

Choosing & Planting Trees for Cities and Communities



*Brought to you by
the West Virginia Division of Forestry
Urban and Community Forestry*

This booklet provides a list of tree species intended to be used as a starting point for planting projects. These species will perform well in West Virginia if they are compatible with the restrictions of their planting site.



Benefits of Trees

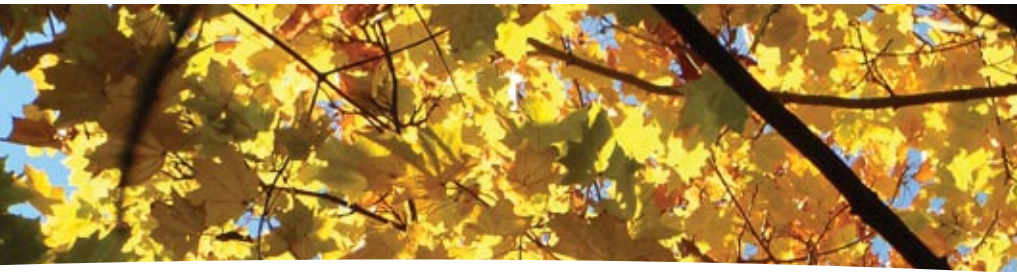
- Provide cooling shade during summer months and screening from winter winds
- Adds softness to harsh urban landscapes
- Reduce air and noise pollution
- Conserve water and reduce soil erosion
- Create wildlife and plant diversity

Planting Site Design Tips

- Incorporate trees into designs for roadways, sidewalks and parking lots. For maximum benefit create continuous planting strips (tree lawns) between the sidewalk and roadway that are at least 6' wide.
- Keep trees at least 40' from intersections, road signs and traffic signals.
- Do not plant trees with a mature height >30' under or near overhead utility lines.
- Find out the mature height and width of your tree and make sure the planting site is large enough to accommodate future growth
- Pick sites with ample soil moisture and good soil quality and volume. A healthy root system will spread farther than the branches.
- Construct sidewalk cutouts and planters to maximize tree rooting area. A minimum of 6' x 6' is needed for a small or medium tree.

Unsuitable Planting Sites

- ✗ Presence of overhead utility lines, except when planting small trees
- ✗ Sites with highly compacted soil
- ✗ Sites with high exposure to vehicle exhaust
- ✗ Sites with underground utility lines or pipes
- ✗ Within 40' of an intersection, road sign, or traffic signal
- ✗ Within 20' of a building foundation
- ✗ Sites in close proximity to entryways



General Considerations for Tree Selection

- Consider tree function. Shade, screening, aesthetics, or erosion control/prevention? Look for trees with nice year-round characteristics, such as bark, crown shape and branching habit.
- Consider tree shape. How fast will it grow? How tall will it grow? How far will the branches spread?
- Consider tree character. Does the tree have a dense canopy (more summer shade) or a sparse canopy (less summer shade)?
- Consider tree maintenance. Is it easy to care for? Does the tree produce messy fruit?
- Planting site factors: Hardiness zone, space restrictions (above and below), soil pH, moisture, density and amount of sunlight.
- Select trees suitable for urban environments that tolerate poor soils, heat and pollutants.
- Avoid planting trees that are already all too common and those with poor growth habits, such as callery pear (*Pyrus calleryana*), silver maple (*Acer saccharinum*), Norway maple (*Acer platanoides*), and weeping willow (*Salix babylonica*).
- Develop a list of tree species that will perform well at the proposed planting site.
- Each tree species has advantages and disadvantages.
- Strive for diversity – always plant a variety of tree species of several different genera.

Two good sources of additional information are:

Dirr, Michael A. 1998. Manual of Woody Landscape Plants. Stipes Publishing, Champaign, IL

Gerhold, Henry D., Norman L. Lacasse, and Willet N. Wandell eds. 1992. Street Tree Factsheets. Penns State University, University Park, PA

Small Trees

<30' mature height; <35' mature width; Ideal for tree lawns >2' wide, cutouts at least 4' wide by 4' deep and under utility lines



<u>Crown Shape</u>	<u>Symbol</u>	<u>Special Applications</u>	<u>Symbol</u>
Globose.....	G	Sidewalk cutout.....	SW
Oval.....	O	Planter.....	PL
Rounded.....	R	Native.....	N
Pyramidal.....	P	Showy Flowers.....	SF
Upright.....	U	Fruit/Nut Conflicts.....	F/N
Columnar.....	C		
Wide-spreading.....	W		
Vase.....	V		
Irregular/variable	I		



<u>Common Name</u>	<u>Scientific Name</u>	<u>Shape</u>	<u>Special</u>
Amanogawa Oriental Cherry	<i>Prunus serrulata</i> 'Amanogawa'	C	SF

Crabapples

Adams	<i>Malus</i> 'Adams'	G	SF, FN
Adirondack	<i>Malus</i> 'Adirondack'	C	SF, FN
Centurion	<i>Malus</i> 'Centzam'	O	SF, FN
Donald Wyman	<i>Malus</i> 'Donald Wyman'	G	SF, FN
Harvest Gold	<i>Malus</i> 'Horgozam'	C	SF, FN
Prairifire	<i>Malus</i> 'Prairifire'	O	SF, FN
Professor Sprenger	<i>Malus</i> 'Professor Sprenger'	O	SF, FN
Sentinel	<i>Malus</i> 'Sentinel'	C/V	SF, FN
Snowdrift	<i>Malus</i> 'Snowdrift'	O	SF, FN
Sugar Tyme	<i>Malus</i> 'Sutyzam'	O	SF, FN

Eastern redbud	<i>Cercis canadensis</i>	O	
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Hawthorns

Thornless Cockspur	<i>Crataegus crus-galli</i>	G	FN
Crimson Cloud	<i>Crataegus laevigata</i> 'Superba'	O	SF, FN
Washington	<i>Crataegus phaenopyrum</i>	O	FN
Winter King Green	<i>Crataegus viridis</i>	V	FN
Vaughn	<i>Crataegus</i> 'Vaughn'	G	FN

Japanese Snowbell	<i>Styrax japonica</i>	C	
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<u>Common Name</u>	<u>Scientific Name</u>	<u>Shape</u>	<u>Special</u>
Kousa Dogwoods			
Milky Way	<i>Cornus kousa</i> 'Milky Way'	V	SW,PL
Prophet	<i>Cornus kousa</i> 'Propzam'	V	SW,PL
Samaritan	<i>Cornus kousa</i> 'Samzam'	R	SW,PL
Satomi	<i>Cornus kousa</i> 'Satomi'	O	SW,PL
Constellation Dogwood	<i>Cornus kousa</i> x <i>Cornus florida</i> 'Rutcan'	R	

Maples

Amur Maple	<i>Acer ginnala</i>	G/O	SW,PL
Tatarian Maple	<i>Acer tataricum</i>	G/O	SW,PL

Serviceberries

Spring Glory	<i>Amelanchier canadensis</i> 'Sprizam'	O/C	
Cumulus	<i>Amelanchier laevis</i> 'Cumulus'	C	
Majestic	<i>Amelanchier laevis</i> 'Majestic'	O	
Autumn Brilliance	<i>Amelanchier</i> x <i>grandiflora</i> 'Autumn Br.'	O	
Princess Diana	<i>Amelanchier</i> x <i>grandiflora</i> 'Princess Diana'	O	
Robin Hill	<i>Amelanchier</i> x <i>grandiflora</i> 'Robin Hill'	O	
Tradition	<i>Amelanchier</i> x <i>grandiflora</i> 'Trazam'	O	

Silverbell

<i>Halesia carolina</i>	C	
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Tree Lilacs

Ivory Silk Japanese	<i>Syringa reticulata</i> 'Ivory Silk'	O	SF
Summer Snow	<i>Syringa reticulata</i> 'Summer snow'	G	SF

Evergreens

Hicks Yew	<i>Taxus media hicksi</i>	P	
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Junipers

Gray Gleam	<i>Juniperus scopulorum</i> 'Gray Gleam'	P	
Moffettii	<i>Juniperus scopulorum</i> 'Moffettii'	P	
Moonglow	<i>Juniperus scopulorum</i> 'Moonglow'	P	
Emeral Sentinel	<i>Juniperus virginiana</i> 'Emerald'	P	

(Do not plant near rust susceptible crabapple, hawthorn, or serviceberry; select for use in hedgerows for wind and snow breaks and for screening)

Arborvitae

Elegantissima	<i>Thuja occidentalis</i> 'Elegantissima'	P	
Emerald	<i>Thuja occidentalis</i> 'Emerald'	P	
Nigra	<i>Thuja occidentalis</i> 'Nigra'	P	
Wintergreen	<i>Thuja occidentalis</i> 'Wintergreen'	P	

(Select for use in hedgerows for wind and snow breaks and for screening)

Medium Trees

30'-50' Mature Height; <45' Mature Width; Ideal for plantings at least 25' from buildings and utility lines, and tree lawns >4' wide



<u>Crown Shape</u>	<u>Symbol</u>	<u>Special Applications</u>	<u>Symbol</u>
Globose.....	G	Sidewalk cutout.....	SW
Oval.....	O	Planter.....	PL
Rounded.....	R	Native.....	N
Pyramidal.....	P	Showy Flowers.....	SF
Upright.....	U	Fruit/Nut Conflicts.....	F/N
Columnar.....	C		
Wide-spreading.....	W		
Vase.....	V		
Irregular/variable	I		



<u>Common Name</u>	<u>Scientific Name</u>	<u>Shape</u>	<u>Special</u>
American Holly	<i>Ilex opaca</i>	P	N
American Hophornbeam	<i>Ostrya virginiana</i>	P	N
American Hornbeam	<i>Carpinus caroliniana</i>	O/C	N

Cherries

Columnar Sargent	<i>Prunus sergentii</i> 'Columnaris'	C	
Kwanzan	<i>Prunus serrulata</i> 'Sekiyama'	V	
Yoshino	<i>Prunus x yedoensis</i>	R	

Goldenrain Tree	<i>Koelreuteria paniculata</i>	G	SF
Hedge Maple	<i>Acer campestre</i>	R	

Corktrees

Macho Amur	<i>Phellodendron amurense</i> 'Macho'	O	
Shademaster Amur	<i>Phellodendron amurense</i> 'PNI 4551'	O	

Mountain Ash	<i>Sorbus</i> spp.	I	N
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Sourwood	<i>Oxydendrum arboreum</i>	P	N
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Southern Magnolia	<i>Magnolia grandiflora</i>	C	SF
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Large Trees

>50' Mature Height; up to 90' Mature Width; Ideal for parks, open lawns, and greenspaces, tree lawns >8' wide or greater and sites with no utility lines.



<u>Crown Shape</u>	<u>Symbol</u>	<u>Special Applications</u>	<u>Symbol</u>
Globose.....	G	Sidewalk cutout.....	SW
Oval.....	O	Planter.....	PL
Rounded.....	R	Native.....	N
Pyramidal.....	P	Showy Flowers.....	SF
Upright.....	U	Fruit/Nut Conflicts.....	F/N
Columnar.....	C		
Wide-spreading.....	W		
Vase.....	V		
Irregular/variable	I		

<u>Common Name</u>	<u>Scientific Name</u>	<u>Shape</u>	<u>Special</u>
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Ash

White	<i>Fraxinus americana</i>	O	N
Green	<i>Fraxinus pennsylvanica</i>	O/G	N

Baldcypress	<i>Taxodium distichum</i>	P/C	
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Beech

American	<i>Fagus grandifolia</i>	P/U	N
European	<i>Fagus sylvatica</i> 'Atropunicea'	P	

Black Gum	<i>Nyssa sylvatica</i>	P	N
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Bloodgood London Planetree	<i>Platanus x acerifolia</i> 'Bloodgood'	O	
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Cucumber Tree	<i>Magnolia acuminata</i>	O/U	N
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Dawn Redwood	<i>Metasequoia glyptostroboides</i>	C	
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Japanese Zelkova	<i>Zelkova serrata</i>	V	
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Lindens

Littleleaf	<i>Tilia cordata</i>	O	
American	<i>Tilia americana</i>	C	
Silver	<i>Tilia tomentosa</i>	C/O	

Maples

Norway	<i>Acer platanoides</i>	O/G	
Sugar	<i>Acer saccharum</i>	O	N
Red	<i>Acer rubrum</i>	O/G	N



<i>Common Name</i>	<i>Scientific Name</i>	<i>Shape</i>	<i>Special</i>
Ginko (male trees only)	<i>Ginko biloba</i>	I	
Shagbark Hickory	<i>Carya ovata</i>	U	N
Honeylocust			
Shademaster	<i>Gleditsia tricanthos</i> 'PNI 2835'	O/V	
Skyline	<i>Gleditsia tricanthos</i> 'Skycole'	O	
Horsechestnut	<i>Aesculus hippocastanum</i>	O	N
Hackberry	<i>Celtis occidentalis</i>	G	N
Katsuratree	<i>Cercidiphyllum japonicum</i>	P	
Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	O	
Oaks			
Pin	<i>Quercus palustris</i>	N, FN	
Chinkapin	<i>Quercus muehlenbergii</i>	O	N, FN
Shingle	<i>Quercus imbricaria</i>	G	FN
Sawtooth	<i>Quercus acutissima</i>	O/G	FN
Willow	<i>Quercus phellos</i>	O	FN
English	<i>Quercus robur</i>	O/G	FN
Northern Red	<i>Quercus rubra</i>	O	N, FN
Shumard	<i>Quercus shumardii</i>	O	FN
White	<i>Quercus alba</i>	R	N, FN
Pagodatree	<i>Sophora japonica</i>	O	N
Spruce			
Norway	<i>Picea abies</i>	P	
Colorado Blue	<i>Picea pungens</i>	P	
Sweetgum	<i>Liquidambar styraciflua</i>	P/U	N, FN
Turkish Filbert	<i>Corylus colurna</i>	P	
White Pine	<i>Pinus strobus</i>	P	
Yellow Poplar	<i>Liriodendron tulipifera</i>	P/U	N

Planting Instructions

Selecting Nursery Stock

- Choose healthy, vigorous trees.
- Avoid trees with insects, disease, or damage to the trunk, branches or roots.
- Avoid trees with damage to trunk or branches, disease, or insects.
- Select trees with open, “U”-shaped branch attachment angles and trees with a single main stem (central leader). Avoid trees with narrow, “V”-shaped branch attachment angles, dense or crowding branches, or multiple main stems (codominant leaders).
- Avoid trees with circling and/or girdling roots.

Items You Will Need:

- | | |
|--|--|
| <input type="checkbox"/> Shovel | <input type="checkbox"/> Hammer or mallet (for driving stakes) |
| <input type="checkbox"/> Gloves | <input type="checkbox"/> Wooden stakes |
| <input type="checkbox"/> Bucket of water for holding trees | <input type="checkbox"/> Flexible staking material |
| <input type="checkbox"/> Mulch | <input type="checkbox"/> Plenty of water for each tree |
| <input type="checkbox"/> Pruning Shears | |

Steps for Successful Planting:

- Dig a hole at least twice as wide and only as deep as the root system. *See Figure 1.*
- You may need to prune off dead or excessively long root tips. Always use clean, sharp pruning shears.
- Spread the roots out so they are evenly distributed in the planting hole. A cone shaped mound of soil can be formed in the hole to help support the roots of bare root seedlings. *See Figure 1.*
- Do not bend the roots to force them into a planting hole that is too small. *See Figure 2.*
- Plant the tree at the correct depth. The upper roots should be just under the surface of the soil. Do not plant too deep. *See Figure 3.*
- Place the soil back in the hole and gently tamp to remove any air spaces. Roots should not be exposed above ground.
- You will need to provide a deep soaking watering for each tree at the time of planting and once each week for the first two growing seasons. Lack of water is the number one killer of newly planted trees!

- Mulch tree to a depth of 2” to 3” in an 18” diameter circle around each trunk. Maintaining adequate mulch increases growth and vigor while reducing damage from mowers and string trimmers.
- Do not allow mulch to be in direct contact with the trunk. This can promote the growth of decay causing agents.
- Trees will need very little pruning, if any, at the time of planting. Only dead, damaged or diseased branches should be removed.
- Do not add fertilizer or other soil amendments.
- If support is needed, place wooden stakes on opposite sides of the tree and support with wide, flexible material. Do not use wire or other rigid material. The tree must be able to flex to promote strong trunk development.

Tips for a Successful Planting

- Dig planting hole at least twice the width of the roots to allow for optimum root growth and expansion.
- Do not plant the tree too deeply. The upper roots should be just under the surface of the soil.
- Do not plant the tree to shallow. The roots should not be exposed above the soil line.
- Remove ALL materials from the root ball, including burlap, rope, wire baskets, etc.
- Remove trunk wrap - its only purpose is to protect the tree during shipping and planting.
- Water thoroughly – provide enough to soak entire root ball.
- Provide a layer of mulch 2”-3” deep, 18” in diameter around the tree. Do not mound mulch or leave mulch in contact with trunk.
- Do not prune newly planted trees. Only dead, broken, or diseased branches should be removed at the time of planting.

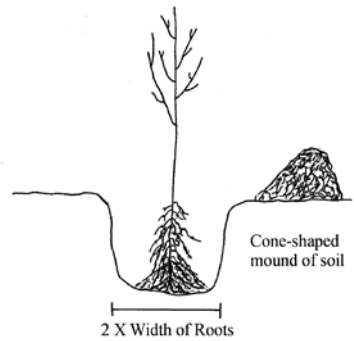


Figure 1. Dig planting hole two times the width of the roots. A cone-shaped mound of soil can be formed in the bottom of the hole to help support the roots.



Figure 2. Do not bend the roots to force them into a planting hole that is too small.

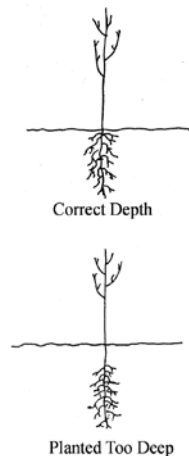


Figure 3. Plant the seedlings at the correct depth. Do not plant too deep.

Caring For Your Young Tree

- Do not prune your tree at time of planting. Allow at least one year for establishment.
- Water thoroughly every seven to ten days during the first growing season, depending on weather.
- Adjust staking materials every month during the first year to avoid damage to trunk. Remove stakes after the first year.



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