

GIRDLING ROOT

A common cause of tree decline in maples

Girdling root is defined as “ a root that grows around the trunk of a tree thus tending to strangle the tree. The result is that the flow of food from leaf to root is cut off. This in turn kills the roots that then fail to absorb water for branches and their leaves.

Girdling root most commonly occurs on Norway maples that are 20 to 25 years old. Trunks of affected trees are usually between 10-29 inches in diameter. Urban trees that were planted balled and burlapped are most susceptible to Girdling Root.

In the nursery when the Norway maple root is pruned to form a root ball for transplanting, a subsequent growth of secondary roots occurs at right angles to the severed roots. Norway maples have a greater tendency for expansion of secondary roots perpendicular to the main roots when they are cut. This condition is encouraged by planting trees too deep. Placing the main stem base below the natural soil line will encourage the growth of advantageous roots that also tend to encircle the tree below ground. Occasionally, girdling roots can be found on other trees species but in maples, especially Norway Maples, girdling root seems to develop more frequently.

Girdling root should be expected if:



One side of the trunk is flattened at the soil line or if the trunk enters the ground, straight in, as a fence post would.



Normal root flare on healthy tree



The tree starts to thin out, or leaves shows early autumn colored In late summer. Also when entire top branches quickly die back.

David Bayer, Seasonal Horticulture
UW-Extension, Outagamie County
3365 W Brewster St., Appleton, WI 54914

Telephone: (920) 832-5119
e-mail: david.bayer@ces.uwex.edu
Web Site: <http://outagamie.uwex.edu>
Publications Web Site: <http://cecommerce.uwex.edu>



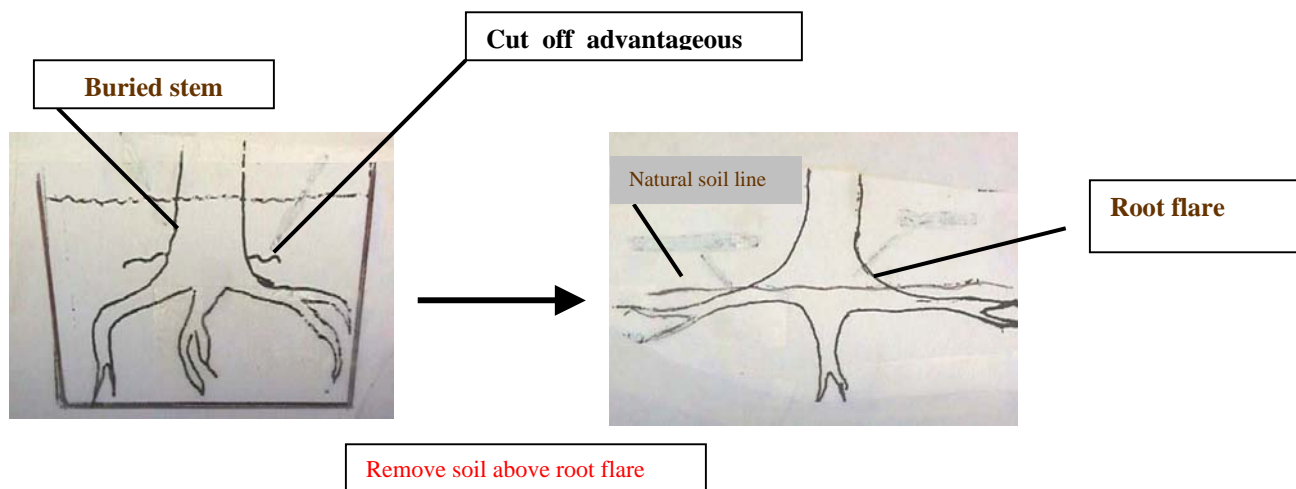
The girdling root is sometimes
Seen above ground



Most of the time the girdling
root occurs below ground

Once the later stages of the disorder are reached, girdling roots are often at an advanced stage and little can be done for the tree. If the problem is detected early, successful removal of the offending root may remedy the problem. A chain saw or hand saw cut to sever the offending root may save the tree. There may be more than one root that needs to be removed. You must dig around the base of the tree to find these girdling roots.

Girdling root can be prevented at the time of planting. Whether the new tree for planting comes potted or in a burlap ball, all the soil should be removed from the roots. Remove any potential lateral root that may be growing in range of the main stem. Straighten all primary roots in a radial form within the shallow hole where the tree will be planted. It is important to make sure that the root flare or *collar* (the primary root's origin with the main stem) be slightly exposed above ground. See the drawing below.



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