the eastern part of the United States. Some of this has been very wet snow, which, when it falls on trees and shrubs, and freezes, is very heavy and causes a great deal of bending and breaking of branches. In the Boston area, this condition is serious in many gardens because there has not been a thawing trend, and the snow and ice are still on the branches of many plants in large amounts. There is still opportunity for additional storms to bring more of the same.

The branches of some trees and shrubs will withstand a great amount of bending and still not break. The tendency is for the Gray Birch (Betula populifolia) to take heavy snows without serious injury. Plants 20' tall have been bent to the ground in heavy snow and ice storms and still recovered without breaking.

On the other hand, there are some weak-wooded trees that are among the first to break up in a heavy wet snow, among these being the Douglas-fir (Pseudotsuga menziesii). This tree normally grows with wide-spreading, sometimes horizontal branches, and older trees have branches that are just not strong enough to hold the weight of a heavy wet snowfall. The Canada Hemlock seems to be pliable enough so that the branches do not break up nearly as readily as do those of the Douglas-fir. During the past few weeks this has been shown time and again when these two trees were growing side by side and subject to the same amounts of snow and wind.

Willows, Red and Silver Maples and sometimes lindens will be among the first trees to show breakage. This is to be expected because these are notoriously weak-wooded trees. In the Arnold Arboretum a few of the dogwoods (Cornus florida) have been broken by the past storms. These grow with a horizontal branching habit and if the growth has been slow, that is, if side branches are close together as they frequently are, a heavy deposit of wet snow will not sift through but will build up on the branches and break them.
During a storm with heavy wet snow that is starting to weigh down the branches it is advisable to knock it off gently. Certainly every opportunity should be taken after the snow has stopped falling to do this, before it freezes to ice. Once it freezes to ice and increased winds begin to blow, damage can be serious. One should take a bamboo pole, broom or rake and gently knock or pull the snow off the laden branches. Care should be taken not to pull down on them hard — sometimes this is just enough additional weight to cause them to break. There is always the danger that in shaking off the snow, additional branches will be broken by the individual who is in a hurry and does not do the job carefully. This should be guarded against.

If it is an ice storm, with rain water freezing on the limbs immediately, there is nothing that can be done to prevent breakage. In fact, one can do more harm than good in trying to knock ice off limbs of trees and shrubs. But with snow, before it freezes into ice, one can usually save a great many branches from breaking by carefully knocking it off.

Once branches on shrubs have been bent to the ground and become covered with much snow, there is probably not much to be done especially if the branches have been frozen into the snow on the ground. Trying to alleviate this situation usually causes more damage than if the plants were let alone.

It is advisable to assess the problem carefully. If a small Weeping Hemlock is loaded with snow to such an extent that the branches may break, it certainly is better to spend time and effort on that plant than a lilac, the branches of which can break off and be readily and quickly replaced by other branches in a season or two. An important branch on a Weeping Hemlock may be irreplaceable. The Yew hedge or the Japanese Barberry or Privet hedge can easily grow new branches if broken. The rare tree like a *Franklinia alatamaha* or *Albizia julibrissin rosea* should be given every immediate attention.

One should take note of the weather, and the first day when there is a good thawing period, additional snow might be knocked off to prevent accumulation on the branches from another storm. This is being written after two heavy snow-storms with many branches still heavily weighted with snow, and unfortunately another heavy storm is being forecast at the moment. There has been no thaw since the wet snow froze to ice on most of the plants; hence, there is little that can be done at the moment to prevent additional breakage in a wet snow. One can only hope that the snow that does come will be powdery and "dry", and will create no damage as far as weighting down branches is concerned.

There is a great deal to be learned about pruning by carefully studying the breaks that have occurred during heavy wet snows. Invariably some of the breaks will show weak crotches, dead or diseased wood that has weakened a branch; and other breaks may be the result of poor pruning practices. Steps should be taken to repair such conditions on other plants and thus alleviate further damage.
PLATE I

Left: Canada Hemlock with heavy snow but branches did not break. The snow should have been knocked off. Right: Douglas-fir showing wide-spread branches that were not strong enough to support weight of snow. This is growing within 50 feet of the Canada Hemlock.
PRUNING

As soon as all danger from additional snow and ice storms has passed, one can begin to collect the broken branches and saw off the remaining stubs. This should be done carefully and thoroughly, so that no stubs are left on trunks or large branches. Many of the breaks are not "clean"; that is, a branch will break half way through and be left hanging. There is nothing that can be done with such a branch except to remove it, but first it should be cut (not pulled) from the stub, then the stub sawed off flush with the trunk or larger branch. A curved pruning saw is excellent for this with the first cut made only part way through on the under side of the stub, to prevent the bark from peeling off as it might if only one cut was made from the top.

Some plants with weak crotches will undoubtedly split. If the split is not too long — possibly up to a foot — these might be repaired, especially if the branch is thick enough to take bolts with nuts countersunk in the trunk at both ends. In no case should such a break be "repaired" by binding the two pieces together with wire as this strangles the branch and markedly restrains the normal up and down movement of plant nutrients in the trunk.

When main stems of vigorous shrubs like lilacs, mock-oranges, privets and honeysuckles are broken, the stubs remaining might just as well be cut off a few inches above the ground in an attempt to force other branches to grow from the bottom.

It is advisable to paint all cuts an inch or two in diameter and larger, with some good asphaltum tree paint, thus preventing disease spores from gaining entrance to the growing tissue.

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