Girdling Roots

FACT SHEET

GREEN DROP Tree Care







What It Is:

Root girdling is when the roots wrap around the base of the trunk, compressing it and blocking the flow of water and nutrients between the roots and the canopy. Over time, the tree weakens, its growth slows, and eventually, it may fall over without warning.

Not all roots cause girdling, though. Only the large, woody lateral roots responsible for anchoring the tree do it. These roots should grow outward into the soil, but poor planting, compacted soil, or container growth can force them into a circular pattern around the trunk instead. As the tree and its roots expand, the pressure increases, creating strangulation in slow-mo.

Symptoms:

Girdling roots are hard to notice and work silently, slowly weakening your tree until it's too late. Here's how to spot the warning signs before disaster strikes:

- No root flare at the base: A healthy tree should widen at the bottom where it meets the soil. If the trunk goes straight into the ground like a telephone pole, it may be girdled.
- Stunted growth: Trees struggling with girdling roots grow more slowly, with smaller leaves and thinner branches than their healthy counterparts.
- Yellowing or early leaf drop: Since girdling roots restrict water and nutrients, leaves may turn yellow, have scorched edges, or drop prematurely.
- Leaning or instability: A tree with restricted roots can start tilting or feel loose in the ground - a serious hazard in storms.
- Bark damage near the base: The pressure from girdling roots can cause the bark to crack, sink in, or appear compressed.
- One-sided thinning. If one part of your tree's canopy looks full and healthy while another side is sparse, a girdling root may be cutting off nutrients to that section.

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Why are Girdling Roots a Serious Problem?:

A tree with girdling roots isn't just weakening - it's actually fighting a battle it can't win. The tightening roots are choking the life out of the tree. The canopy becomes thin, branches die back, and growth slows to a crawl.

But the real danger is the unpredictability of tree failure. Without proper anchoring, a girdled tree can topple over in a storm - or even on a calm day. This makes it a serious safety risk for homes, vehicles, and people nearby.

Such trees are also prime targets for pests and diseases since their natural defences are compromised. Fungal infections, insect infestations, and decay can accelerate the decline, spreading problems to nearby healthy trees.

What Causes Girdling Roots?:

Girdling roots don't just appear out of nowhere - they usually start from planting mistakes or environmental stress.

Here are the most common culprits:

- If a tree is buried too far below the soil surface, its roots struggle to grow outward and may circle around the trunk instead.
- Trees left in pots too long often develop circling roots, which continue their spiral even after being planted in the ground.
- When trees are crammed into tight spaces or surrounded by concrete, their roots have nowhere to spread, forcing them to grow in unnatural patterns.
- Piling too much mulch against the trunk creates warm, moist conditions that encourage roots to grow in circles rather than outward.
- Hard, dense soil makes it difficult for roots to penetrate, forcing them to grow in the path of least resistance - even if that means strangling the tree.

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Can They Be Fixed or Stopped Before They Start?:

If caught early, girdling roots can be corrected, but the longer they're left untreated, the harder they are to fix.

- For young or newly planted trees, carefully pruning circling roots before planting can prevent future issues.
- If your tree is already in the ground, you may need to excavate the root system using an air spade - a specialized tool that safely removes soil without damaging roots. Once exposed, a professional arborist can identify and remove problem roots to restore proper growth.
- For mature trees, correction is more complicated. Removing large girdling roots can cause severe stress, so it's best left to experts who can assess whether the tree can be saved - or if removal is the safest option.
- The best way to avoid girdling roots is to plant trees correctly, avoid compacted soil, and never pile mulch against the trunk.

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