



Hurricanes & Trees

Helpful Steps to Minimize Storm Damage to Trees

There is no way, except for complete enclosure, to protect trees from storm damage. Trees are not adapted to worst-case storms but only to our average wind climate. Following are several things to minimize the main types of storm damage.

1. Let trees adjust to the wind

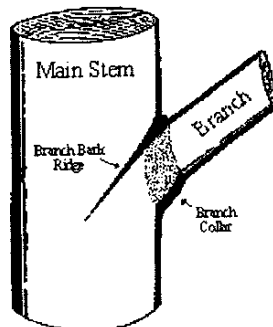
environment. It has always been thought that newly planted trees had to be tightly staked and guyed in place. Research has shown that this practice **prevents** the tree from naturally adapting to wind loading. If trees need to be staked, stake and tie the tree loosely where the stem can move and bend in the wind. Continue to loosen the ties so no girdling will take place. The tree will continue to grow and adjust to its new environment.

2. Practice proper pruning techniques.

Branches should be cut before they be come larger than **one-inch** in diameter on **young trees**. The branch collar should **not** be damaged when pruning.

(Figure 1)

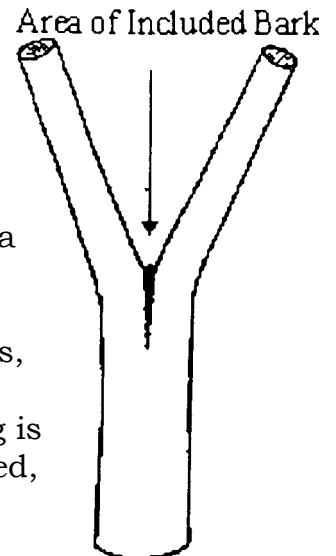
Prune and thin trees to give them a lower center of gravity and to lessen leaf mass.



3. Eliminate Co-dominant branches.

Co-dominant branches have an area of included bark which is subject to split and cracks. Prune forked branches and branches that arise opposite each other on the stem **early** in the tree's life. Cut one side off early to prevent losing the whole tree later if it splits in a storm.

In trees with opposite branching patterns, such as ash or maple, proper branch training is essential for a long-lived, storm resistant tree.



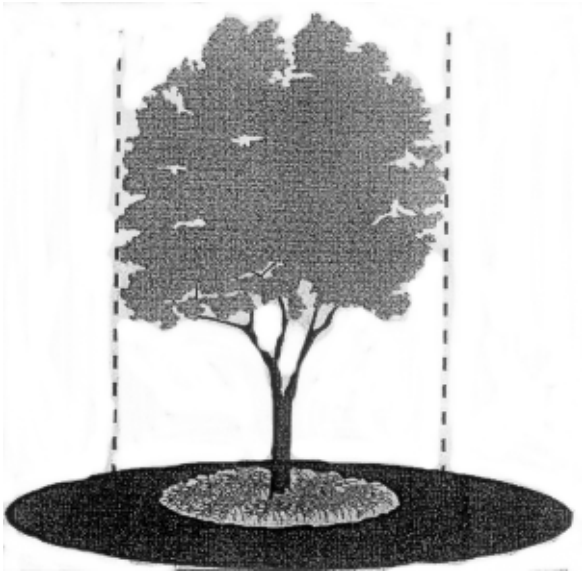
4. Keep trees as healthy

as possible. Timely watering and proper fertilization are essential for tree health in the urban setting. Healthy vigorous trees adjust more quickly to changes in the environment, are more wind firm, and react more effectively to damage.



5. Do not overfertilize the tree with nitrogen or overwater the soil.

These practices can increase crown surface area and/or decrease the rooting area. It is a good practice to mulch around trees with a 3-4 inch mulch layer properly laid out.



Apply fertilizer evenly on the mulched and unmulched surfaces out to about 1.5 - 2 times the canopy diameter.

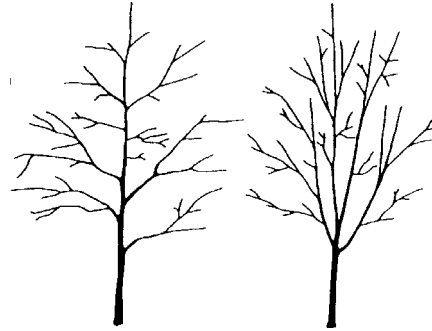
6. Eliminate lopsided crowns. Prune branches to produce a reasonably symmetrical crown. If more than **70 percent** of the crown is on one side of a mature tree, consider tree removal and replacement. Guying and bracing branches are **last-ditch efforts** when a tree has to be saved in spite of itself.

7. Remove or treat pest problems like insects, diseases and branch cankers to minimize potential damage.



8. Keep the tree growing upright with one main stem.

Prune away branches that compete in height with the main stem. Eliminate branches with **tight** or **narrow** crotches. These are potential **weak** spots.



A Good Quality

Shade trees should be trained to one central trunk, and branches should be spaced along the trunk.

B Poor Quality

Large-sized trees (such as oaks) with several trunks or those with branches clustered together on the trunk can become hazardous when they grow older.

9. Install lightning protection systems on historic or rare specimen trees.

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