

Tree Health



Tree Health Indicators

- ▶ Tree growth
- ▶ Foliage color and lushness
- ▶ Flowering and fruiting



Compartmentalization of Decay in Trees (CODIT)

- ▶ CODIT is the method by which trees heal. They do not generate new tissue in wounded areas, but instead seal over these wounds with reaction wood



Healthy trees can compartmentalize pruning cuts and other wounds





When a tree is in poor health we say it is “stressed”.

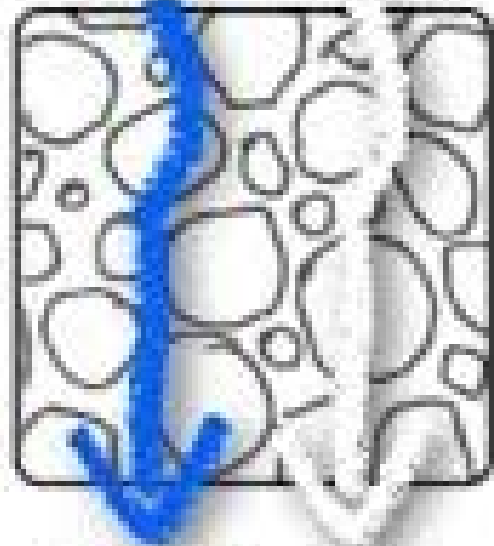


Reasons For Stressed Trees

- ▶ Drought, flooding, or poor drainage
- ▶ Poor soil fertility or incorrect ph.
- ▶ Compaction
- ▶ Insufficient root space
- ▶ Mechanical damage from equipment or animals
- ▶ Girdling Roots
- ▶ And most commonly: **Wrong tree planted in the location**

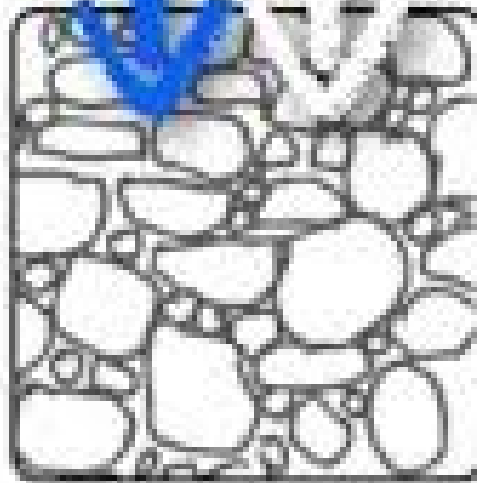
Soil Compaction

**NORMAL
SOIL**



WATER AIR

**COMPACTED
SOIL**



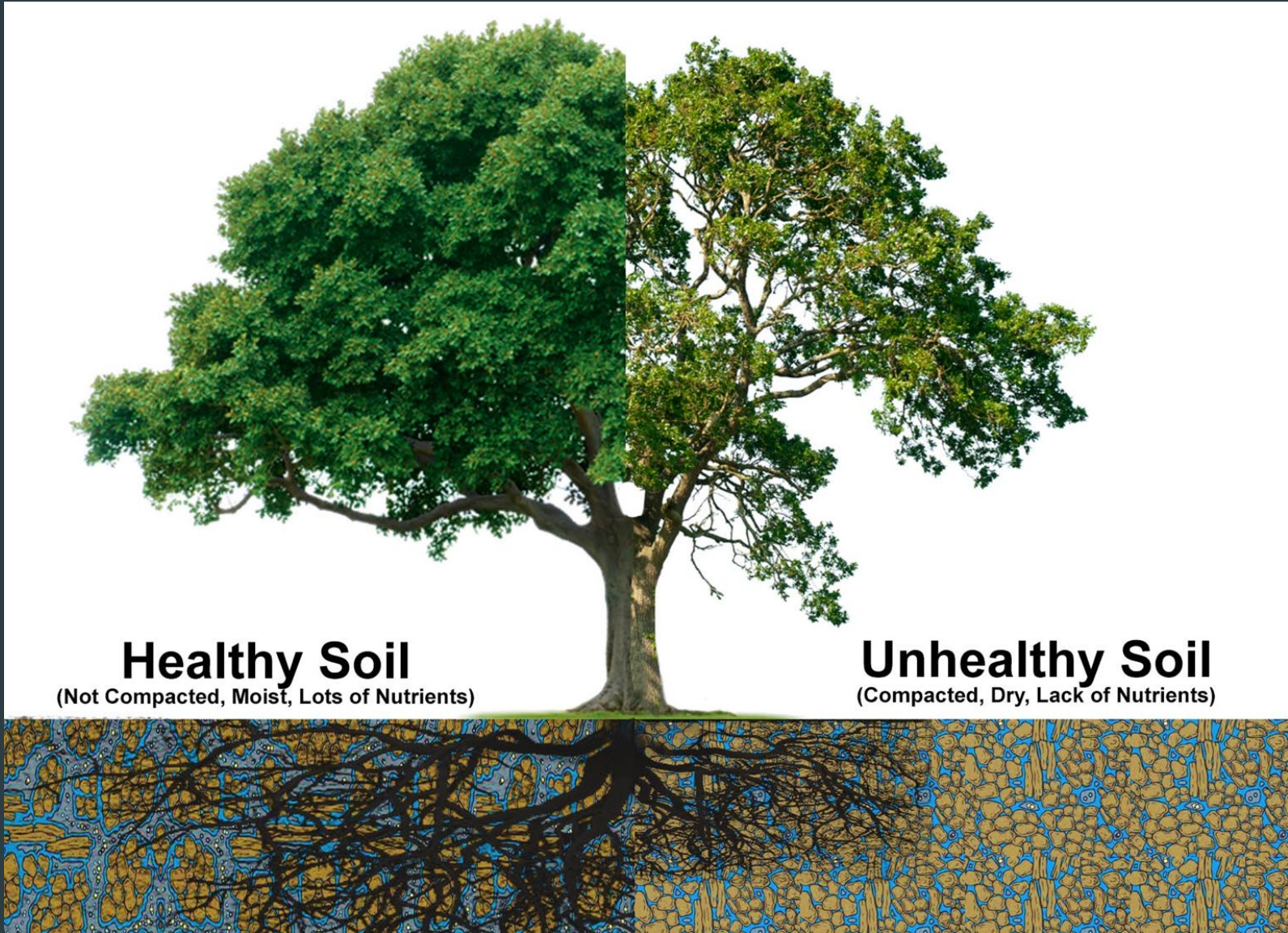
**NO MOISTURE
NO AIR**



Girdling Roots



H.G.I.C., U of MD



Healthy Soil
(Not Compacted, Moist, Lots of Nutrients)

Unhealthy Soil
(Compacted, Dry, Lack of Nutrients)

Signs and Symptoms of Health Issues

- ▶ Leaf symptoms (chlorosis, wilting, scorch, etc.)
- ▶ Stunted growth
- ▶ Epicormic growth (suckers/waterspouts)
- ▶ Dying canopy
- ▶ Insect infestation
- ▶ Poor or no compartmentalization of wounds
- ▶ Early leaf drop or fall color
- ▶ Bark cracking/Sap Flow
- ▶ Fungal fruiting bodies (mushrooms)

Leaf Symptoms



Stunted Growth



Epicormic Growth



Dieback in Canopy



Insect Infestation (Ambrosia beetle)



Poor CODIT



Early Fall Color



Bark cracking and sap flow (cankers)



Fungal Fruiting Bodies



Diagnostics

- ▶ If your trees are having health issues, you may want to contact a certified arborist to inspect them. You can also send photos or samples of the plant to the Maryland Extension Plant Diagnostic Lab. This is a free service offered to residents of Maryland. For more information, visit: <https://extension.umd.edu/plantdiagnosticlab>

Fertilization

- ▶ Fertilization is not normally needed for trees. However, chlorosis can suggest that there are insufficient nutrients in the soil.
- ▶ Fertilization generally should be done after a soil test.
- ▶ Choose slow release, organic fertilizers to prevent plant “burn” and leaching of fertilizer into surrounding soil.



Compaction Relief

- ▶ Compaction relief is normally accomplished by a tree contractor blowing compacted soil particles out with an AirSpade. Then, the area is backfilled with compost, and mulched with woodchips.



Integrated Pest Management

- ▶ Treating any kind of pest should be a measured approach. There are a variety of potential treatments (cultural, biological, and finally pesticides)
- ▶ You should determine what is an acceptable level of pest presence in your landscape (unfortunately, for many people this is zero).
- ▶ Pesticides for trees are often applied with bark sprays or injections. Canopy sprays are not generally appropriate as pesticides can drift off target.
- ▶ **Often, correcting underlying plant health issues will prevent pest issues.**

Be sure to confirm that any company applying pesticides have an MDA Pesticide License. This will normally be displayed on any documents they give you, or on their vehicles



Right Tree, Right Place

- ▶ The most important aspect of planting trees is to select a correct species for the area that you want to plant.
- ▶ Many tree health and pest issues can be avoided by selecting the correct tree for an area. You need to do your research prior to planting a tree.

Questions?

