

## What to do with Storm Damaged Trees

There are five main types of wind damage to trees: 1) blow-over, 2) stem failure, 3) crown twist, 4) root failure, and 5) branch failure according to Extension Tree Specialists Melvin R. Koelling and Russell P. Kidd, Department of Forestry Michigan State University.

Minor damage with only the smallest braches of the tree being injured usually result in little or no permanent damage to the tree. All that is required is clean up of the broken twigs and branches and perhaps some light pruning to restore a pleasing shape.

Severe damage consisting of large broken branches, split crotches and removal of bark, and splitting or splintering of the trunk can also occur. When a tree is severely damaged, the first question that must be answered is: "Is the condition of the tree such to make keeping it worthwhile?" Homeowners have to ask themselves when repairs are made, will the tree still be attractive and enhance the value of the property.

Assuming the decision has been made to repair the tree, it is almost always best to have the work performed by a competent professional. Once it has been determined that a tree can be salvaged there are certain procedures that one should follow.

- Assess the damage. Some branches may be broken and hanging in the tree, others may be partially attached, and in some cases, entire forks may be split.
- Plan which branches must be removed and where the removal cut should be made.
- Remove all damaged branches at the nearest lateral branch, bud, or main stem and not in the middle of a branch.

### Branches

Branches smaller than three inches in diameter can be removed using pruning shears or a pole-pruner. Sharp, properly aligned shears or pruners will make a clean cut and do not crush or tear bark tissue. Use a sharp saw to remove larger branches. If a power saw is used, a safety rope and harness are essential. The most efficient and least damaging way to remove large branches without causing further damage to the tree is the three-cut procedure. The first cut is the undercut. From the underside, saw approximately 12 to 18 inches from the main stem or branch to which the damage limb is attached. Cut into the branch about 1 to 1½ inches deep and withdraw the saw blade before it begins to bind. For the second cut, or over cut, saw approximately two to three inches beyond the undercut and continue until the branch is removed. The final cut is made to remove the remaining stub. Thick and heavy branches should be removed flush to the collar at the base of the branch, not flush with the trunk. The collar is an area of tissue containing a chemically protective zone. When the natural decay of a dead branch, meets the internal protected zone, the branch falls away at this point, leaving a small zone of decayed wood within the collar. The decay is walled off in the collar. This is the natural shedding process when all goes according to nature's plan. When the collar is removed, the protective zone is removed, causing a serious trunk wound. Wood-decay fungi can then easily infect the trunk. Careless pruning can result in death of the entire branch or in excessive sprouting and the eventual development of more problems later on, since these sprouts are generally short lived and weakly attached.

## Torn Bark

In some instances the tearing of bark on large limbs or the main trunk occurs. Carefully trim away all loose bark back to the area where it is solidly attached. Do not cut too deeply into the wood of the tree. This cutting of the bark is referred to as a bark tracing. If possible, all bark wounds should be cut into an elliptical shape, being careful to keep the trace as narrow as possible. This may be difficult on large areas. However, trimming the bark in this manner will encourage rapid healing with minimal wood decay.

## Split Forks

Some forks and main branches that are split apart or partially broken may be repaired without removing one or both branches. This type of work is usually beyond the capability of most homeowners unless they have experienced assistance. If the break is nearly even, it is possible to draw the split portions back together and secure them with a large diameter steel bolt and threaded screw rod placed through the split section. The proper procedure for repair begins with drawing the split together using a small block and tackle or winch. Place this 6 to 8 feet or more above the split to obtain maximum leverage. Drill holes through both halves of the split in which the bolt or rod is inserted. With long split areas, 2 or more bolts may be necessary. In addition to the bolts, it often helps to install a steel cable between the two main branches of the split fork several feet above the split. Use lag screws to attach the cable to each branch. Do not wrap the cable around the branch or it may eventually girdle it. This cable system helps hold the crotch together, thus reducing the chance of further breakage.

## Wound Treatments

Recent research has shown that dressings and paints probably do not increase the rate of healing. Pruning paint may, in fact, slow down the healing process. In general, wound dressings are not recommended or necessary, with the exception of oak trees in areas of Texas where the oak wilt disease is prevalent, wound dressing should be used to help prevent the bark beetle from spreading the disease through the pruned surface on a tree.

## Uprooted trees

Trees may be uprooted as a result of severe storms. If the tree is large, it cannot be saved and must be removed. For some smaller trees it may be possible to straighten the tree and brace it using guy wires or cables. Some type of power lift or equipment is usually necessary to pull the tree upright. Do not attempt this procedure unless 1/3 to 1/2 of the roots are still in the soil and the remaining exposed roots are relatively compact and undisturbed.

Before the tree is pulled upright, remove some soil from beneath the root mass so the roots will be placed below the existing soil grade level. Once the tree is back in the upright position, fill in soil as needed. Water the tree to help firm the soil and remove air pockets. Attach two or three guy lines to the trunk as is often done for newly transplanted trees, at a point approximately two-thirds of the height of the tree and to anchors placed some 12 to 15 feet from the base of the tree to hold the tree in place.

Melvin R. Koelling and Russell P. Kidd, Department of Forestry Michigan State University have put together one of the best outlines for mitigating damage from high winds like we saw on

Friday. It is available at <http://essmextension.tamu.edu/treecarekit/index.php/after-the-storm/tree-damage-and-hazard-assessment/repairing-storm-damaged-trees/>.