

# An Introduction to Trees



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*What is a tree?*





Websters:

“A woody perennial plant having a single usually elongate main stem generally with few or no branches on its lower part”





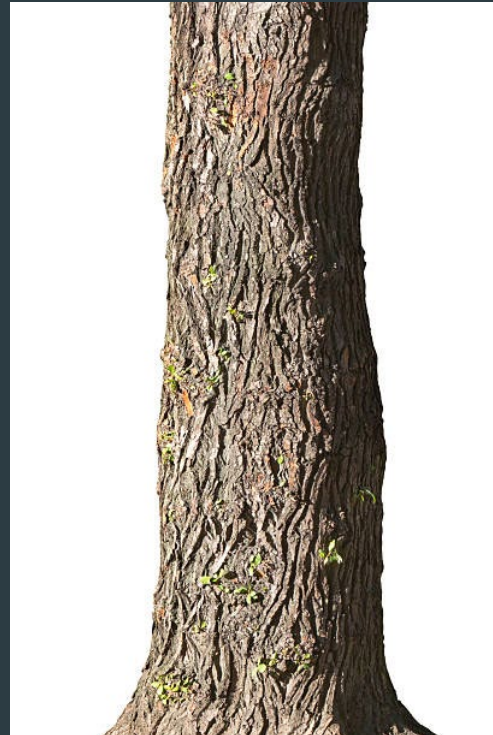
# Ornamentals and Shade Trees





# Major Components of a Tree:

- Root System
- Trunk/Stem
- Crown/Canopy/Branches

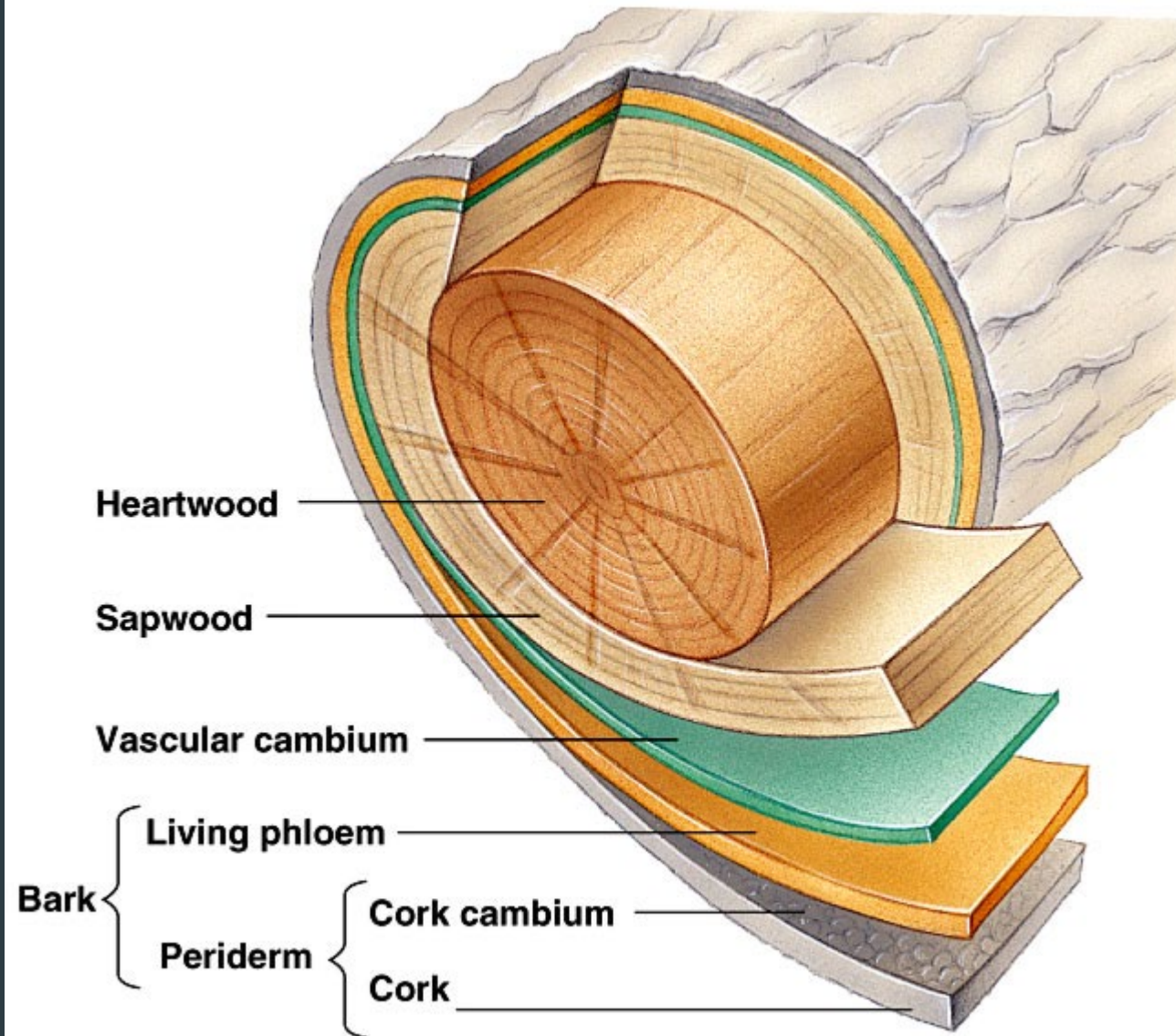


# Basics of a tree's vascular system:

- Xylem is the part of a tree's vascular system that moves water absorbed from the roots upwards
- Phloem moves sugars from photosynthesis back down the tree
- Cambium is responsible for tree growth







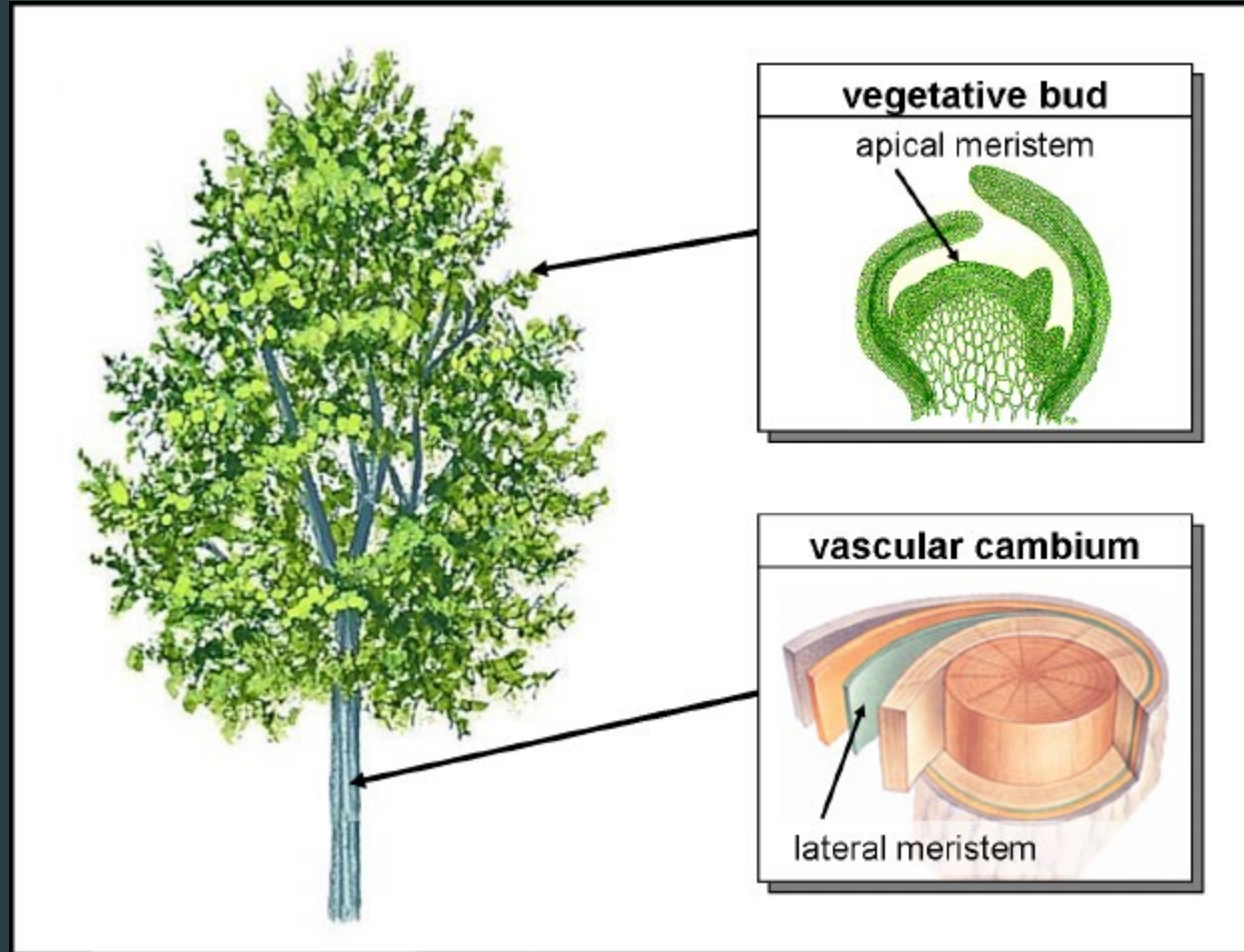
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# How Do Trees Grow? Up and Out







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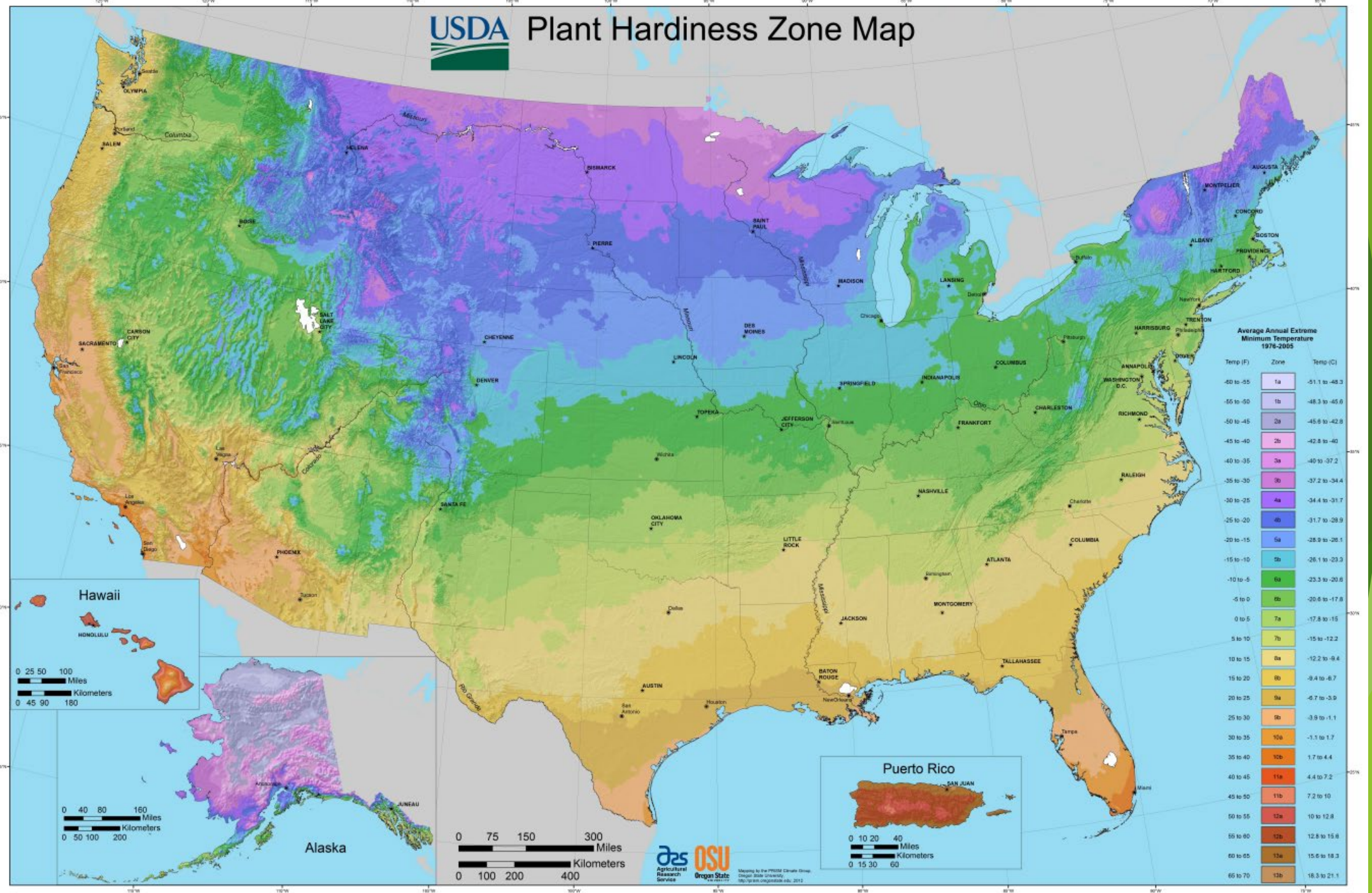


# What Do Trees Need to Live?

- ▶ Carbon Dioxide
- ▶ Sunlight
- ▶ Water
- ▶ Growing medium (normally soil)
- ▶ Macronutrients (Nitrogen, Potassium, Phosphorous) and Micronutrients
- ▶ Oxygen (in rooting zone)
- ▶ Correct Soil ph (generally between 6.0 and 7.0)
- ▶ Correct growing environment (climate)

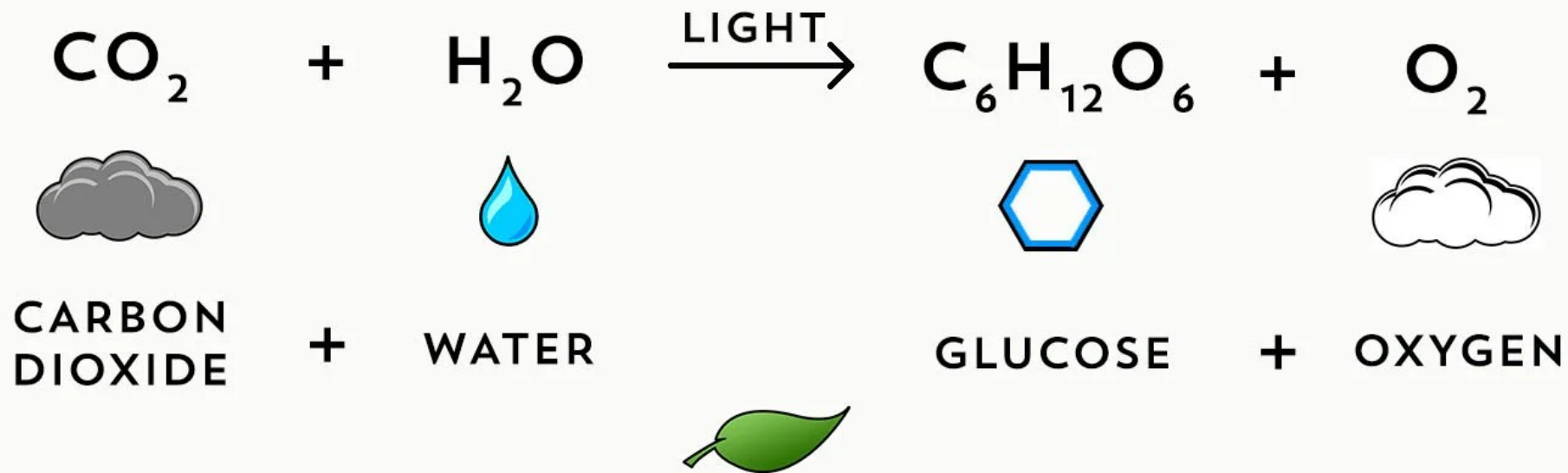


# Plant Hardiness Zone Map





# How Do Trees Produce Food for Themselves?



## PHOTOSYNTHESIS

# Deciduous (Angiosperm) and Evergreen (Gymnosperm)

## Evergreen



Evergreen trees keep their leaves (needles) year-round.  
Example: Pine

## Deciduous



Deciduous trees lose their leaves annually. Example: Oak



# How Do Trees Reproduce?









# How are Trees Named?

- ▶ **Common Name-** A name generally chosen by people to represent a tree. Can vary depending on geographic location.
- ▶ Tulip poplar, Yellow poplar, Tulip tree
- ▶ **Botanical Name-** The taxonomic, scientific name that can only refer to one species of tree
- ▶ *Liriodendron tulipifera*





# How Long Can a Tree Live?

Bristlecone Pine  
Specimens reach 4,850 years old





In the “built” environment, trees do not live as long. This is due to biotic and abiotic factors.

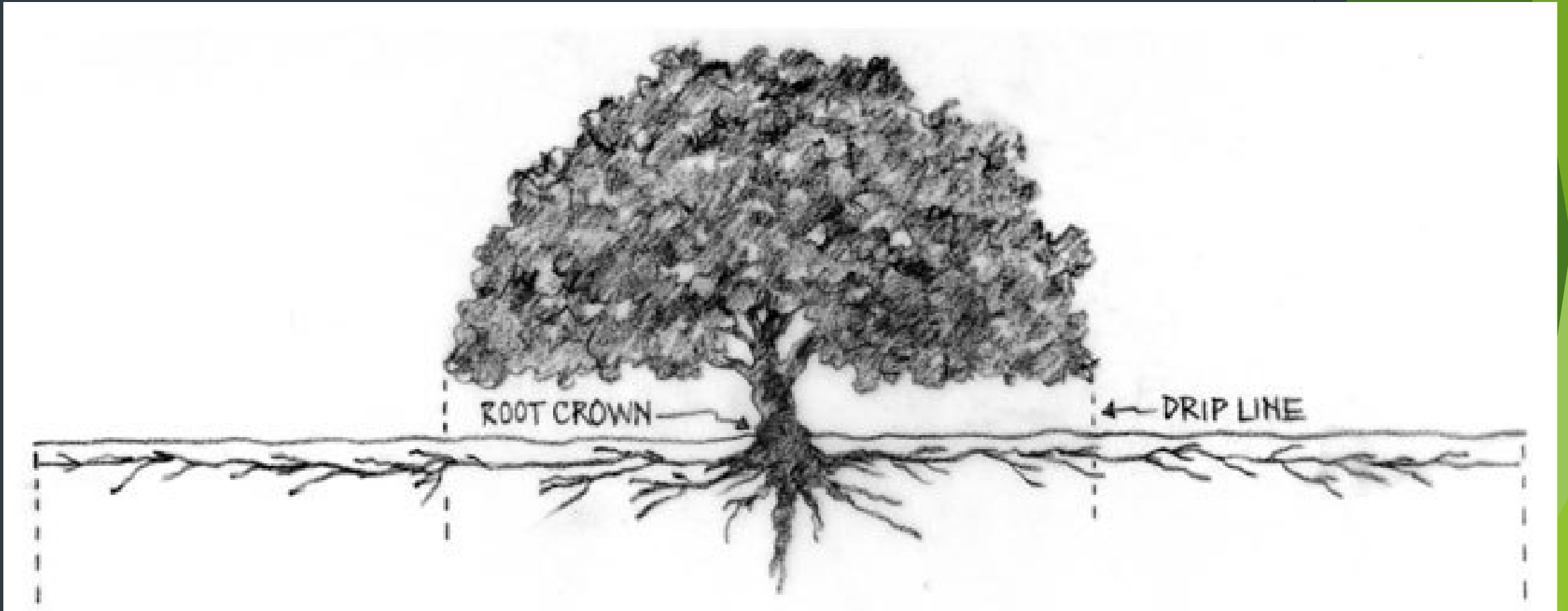
The average street tree can only be expected to live **7-15 years**

Why is this?





# They Need More Room











# They Need More Water





# They Need Better Quality Soil

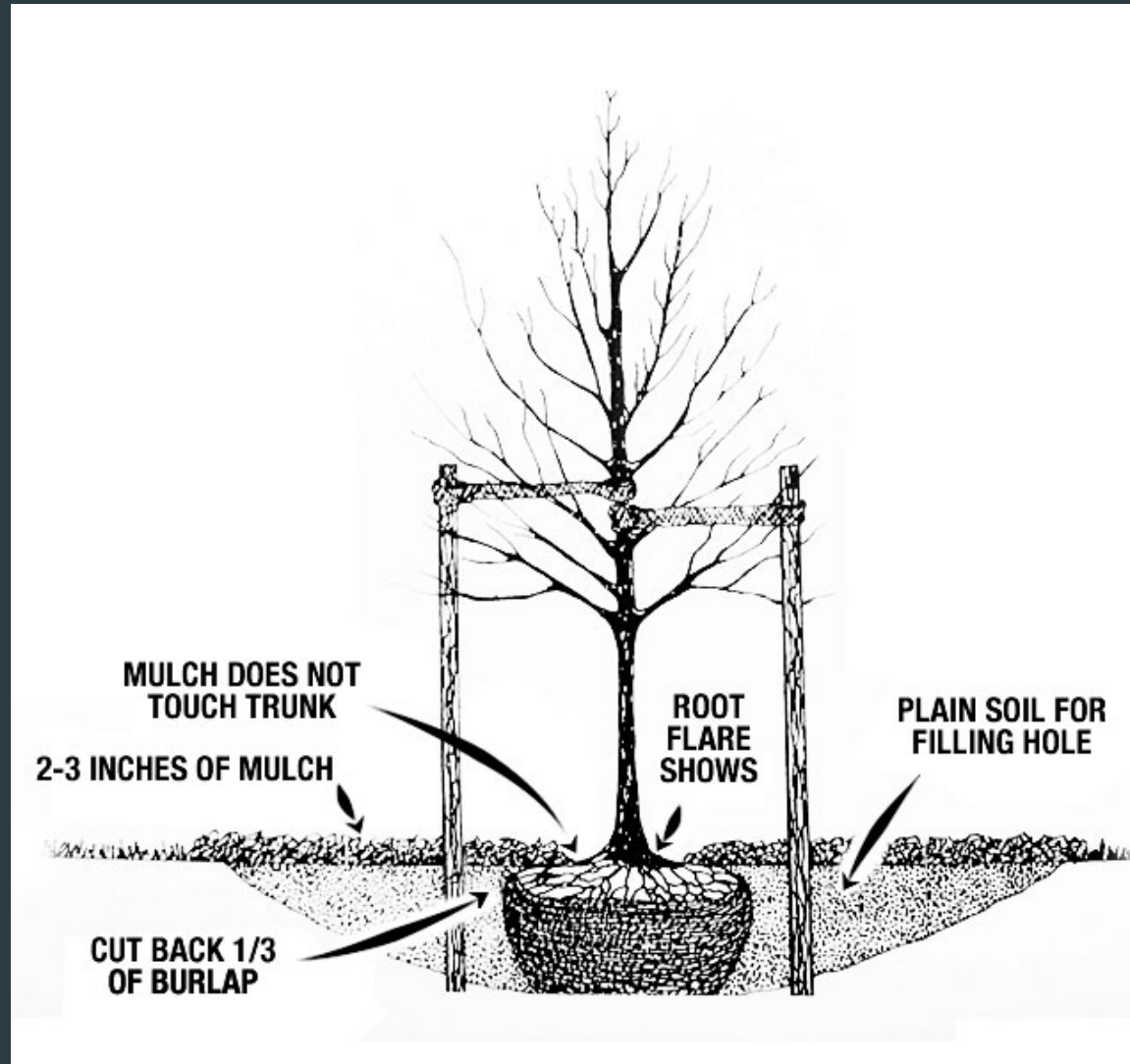


# They Need to be Protected During Construction





# Planting a Tree







# Questions?

If I don't get to your question, please  
email it to  
[Marylandsustainableecologies@gmail.com](mailto:Marylandsustainableecologies@gmail.com)

