

A photograph of a forest during autumn. The trees are covered in bright red and orange leaves, creating a dense canopy. The trunks of the trees are dark and visible through the foliage. The overall scene is a vibrant display of fall colors.

# Our Urban Trees – How to Care for them

John Ball, Professor of Forestry



# Climbing Devils Tower















Imagine a forest...





...where the trees grow in rows.



A forest where regeneration is not dependent on plants...







...but pots.





A forest where the soil..





...*is* dirt.





Welcome to the urban forest!



Mature trees







**attention  
Tree !!!**









When does a forest cease to be a forest...





...a more a collection of trees.



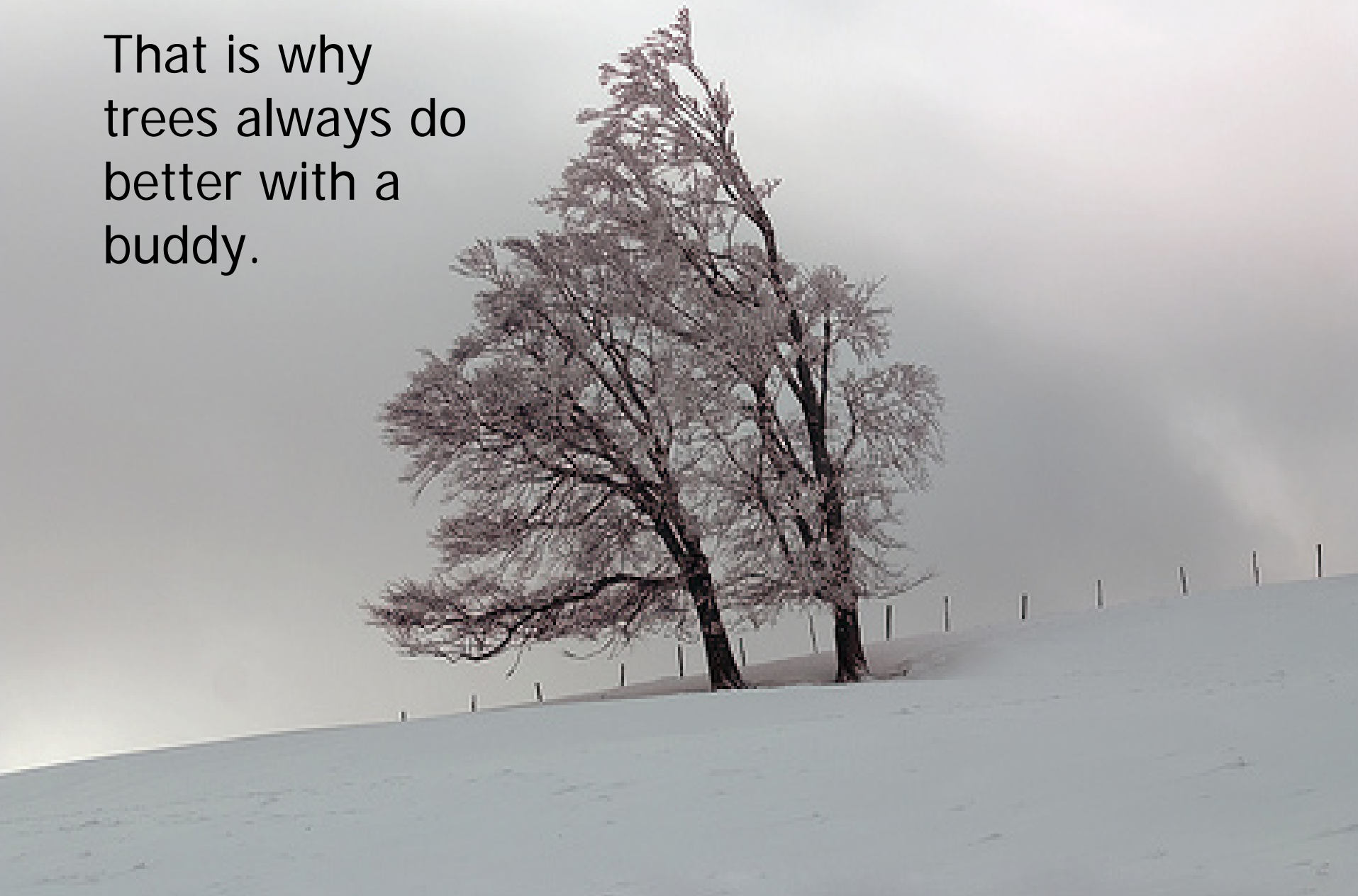


Interplant  
hyphal linkages

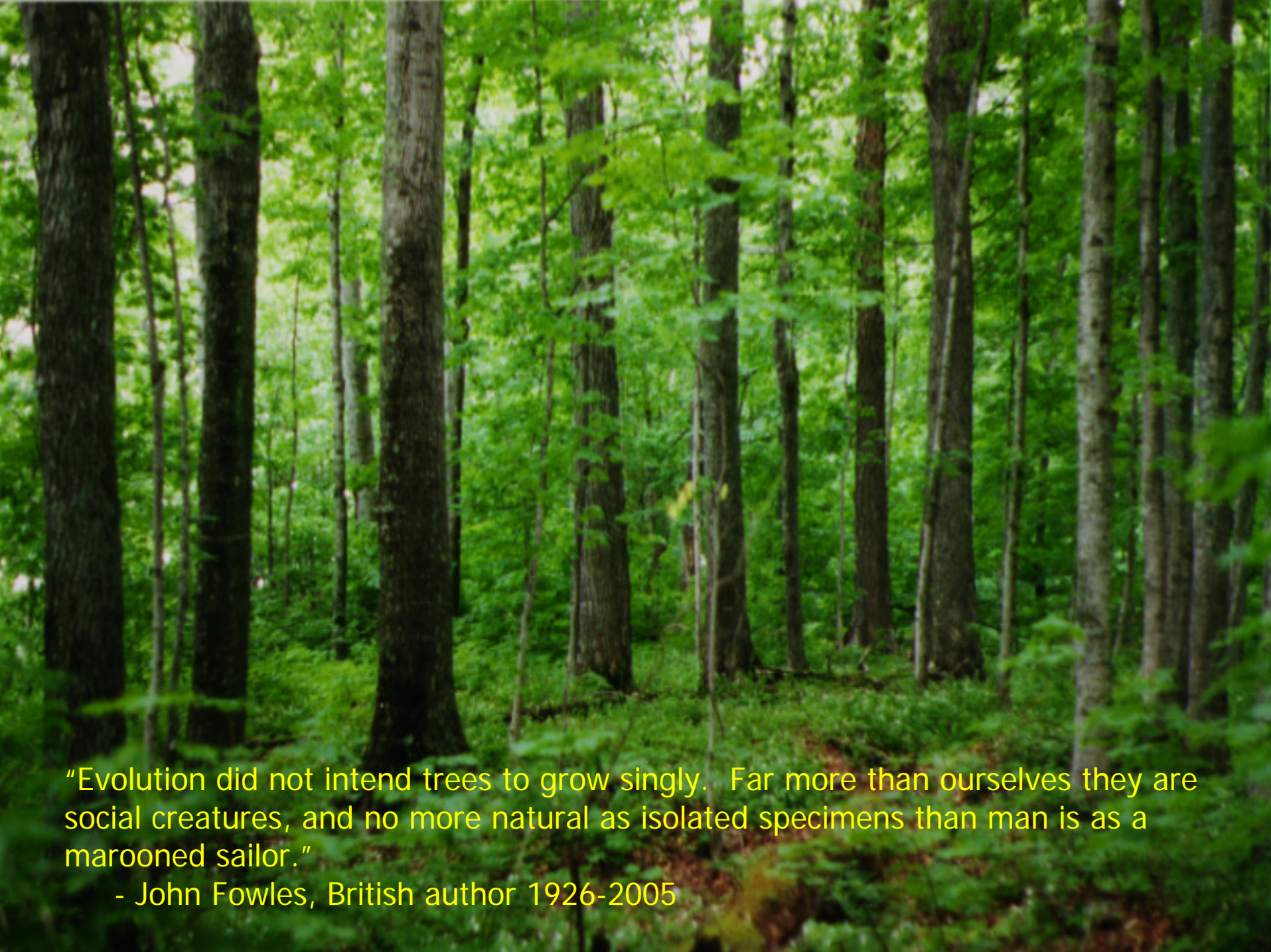




That is why  
trees always do  
better with a  
buddy.



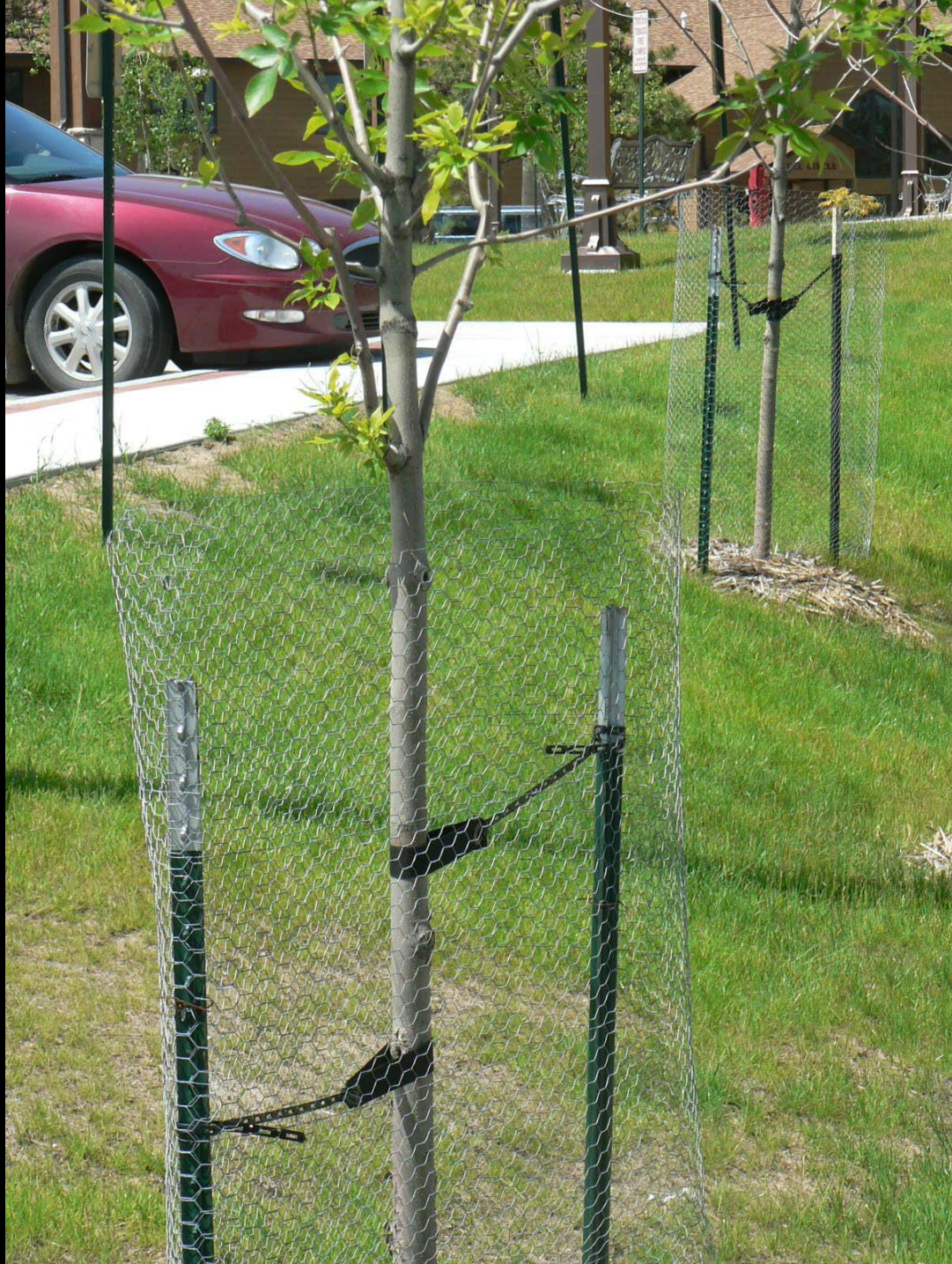


A photograph of a dense forest. The image shows numerous tall, slender tree trunks, likely deciduous, standing closely together. The canopy is thick with vibrant green leaves, creating a dappled light effect on the forest floor. The perspective is looking slightly into the distance, with trees in the foreground and background creating a sense of depth.

"Evolution did not intend trees to grow singly. Far more than ourselves they are social creatures, and no more natural as isolated specimens than man is as a marooned sailor."

- John Fowles, British author 1926-2005









Forest trees





Development of  
codominant  
leaders



# Tree support systems









A low-angle photograph looking up at the trunks of several trees in a forest. The trunks are dark and textured, with some showing signs of decay or peeling bark. The background is a clear blue sky with some wispy clouds. The perspective creates a sense of height and looking upwards.

The function of a tree's foliage is energy capture.

The foliage is the carbohydrate *source*, and all other living tissue are the *sinks*.

















6/22/97







Remove  
codominant  
leaders when the  
tree is young

Most structural  
pruning should be  
completed in the  
first 10 years













Remove  
suckers  
just after  
the  
leaves  
flush out  
or early  
summer.



















Trees work is the 5<sup>th</sup> highest risk profession in the US.







and stay away from the base





Grade changes





Two feet of backfill and  
seeded to a bluegrass/fescue  
lawn.







Don't try to  
"save" trees,  
save sites

A photograph of a tree trunk in a grassy field. The tree trunk is dark and textured, showing signs of decay or damage. The ground around the tree is disturbed, with loose soil and some small plants. The surrounding area is covered in green grass and dry pine needles. A yellow caution tape with the text "ROOT PRESERVATION ZONE" is overlaid on the bottom right of the image.

ROOT PRESERVATION ZONE



Avoid  
disturbances  
within a  
distance  
equal half  
the height of  
the trees



7/19/02









Year 1





Year 2





Year 3





Year 4



A suburban street scene featuring a paved road, sidewalks, and green lawns. In the foreground, a young tree with green leaves stands on a lawn. To the left, a white mailbox is mounted on a post. In the background, there are houses with white siding and dark shutters, and several cars parked on the street.

Young trees



Emerald ash borer







Elm lined streets - 1930









Ash lined streets - 2000



No more than 5 percent of the trees in a community should be in the same genus.

Look what your neighbors have planted and plant something else!







Anyone can keep a tree alive for a year!



























The five year  
survival for urban  
trees is less than  
50%!







Move trees, not soil









Community tree  
planting projects  
often have a 5-year  
mortality of 85%



And they often kill  
them by planting  
too deep.







planted too deep









Depth to the structural roots



And if they are not planted  
too deep, they come in  
the ball too deep.













# Ball-washing





















A white plastic nursery container, likely a 1-gallon pot, is shown. It contains a plant with large, green, serrated leaves. The container has a label with the text "Proven Winners®", "PW", "ColorChoice®", and "Flowering Shrubs". The container is sitting on a gravel surface. The background is dark and out of focus.

Container planting

Proven Winners®

PW

ColorChoice®

Flowering Shrubs

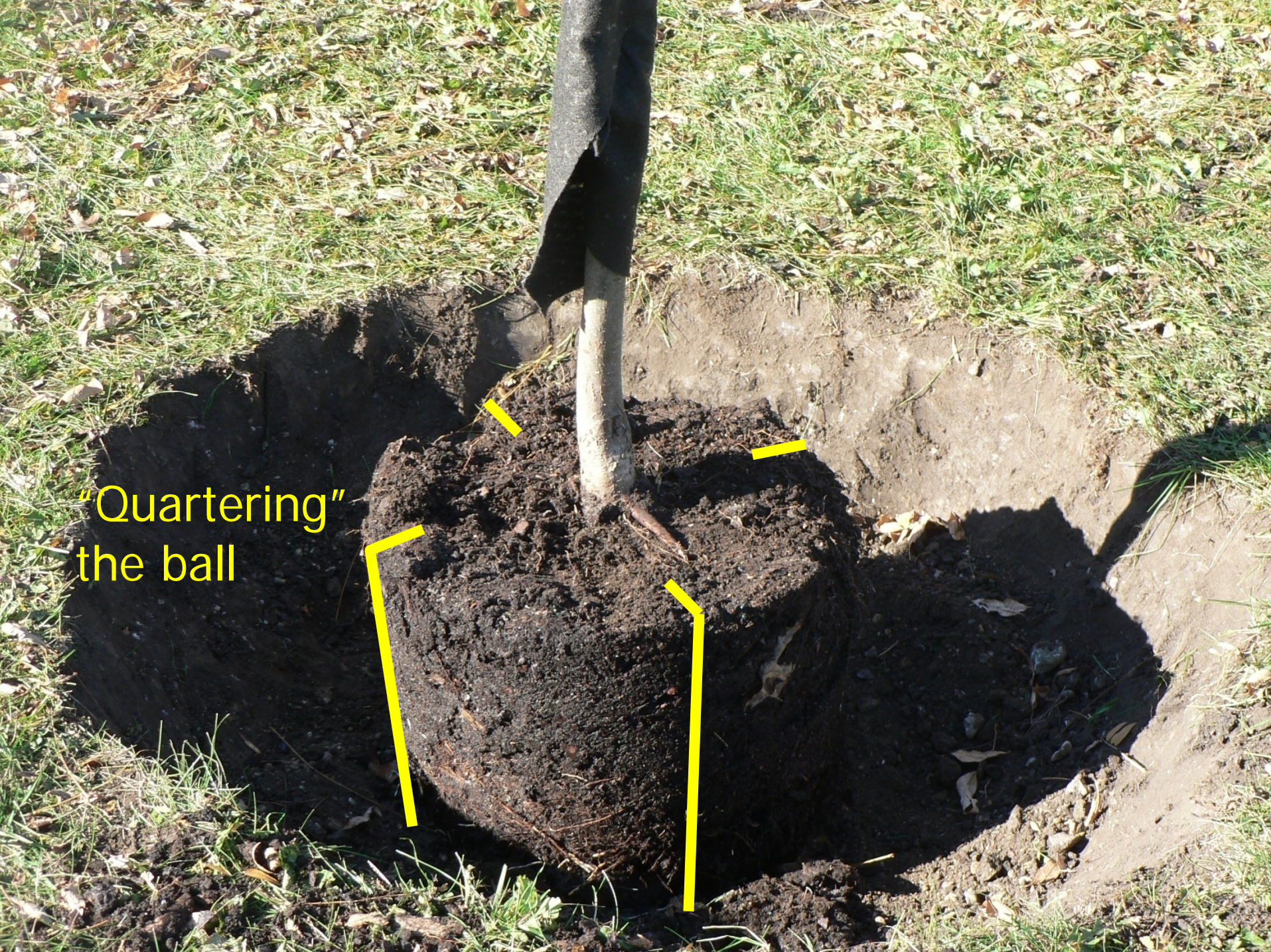




Circling roots



"Quartering"  
the ball













Shaving  
the ball





Probably more  
trees are killed  
by staking  
than saved













Irrigation, either too much, too often...





or too little, too late





Fireblight???









A green plastic bag is tied around the trunk of a young tree. The bag is full of water and hangs down to the ground, which is covered with a layer of wood chips. The background is a grassy area.

Water daily for the first few weeks, about one gallon per diameter inch





Spread 3 ft  
depth 4 in







Don't work *for* clients  
Work *with* partners





# So who is the real urban forester?



Urban foresters: responsible  
for 10% of urban forest



Women: responsible for 90%  
of the urban forest







- The typical tree and lawn care service purchaser is a women. In a married household women are responsible for 62% of the decisions who to hire, another 34% are joint decisions.





A photograph of a nursery or garden center. In the foreground and middle ground, there are numerous potted plants, mostly shrubs and small trees, arranged in rows. Many of the plants have white identification tags stuck in the soil. The plants vary in color, including green, yellow, and reddish-brown. In the background, there is a chain-link fence. Behind the fence, there are some white rectangular objects, possibly signs or covers, and a large black tarp hanging over a structure. The ground is covered with dark gravel.

The place or person she most frequently turns to for help.

47% - garden centers

32% - friends/neighbors

10% - tree/lawn care

3% - government

Stamen et al. 1995. Univ. Calif. Coop. Ext.



A photograph of a sunset over a dark horizon. The sun is a bright, glowing orb low on the horizon, casting a warm orange and yellow light across the sky. The sky is filled with dark, textured clouds. The foreground is a dark, silhouetted landscape with a line of trees and bushes. The overall mood is peaceful and serene.

**THANK YOU**

**Peaceful Prairie Farm, Brookings, South Dakota**