

# Ten Easy Ways to Kill a Tree (And How to Avoid Them)

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Trees that grow in our communities provide us with many benefits, but they face many life-threatening challenges, both from the environment and from people. These trees must be properly cared for to ensure that they will continue to provide benefits.

Ten commonly seen tree care practices, applied incorrectly, can lead to tree stress and eventual death. These practices include selecting the wrong tree species for the site, improper planting procedures, improper mulching, incorrect staking, mechanical injury, topping

and poor pruning, root damage, soil compaction, improper watering and improper fertilizer applications.

Homeowners and tree care professionals can follow several simple steps of proper tree care to help ensure long lives for trees in our communities. The following pages describe ten common mistakes made during the pre-planting, planting and post-planting care phases of a tree's life and the correct alternatives.

Your tree has much to offer – don't kill it!

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Our Campus*

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## Tree and Site Selection



### How to kill a tree:

1. Plant a tree that will outgrow a small space. Disregard overhead or underground obstructions.

The correct tree care practice:



- Match the species to the site – consider the tree's mature size and space needs.
- A tree's branches need space to grow up and out, and roots need space to grow out far from the trunk.

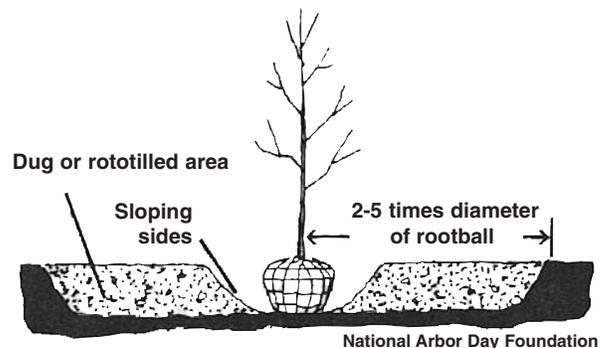
## Tree Planting



### How to kill a tree:

2. Plant the tree in a small hole and leave the burlap (or container) completely around the rootball.

The correct tree care practice:



- Dig a hole 2 to 5 times the diameter of the rootball and no deeper than the rootball is high.
- Remove the container and as much of the burlap as possible (at least the upper half) without causing the rootball to fall apart.
- Backfill and lightly tamp the soil and water well. Add mulch but no fertilizer (see #3 and #10).

## Mulching



### How to kill a tree:

- 3.** Place a large mound of mulch against the tree trunk, or use no mulch at all.

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### The correct tree care practice:



- Place a ring of mulch 3-4 feet in diameter and 3-4 inches deep around the trunk, but do not let the mulch touch the bark.

## Staking

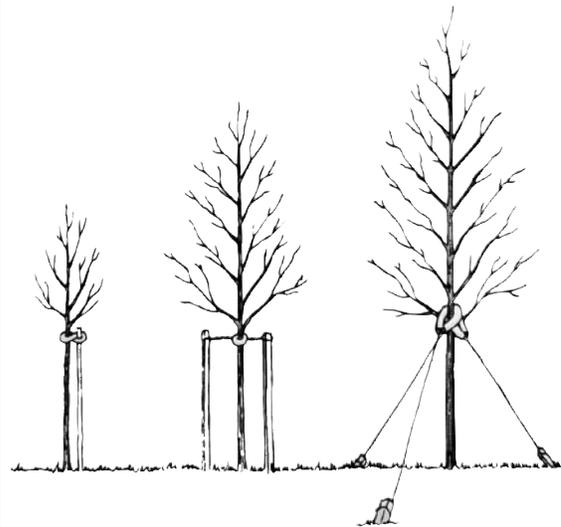


### How to kill a tree:

- 4.** Leave staking and guying materials attached to the trunk until the tree becomes girdled.

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### The correct tree care practice:



- Stake the tree only if subject to high winds or pedestrian traffic.
- Use soft materials around the trunk.
- Guying should be slightly loose.
- Remove all staking and guying materials after one year.

## Mechanical Injury



### How to kill a tree:

5. Use the tree as a bumper when lawn mowing or string trimming. Scrape off the bark and injure the live tissues underneath.

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The correct tree care practice:



- Use mulch to control weeds, conserve water, moderate soil temperatures and keep mowers and trimmers away (see #3).

## Pruning

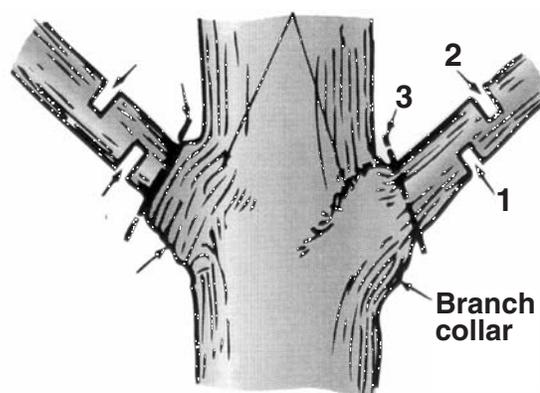


### How to kill a tree:

6. Top or severely prune a tree's branches. Remove most of the outer twigs and leaves. Ignore making proper pruning cuts.

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The correct tree care practice:



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- Never top a tree or remove more than 1/4 of the twigs and leaves.
- Prune branches at a bud or lateral branch and branch collar, following the 3-cut method: 1) undercut, 2) remove branch, 3) remove stub at branch collar.

## Roots



### How to kill a tree:

7. Sever many large roots close to the tree trunk.

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The correct tree care practice:



- About 90 percent of a tree's roots are in the top 12-18 inches of the soil and extend out several times the height of the tree.
- Avoid cutting roots larger than 1 inch diameter inside the crown's dripline.
- Use fence barriers during construction. Place barriers 1 foot away from trunk for each inch of trunk diameter.

## Soils

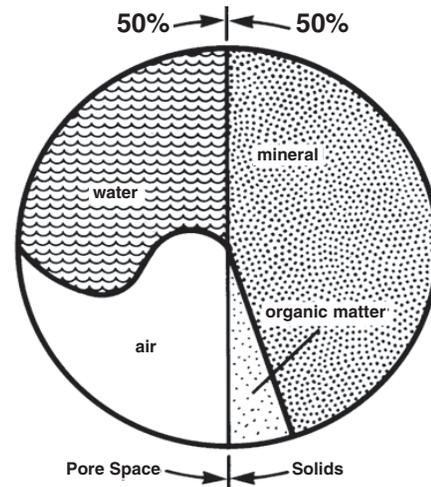


### How to kill a tree:

8. Change the soil environment by raising or lowering the grade or by compacting the soil.

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The correct tree care practice:



- An ideal soil is made up of 50 percent pore spaces and 50 percent solid particles.
- Changing the grade by removing soil exposes the roots, and adding lots of soil smothers the roots.
- Adding as little as 3-4 inches of soil can kill a tree.
- Compaction decreases the pore spaces' ability to hold water and oxygen for the roots.

## Watering

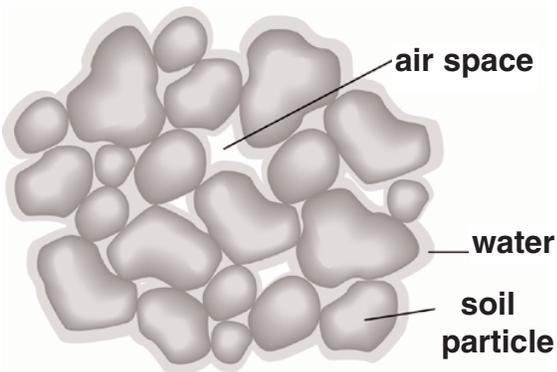


How to kill a tree:

9. Over or under water the tree. Saturate the soil, or let it dry out completely.

The correct tree care practice:

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- A proper proportion of air spaces, water and soil particles is required for the tree to grow (see Ideal Soil #8). Too much or too little water will kill the roots.
- A young tree requires 1 inch of rainfall or 10 gallons of water per week.

## Fertilizer

**ROOT  
KILL**

**TREE  
FERTILIZER**

**10-6-4  
40 LB.**



How to kill a tree:

10. Burn the roots by applying fast-release fertilizer during or right after planting.

The correct tree care practice:

**BEST  
BRAND**

**TREE  
FERTILIZER**

**10-6-4  
40 LB.**

**Slow Release**

- Either wait a year after planting to apply fertilizer or use a slow-release fertilizer.
- Apply in late winter/early spring before growth begins.
- Broadcast and water thoroughly.

# Urban and Community Tree Facts

- The average city tree removes 13 to 48 pounds of carbon dioxide per year from the air. (American Forestry Association)
- Urban trees are 15 times more efficient in removing carbon dioxide than are forest trees. (American Forestry Association, Global ReLeaf)
- It costs 10 cents per pound to remove carbon dioxide by improving auto emissions and 1 cent per pound to remove it by planting trees. (American Forestry Association, Global ReLeaf)
- Tree canopies reduce soil erosion by diminishing the impact of raindrops on barren surfaces.
- A typical tree produces about 260 pounds of oxygen each year. Two trees can supply a person's oxygen needs. (USDA Forest Service)
- An average tree absorbs 10 pounds of pollutants from the air each year, including 4 pounds of ozone and 3 pounds of particulates. (USDA Forest Service)
- One large sugar maple can remove the airborne lead emitted by cars burning 1,000 gallons of gasoline.
- A large leafy tree may pump up to a ton of water from the soil every day through transpiration.
- On a hot day, a tree may transpire 900 gallons of water into the air, cooling as much air as six room-size air conditioners.
- Unlike some other investments that depreciate, a tree's value increases with each passing year. Trees increase home property values 7 to 21 percent, depending on the number and size of the trees. (City of Portland)
- Each urban tree with a 50-year lifespan provides an estimated \$273 a year in reduced costs for air conditioning, erosion control, stormwater control, air pollution and wildlife shelter. (City of Portland)
- Urban trees can reduce city stormwater runoff by as much as 31 percent.
- Patients with a view of trees and plants had shorter hospital stays and used fewer pain killers. (Texas A&M University)
- Ginkgo trees provided food for dinosaurs, and yet they can still be found along city streets today.



**For more information about proper tree planting and care,  
visit these web sites:**

<a href="http://www.uaex.edu/">www.uaex.edu/</a>	University of Arkansas Cooperative Extension Service
<a href="http://www.forestry.state.ar.us/">www.forestry.state.ar.us/</a>	Arkansas Forestry Commission
<a href="http://www.arkansastrees.org/">www.arkansastrees.org/</a>	Arkansas Urban Forestry Council
<a href="http://www.arborday.org/">www.arborday.org/</a>	National Arbor Day Foundation
<a href="http://www.isa-arbor.org/">www.isa-arbor.org/</a>	International Society of Arboriculture
<a href="http://www.treesaregood.com/">www.treesaregood.com/</a>	Trees Are Good
<a href="http://www.treelink.org">www.treelink.org</a>	Urban Forestry
<a href="http://www.treehelp.com/trees/trees-insects.asp">www.treehelp.com/trees/ trees-insects.asp</a>	Tree and Shrub Insects
<a href="http://www.treehelp.com/trees/trees-diseases.asp">www.treehelp.com/trees/ trees-diseases.asp</a>	Tree Diseases
<a href="http://www.ces.ncsu.edu/depts/hort/consumer/hortinternet/trees.html">www.ces.ncsu.edu/depts/hort/ consumer/hortinternet/trees.html</a>	All About Trees
<a href="http://www.urbanforestrysouth.org">www.urbanforestrysouth.org</a>	USDA Forest Service Urban and Community Forestry

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