

Missouri Chapter News

Walnut Council: Growing Walnut and Other Fine Hardwoods
SPECIAL EDITION



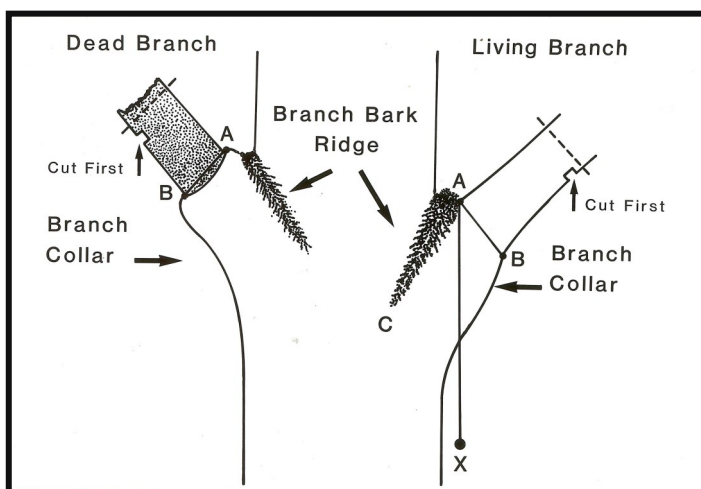
Time Pruning to Avoid Disease

Black Walnuts

Dr. Jerry Van Sambeek, Tree Physiologist, U.S. Forest Service

The prime season to prune black walnut trees may be winding down with the unseasonably warm temperatures. Routinely pruning during the dormant season in Missouri can extend well into March and possibly longer. This dormant period may not be routine this year.

The first line of defense in protecting your trees from disease carrying spores following branch pruning is target pruning which makes use of the branch collar to identify the proper location to remove a branch. Older wood in the union between branch and stem should have already laid down a zone to compartmentalize off the branch wood shielding the tree from fungi. Once the branch is cut any fungi spores in the air that may infest the cut branch would be contained within the branch wood. Unfortunately, not everyone "target prunes". Flush cut (line AX) pruning removes this defensive layer and could allow the fungi to grow into the stem creating pathological heartwood.



Target pruning (line AB where angle CAX equals angle BAX) not only helps protect the tree, but you should be able to prune up until a few weeks before budburst on the trees. Budburst on walnut is usually in late April in central

Missouri. In years with a warm spring, tree growth will be advanced a few weeks. With the warmer temperatures this year, it may be prudent to conclude dormant season pruning around the end of March. If the weather turns cold again, you may be able to extend pruning a little longer. Again, the key is doing target pruning versus watching the temperature.

If the fungi get inside the stem, the stem will try to compartmentalize off the center of the bole to restrict fungal growth to the inner rings of sapwood and existing heartwood. According to John Hart, retired forest pathologist from Michigan State University pathological or wound heartwood has a slightly different color than normal heartwood. A veneer processor might pick up the change in color in the veneer sheets when the trees are harvested. Active bleeding may slow the tree ability to compartmentalize the outer edges of the branch wound. The active flow, however, should be flushing out any fungal spores until bleeding stops and the stem woody fully compartmentalizes the branch wood from the stem.

In his revision of George Brown's book on pruning, Tony Kirkham, arborist with Kew Arboretum, says on species like walnut and the birches that bleed badly, the bleeding will continue until the tree bursts bud and new leaves begin transpiring water. He says bleeding will not kill the tree, but can result in dieback. I believe it would take extensive bleeding from large tree wounds or extensive pruning to cause dieback. If dieback does occur, you could expect some reduction in growth, but this would be difficult to measure accurately. Efforts to stop bleeding are usually not necessary in relation to the time and materials needed.

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Red Oaks

Simeon Wright, Forest Pathologist, MDC

As with black walnuts, homeowners and woodland landowners share a common concern about protecting their oak trees from disease following pruning. The risk of oak wilt through pruning wounds occurs when sap feeding beetles pick up the fungus from fungal mats produced under the bark of trees that died previously after oak wilt infection, and carry the spores to fresh wounds on the oak tree. This primarily occurs in the spring when the fungus produces the fungal mats and the beetles are active. At that time of year (a few weeks before bud break, usually mid-March) until June, you want to avoid wounds on the oaks or use a paint/tree wound dressing immediately on any cuts. Any wounds that are created can potentially be visited by these beetles within a few minutes, however after a few days the wounds are less attractive.



however more recent research suggests these fungal mats are more common in the spring than previously thought. There has been no recent research in Missouri on fungal mat production and the potential for oak wilt infection through wounds in the fall.

The importance of target pruning applies to oak as well, but if you want to be extra safe, when active oak wilt occurs nearby, hold off on pruning until temperatures are more consistently below 50 degrees. The Missouri Department of Conservation provides an Oak Wilt guide that provides more details: <http://extension.missouri.edu/treepests/documents/pestaletOakWilt02.pdf>



Example of Oak Wilt Fungal Mat on Firewood

Most of the fungal mats are believed to develop in the spring. There are some reports of fungal mats developing in the fall in the northern states. This is thought to be rare in Missouri. Years ago, it was thought the fungal mats were rarely produced in Missouri even in the spring,