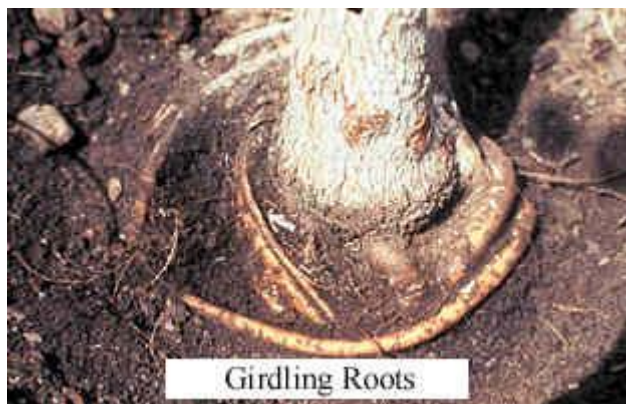


Problem: Girdling Roots



Plants Affected: Numerous tree species but especially maples.

Description: Girdling roots are easily misdiagnosed as they are often an unseen cause of tree decline. Off-color leaves, leaves with dead margins and branch dieback are common symptoms. The cause is a root that has wrapped around the stem underground which is strangling the tree. The first symptom is often leaves on a branch turning color earlier in the fall than normal. In following years, more branches are affected and eventually branches begin to die back eventually resulting in death of the tree. Making sure the tree is given good care doesn't help.

Trees with girdling roots often lack a root flare at soil level on at least one side of the tree. The tree enters the ground like a telephone pole. Digging around the base of the tree will expose the girdling root or roots.

Recommendations: Girdling roots are the result of improper planting. Prevention is the best answer to this problem. Following are common causes of girdling roots.

1. Making the planting hole too small and "screwing" the tree into the hole. Take the time to make the hole two to three times the diameter of the root ball.
2. Adding plenty of organic matter to the fill soil but not modifying the surrounding soil may seem like a good idea but can cause problems. First, water will flow quickly through the amended soil but will not drain well through the original soil. In essence, the gardener has made a pot that fills with water and can drown the tree. Second, roots do not like to go from one type of soil to another and will often turn and start to circle when they hit the edge of the hole. These problems can be avoided by adding 2 inches of organic matter to the top of the soil at

least 10 feet across and then tilling the organic matter into the soil. After tilling, dig your hole. If this is not possible, return the soil taken out of the hole without modifying it.

3. Not removing enough soil from the top of a balled and burlapped tree so that the root flare is seen. There are often several inches of soil on top of the root flare. This must be removed before planting.
4. Planting the tree too deep. The tree should sit in the planting hole so the root flare is at ground level or preferable a bit above ground level. Bring soil up to the root ball.
5. Not fluffing up the roots of a container grown tree before planting. Tree roots often circle inside the container and will continue to do so if something isn't done before planting. There are two common ways to deal with this. First, use your fingers to fluff up the roots around the outside of the root ball. Or, use a knife or sharp spade to cut the rootball from top to bottom about 2 inches deep in 3 to 4 places.

What can be done for a tree that already has girdling roots? Small girdling roots can be cut out and removed with a chisel and mallet. See the third reference below for more detail. Trees that are already in an advanced state of decline likely will not be able to be saved. In unsure, hire a certified arborist to assess the tree.

References:

1. [Does Your Tree Have Girdling Roots](#), Cornell University, Home Grounds Fact Sheet, D-1-22
2. [Girdling Roots](#), University of Maryland Extension, Home and Garden Extension Center
3. [Stem Girdling Root Removal](#), University of Florida, Landscape Plants

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