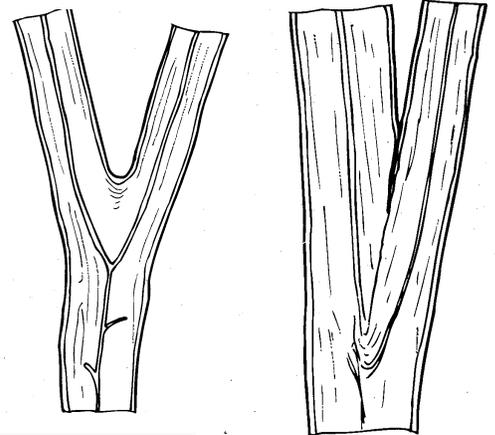


Storm Damage to Trees Can be Reduced:

Crotch configuration, is it a U or V ?

Doug Caldwell



Far left-This mahogany had too many branches originating from the same point on the trunk. Proper pruning could have saved this tree and possible damage to vehicles or people. The U-shaped configuration (3rd image) is strong, but the V-shaped arrangement (far right) is due to included bark as the branches push against each other and will eventually split apart. Diagrams- credit to International Society of Arboriculture.

Now, before the storms are on the horizon, is a good opportunity to closely evaluate your trees. Proper pruning requires a keen eye to minimize storm damage to trees as well as damage to nearby homes or people from crashing branches. One essential is to examine the branch attachment structure, is it a U or a V? Pruning for safety should be a budget item in your annual landscape maintenance program

One of the most important issues is minimizing weak branch formations which are commonly caused by included bark. That is, U-shaped crotches (branch attachments) are strong as the underlying fibers are knit together as they grow. However, a V-shaped crotch angle is dangerous (see diagram). This type of branch union is very weak because the branches are literally pushing against one another (included bark) making them very susceptible to breaking apart during high wind events. This usually happens when there are several branches originating from the same point on the main branch or trunk.

One way to address this is to select the straightest leader and leave it alone, then prune one (or more) of the competing leader(s) to about one-third of their height. Ideally, over a three-year period, by removing more of the same branch each year, you can eliminate some of the competing branches. It is best to do this over a period of time so that the tree isn't weakened by the sudden loss of a large amount of the canopy. This is called subordination pruning (see: <http://hort.ifas.ufl.edu/woody/documents/structural.pdf>). It is best to shape young trees by

removing competing leaders before the branches are so large and more work is required. Sometimes long-neglected trees are almost impossible to prune into shape.

Another approach is to cable the weaker branches to a stronger branch with special multi-wire or fabric cable systems. The cable needs to be placed at about two thirds of the total tree height above the weak crotch. This type of work requires the materials and skills of a trained and certified arborist. Professional cabling of weak branches may prevent broken branches or keep them from becoming flying projectiles. Another approach arborists use is called bracing, which is a precision technique of drilling through branches and inserting metal rods to strengthen the branches. To find certified arborists who are aware of the proper ANSI standards to do cabling and bracing, go to: www.isa-arbor.com/findArborist/findarborist.aspx.

Use of the term “hurricane cut” is an indication of an inexperienced, uninformed individual. Avoid them! It all too frequently leads to lion’s-tailing — the stripping or gutting of branches from the interior and leaving a tuft of leaves at the tip of the branches. Also avoid overlifting which means too many lower branches were removed. Also, avoid stub-cutting, known as topping or hat-racking because of the sawed-off appearance of large branches. These practices can eventually weaken trees and make them more prone to wind damage. Just say NO to GTO, No Gutting, Topping or Overlifting and put in writing in the contract.

The International Society of Arboriculture standards state that one should not remove more than 25 percent of the canopy per year. However, if it is an emergency situation (“The hurricane is on its way!”) top-heavy trees may need to have their canopies reduced to keep them stable and from blowing over and taking utility or irrigation lines along with their root system.

After the storm, the trees which survive will need corrective pruning to shape them over the years. Certain ficus species and mahoganies should be on a regular pruning program to prevent them from becoming too top-heavy. Do not “hurricane cut” palms as it weakens the shock-absorbing capacity of the head. There is no reason to remove green fronds from palm trees unless they will whip around and damage your roof.

Queen palms and tall Washingtonias have a tendency to blow over. Do you have room for this to happen near your home?

Royal palms tend to lose their fronds, but stay upright. Cabbage and foxtail palms and shorter species have weathered Hurricane Wilma very well.

Strongly consider removal of older trees that may break apart and damage your home, such as laurel oaks, red maples or Norfolk Island pines (*Araucaria heterophylla*). Fact sheets on pruning can be found in English and Spanish at our web site (below) in the Commercial Horticulture pages.

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