Tree Root Girdling (published 2026-04-04)
By Patty Neas, Master Gardener

There are three beautiful red maples on our farm. One day I spotted something abnormal at the root flare of all three trees. Several 2-inch diameter roots were circling the trunks! I knew that wasn't good news!

Characteristically, tree roots "flare" at the tree trunk base sometimes called the root crown. Naturally, tree roots spread outward and downward. Stem girdling roots (SGRs) unnaturally wrap around the tree trunk base. SGRs are most common on maples, American beech, pines, oaks, and poplars.

In addition to seeing girdling roots at the base of a tree, there are other tell-tale signs that your tree is in danger. Sometimes girdling roots are not visible but underground. Leaves may be browning or dropping early. There could be dieback of limbs and canopy. Perhaps there is no root flare or there are flat sides on the tree trunk. Be alert for these and other symptoms of a stressed tree.

The girdled tree is stressed because it is slowly being starved. The sap transports sugar, water, and nutrients throughout the tree. Encircling roots can slow or stop this vital cycle. There are many reasons for SGRs. Planting too deeply seems to be an epidemic. Trees grown in pots may already have circling roots. Another primary reason is planting the tree improperly. In addition to planting too deeply, planting in compacted soil, or building volcanoes of mulch around a tree can all have tragic results**.**

Prevention is worth a pound of cure. Purchase wisely. Examine carefully, ask questions and ensure the tree doesn't have circling roots. Ask how long it has grown in the pot. Look for any signs of roots that are beginning to circle. Ask an employee to remove the tree to inspect its roots. Even when choosing a ball-and-burlap tree (B&B) dug from the nursery, make sure it was not grown too deeply. Plant correctly. If you hire the installation, observe and make sure the trees are installed correctly. Be sure the roots are spread and carefully remove any that are beginning to circle so they can grow normally. Dig the correct size hole. A hole too small can cause circling to begin. Plant in a location where curbs or other barriers won't hamper root development. Make sure the root flare or collar is at or slightly above ground level. You want to see that trunk flare not a straight trunk emerging from the ground! Always use the surrounding soil and do not backfill with organic matter. Mulch correctly. Over the years, watch your trees for any problems. For more detailed information on proper tree planting, follow this link:
https://www.extension.purdue.edu/extmedia/FNR/FNR-433-W.pdf

Help is available. Your local University of Tennessee Extension agent can examine the girdled tree and give knowledgeable advice. For larger diameter girdled roots, a certified arborist can advise you on the amount of damage, best treatment or removal if needed. Attend to any tree girdling roots, distress, leaf, limb, and crown loss now. The smaller the girdling roots, your probability of saving the tree is higher. Many times, removing the smaller girdling roots can restore the tree to health. Removing roots must be done carefully. They are nourishing some part of the tree. Pull away some of the soil to visibly and carefully cut or chisel the root. Be careful

not to damage any other parts of the tree. Normally, do not cut the roots during the growing season - wait until dormancy. This University of Minnesota video shows how to remove a girdled root: https://youtu.be/OVuoa5NjFLs?si=Ao10QHfrnIqmBuxf

Expensive and sad lessons can be learned too late. Planting is not the end of our responsibilities to our landscape trees. The good news is, instead of discovering girdling roots when it's too late, we can be proactive and plant healthy trees correctly. There will be no heartbreak years later, only happy gardening!

**Resources**

"Understanding Tree Roots,"
https://cmg.extension.colostate.edu/Gardennotes/659.pdf

"Girdling Roots: To Cut or Not to Cut,"
https://extension.psu.edu/girdling-roots-to-cut-or-not-to-cut

**"**Free the Flare: Maintain Visible Root Flare for Tree Health,"
https://marylandgrows.umd.edu/2024/01/12/free-the-flare-maintain-visible-root-flare-for-tree-health/

"Mulching Landscape Trees,"
https://extension.psu.edu/mulching-landscape-trees#:~:text=Mulch%20can%20provide%20the%20following%20benefits:%20*,bark%20death%20*%20Disease%20*%20Rodent%20damage

If you have questions for the Master Gardeners, submit them to us on our website at www.netmga.net. Click the link at the top of the page, "ASK A MASTER GARDENER" to send in your question. Questions that are not answered in this column will receive a response from a Master Gardener to the contact information you provide.

*The Master Gardener Program is offered by the University of Tennessee Extension. The purpose of the Master Gardener program is to train people as horticultural-educated volunteers. These volunteers work in partnership with the local Extension office in their counties to expand educational outreach, providing home gardeners with researched-based information.*