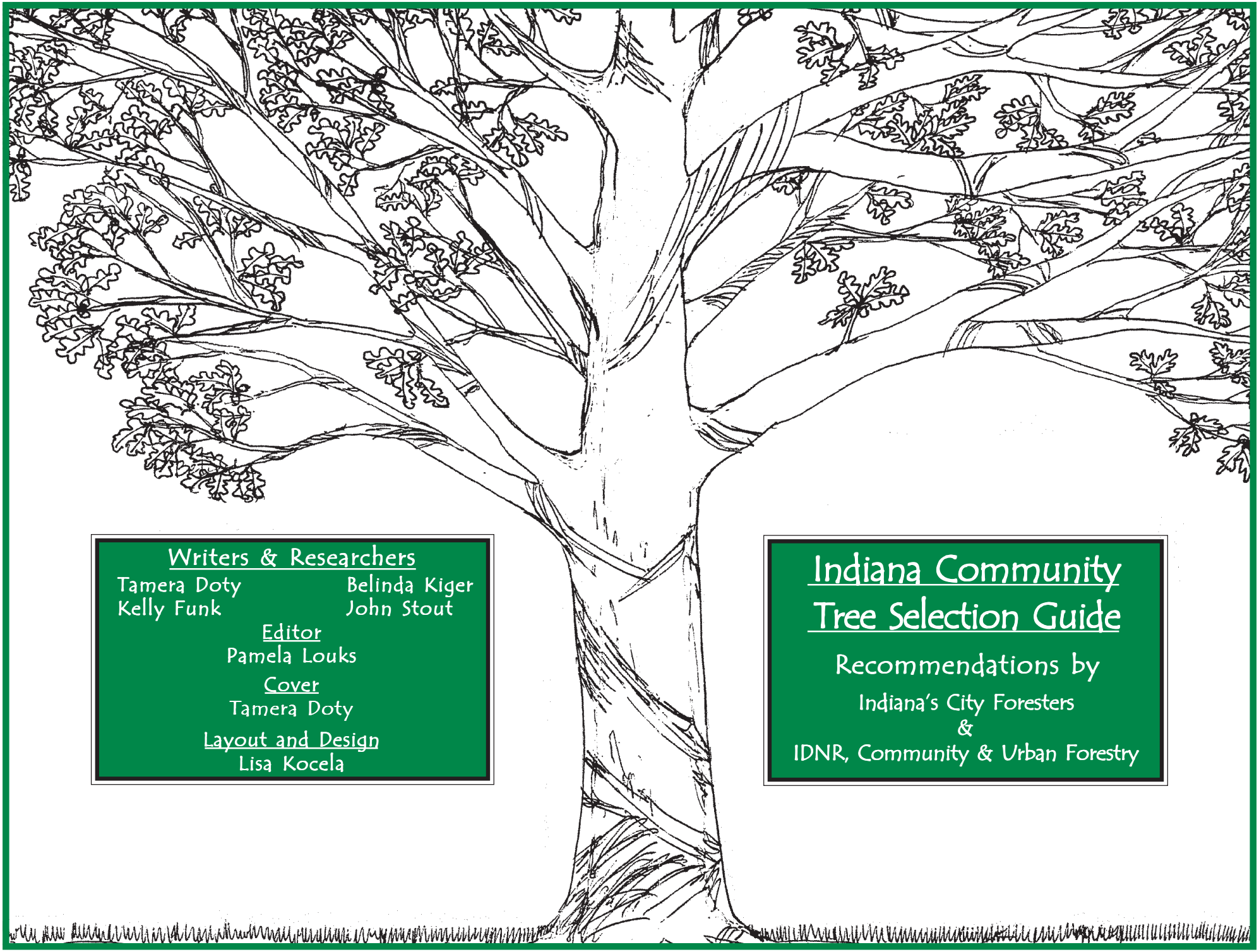

Indiana Community Tree Selection Guide

Recommendations by

Indiana's City Foresters

&

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Trees are extremely important in our cities, towns, and neighborhoods. They comprise our urban forest and offer Indiana residents a multitude of benefits.

Trees:

- Provide shade and cooling in the summer
- Slow winter winds
- Screen unsightly views
- Provide oxygen
- Clean our air
- Reduce noise
- Increase property values

Plan Before You Plant

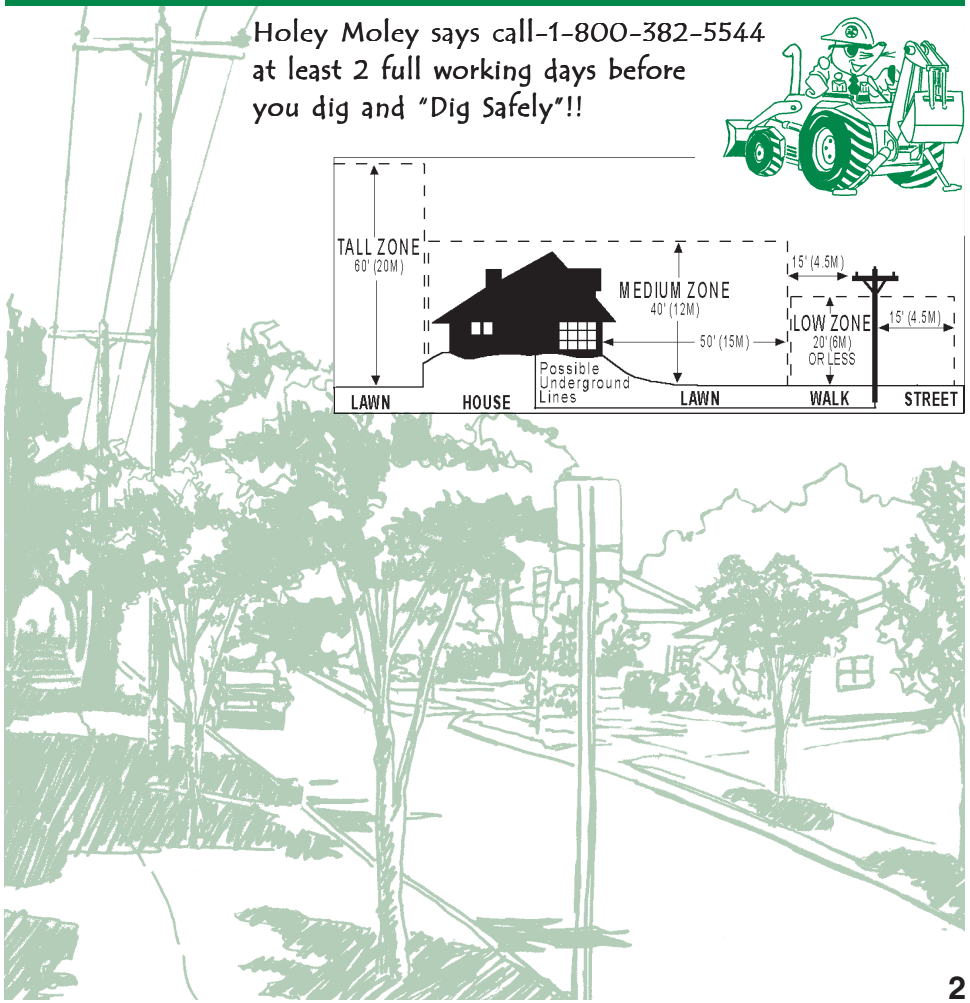
Before a tree is planted in the urban landscape, the project needs to be planned with care. Tree planters in cities and towns need to always determine whether the planting site is on public property. (If it is, a permit may be needed to plant since a public tree ordinance may be in effect. There may also be a city forester available to help select the right tree for the right place.)

Technical information is needed for cities, towns, non-profits, and tree boards to determine what tree is best suited for a particular site. This guide can help. While it is not an all inclusive list, it will help users. It will also help planters select the right tree for the right place.

RIGHT TREE RIGHT PLACE CONSIDERATIONS

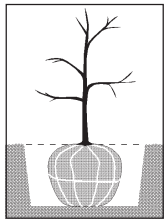
- Look up, down, all around, above and below ground! What utilities, structures, signs, and other infrastructure are present?
- How large is the planting area? What size tree will fit there- WHEN IT GROWS UP?
- Consider mature height and width.
- If any utilities are present, consult the utility. What trees do they recommend for planting in the utility easement?
- Consider the trees' function. Is it for shade, screen or buffer?
- What moisture, light, and air pollution issues are in the area?
- What is the soil like? Will it accommodate trees and plants?

Holey Moley says call-1-800-382-5544 at least 2 full working days before you dig and "Dig Safely"!!



Users Guide

Definitions



Balled and Burlapped A tree dug out of the ground with a ball of soil around the roots. The soil ball is usually covered with burlap and wrapped with string or wire baskets for support.

Bare-root A tree dug out of a loose growing medium with no soil around the roots. Some trees are sold as bare-root.

Berry A fleshy fruit, with one to many seeds; developed from a single ovary.

Characteristic Traits or qualities of a tree, such as its leaf color, flowers, fruit, shape, size, structure, etc.

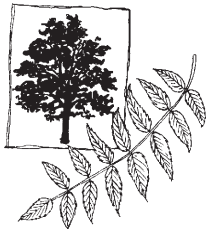
City Forester This person employed by the community is also called urban forester, city arborist, beautification manager etc. They are in charge of managing the trees in the community and implementing the urban forestry program usually with a volunteer, advisory committee called a tree board or commission.

Clump Form A tree that has more than one trunk.

Conifer A cone-bearing tree or shrub, often evergreen, usually with needle-like leaves.

Container-grown A tree raised in a pot that is removed before planting. Many are sold by nurseries in this (potted) form.

Cultivar A variety of plant that is grown for its specific characteristics that may not be present with the original species.

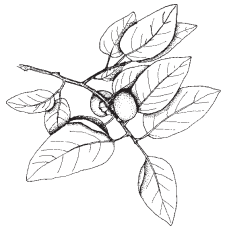


Deciduous A tree that drops its leaves every year.

Easement A portion of land where utilities are located that can be publicly or privately owned.

Evergreen A tree that retains green leaves throughout the year.

Exotic Species A tree species that has been imported from another region and does not grow naturally in the region it is being planted.

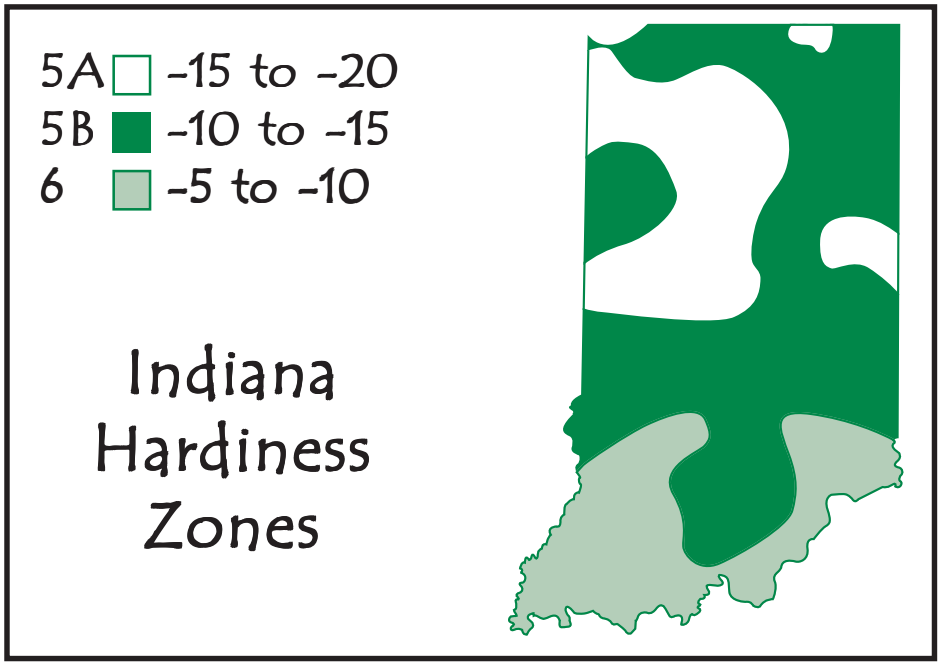


Foliage The leaves of a tree.

Fruit The fully developed ovary of a flower containing one or more seeds.

Habit The characteristic growth form or general shape of a plant.

Hardiness Zone Used to indicate geographic limits of cold hardiness.



Hybrid The offspring of two parent trees belonging to different species, subspecies, genera, or clones.

Maturity The point of being fully grown and reaching the potential height and width.

Native Species A tree species that grows naturally in the region that it is being planted.

Nut A hard, bony, one-celled fruit that does not split, such as an acorn.

Ordinance, Tree An enforceable tool for the city that mandates proper tree care, gives force and direction to professional tree care performed by anyone in the community on public trees, and gives size and placement planting requirements for small, medium, and large trees to enhance, preserve, and protect the health of the urban forest.

Public Right-of-Way Area between private property line and the street owned by a town or city.

Root The underground portion of a tree that serves to anchor and absorb water and minerals from the soil.

Seed A fertilized, ripened ovule, almost always covered with a protective coating and contained in a fruit.

Semi-evergreen A plant that retains at least some green foliage well into winter.

Shrub A woody, perennial plant, smaller than a tree, usually with several stems or trunks. Some can be grown as small trees if pruned properly.

Site The location where the tree will be planted.

Species A population of plants or animals whose members reproduce by breeding with each other.

Specimen A tree placed conspicuously alone in a prominent place to show off its ornamental qualities.

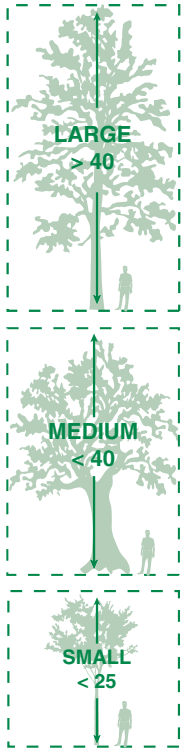
Street Tree Trees growing in the public street right-of-way that is usually owned by a town or city.

Structure An item that could hinder the proper growth of a tree such as a building, manholes, utility poles, utility meters, hydrants, catch-basins, stop signs etc.

Tree lawn The space where street trees are planted, usually in the public-right-of-way and between the street and sidewalk.

Tree A deciduous or coniferous woody plant that is characteristically more than twelve (12) feet in height when it reaches maturity and has fewer than six (6) main stems and most often one main stem.

Tree, large A tree that can attain a mature height of over **40 feet** at maturity.



Tree, medium A tree that can attain a mature height of **25 to 40 feet** at maturity.

Tree, small A tree that can attain a mature height of **less than 25 feet at maturity**. Only small trees should be planted under power lines.

Utilities A public service line such as gas, electric, sewer and phone. These lines can be above ground and/or below ground.

Variety A population of trees differing slightly but consistently from the typical form of the species and occurring naturally. More loosely applied to forms produced in cultivation.

Woody Plants Plants that have hard rather than fleshy stems and produce buds that survive above ground in winter.

40 ft. and greater

LARGE TREES

Indiana Community Tree Selection Guide

	Genus	Species	Common name	1 Native	2 Useful range	3 Drought tolerant	4 Wet tolerant	5 Salt tolerant	6 Insect & disease susceptible	7 Easy to transplant	8 Cultivated varieties	9 Fruit	10 Showy flower	11 Fall color
MAPLE	*Acer*	nigrum	**Black Maple**	Y	all	N	N	N	N	Y	N	Y	N	Y
	Acer	rubrum	**Red Maple**	Y	all	N	Y	N	N	Y	Y	Y	N	Y
	Acer	saccharum	**Sugar Maple**	Y	all	N	N	N	N	Y	Y	Y	N	Y
	Acer	x freemanii	**Freeman Maple**	N	all	Y	Y	Y	N	Y	Y	Y	N	Y
CHESTNUT	*Aesculus*	hippocastanum	**Horse Chestnut**	Y	all	M	M	M	Y	M	Y	Y	Y	Y
	Aesculus	glabra	**Ohio Buckeye**	Y	all	M	M	M	Y	M	Y	Y	Y	Y
	Aesculus	x carnea	**Red Horse Chestnut**	N	C-S	Y	Y	Y	Y	N	Y	Y	Y	Y
ALDER	*Alnus*	glutinosa	**Black Alder**	N	all	N	Y	N	Y	Y	Y	Y	N	N
BIRCH	*Betula*	nigra	**River Birch**	Y	all	N	Y	M	N	M	Y	Y	N	Y
HICKORY	*Carya*	cordiformis	**Bitternut Hickory**	Y	all	M	M	M	N	N	N	Y	N	Y
	Carya	glabra	**Pignut Hickory**	Y	all	Y	M	M	N	N	N	Y	N	Y
	Carya	laciniosa	**Shellbark Hickory**	Y	all	Y	Y	M	N	N	N	Y	N	Y
	Carya	ovata	**Shagbark Hickory**	Y	all	Y	M	M	N	N	N	Y	N	Y
	Carya	tomentosa	**Mockernut Hickory**	Y	all	M	M	M	N	N	N	Y	N	Y
HACKBERRY	*Celtis*	laevigata	**Sugar Hackberry**	N	C-S	Y	Y	N	N	Y	Y	Y	N	Y
	Celtis	occidentalis	**Common Hackberry**	Y	all	Y	Y	N	N	Y	Y	Y	N	Y
BEECH	*Fagus*	grandifolia	**American Beech**	Y	all	N	N	N	N	N	N	Y	N	Y
	Fagus	sylvatica	**European Beech**	N	all	N	N	N	N	M	Y	Y	N	Y
*ASH	*Fraxinus*	americana	**White Ash**	Y	all	Y	M	Y	Y	M	Y	Y	N	Y
	Fraxinus	excelsior	**European Ash**	N	all	M	M	Y	Y	Y	Y	Y	N	Y
	Fraxinus	pennsylvanica	**Green Ash**	Y	all	M	M	M	Y	Y	Y	Y	N	Y
	Fraxinus	quandrangulata	**Blue Ash**	Y	all	M	M	M	Y	Y	N	Y	N	Y
(female fruits-messy/smells bad)GINKGO	*Ginkgo*	biloba	**Ginkgo**	N	all	Y	M	M	N	M	Y	Y-F	N	Y
HONEYLOCUST	*Gleditsia*	triacanthos	**Honeylocust**	Y	all	Y	Y	Y	Y	Y	Y	Y	N	Y
KENTUCKY COFFEE	*Gymnocladus*	dioicus	**Kentucky Coffee Tree**	Y	all	Y	M	M	N	M	N	Y-F	N	Y
SWEETGUM	*Liquidambar*	styraciflura	**Sweetgum**	Y	C-S	M	Y	M	N	M	Y	Y	N	Y
(state tree)TULIP	*Liriodendron*	tulipifera	**Tulip Tree**	Y	all	M	M	N	Y	M	N	Y	Y	Y
REDWOOD	*Metasequoia*	glyptostroboides	**Dawn Redwood**	N	all	M	N	N	N	M	Y	Y	N	Y
BLACK GUM	*Nyssa*	sylvatica	**Black Gum**	Y	all	Y	Y	Y	Y	N	N	Y	N	Y
SYCAMORE	*Platanus*	occidentalis	**Sycamore**	Y	all	Y	Y	Y	Y	Y	N	Y	N	Y
PLANETREE	*Platanus*	x acerifolia	**London Planetree**	N	all	Y	Y	Y	Y	Y	Y	Y	N	N
OAK	*Quercus*	acutissima	**Sawtooth Oak**	N	all	Y	M	M	N	M	N	Y	N	N
	Quercus	alba	**White Oak**	Y	all	M	N	Y	N	M	N	Y	N	Y
	Quercus	bicolor	**Swamp White Oak**	Y	all	M	Y	M	N	M	N	Y	N	Y
	Quercus	imbricaria	**Shingle Oak**	Y	all	Y	Y	M	M	M	N	Y	N	N
	Quercus	macrocarpa	**Bur Oak**	Y	all	Y	M	M	N	M	N	Y	N	N
	Quercus	robur	**English Oak**	N	all	M	M	Y	N	M	Y	Y	N	N
	Quercus	rubra (borealis)	**Nothern Red Oak**	Y	all	M	N	Y	Y	Y	N	Y	N	Y
	Quercus	shumardii	**Schumard Oak**	Y	all	Y	M	M	N	M	N	Y	N	Y
CYPRESS	*Taxodium*	distichum	**Bald Cypress**	Y	all	N	Y	Y	N	M	Y	Y	N	Y
LINDEN	*Tilia*	cordata	**Littleleaf Linden**	N	all	M	M	N	Y	Y	Y	Y	N	Y
	Tilia	tomentosa	**Silver Linden**	N	all	M	M	M	Y	Y	Y	Y	N	Y
	Tilia	x euchiora	**Crimean Linden**	N	all	M	M	N	Y	Y	Y	Y	N	N
ZELKOVA	*Zelkova*	serrata	**Japanese Zelkova**	N	all	M	Y	M	N	M	Y	N	N	Y

* Due to Emerald Ash Borer threat, limit plantings.

TABLE KEY:

Y=yes
N=no
M=Moderate tolerance
All=all regions
C/S=Central to South
F=female

Large Tree Tips

- *Grow to be over 40 feet at maturity.*
- *Recommended for streets with no overhead restrictions and with tree lawns 4-6 ft. or more in width.*
- *Recommended for large areas such as parks, school yards, homeowner yards.*
- *Plant at least 1/2 the mature height of the tree from structures.*
- ***DO NOT PLANT UNDER OR NEAR POWER LINES.***

25 - 40 ft.

MEDIUM TREES

Indiana Community Tree Selection Guide

	Genus	Species	Common name	1 Native	2 Useful range	3 Drought tolerant	4 Wet tolerant	5 Salt tolerant	6 Insect & disease susceptible	7 Easy to transplant	8 Cultivated varieties	9 Fruit	10 Showy flower	11 Fall color
MAPLE	*Acer*	campestre	**Hedge Maple**	N	all	Y	M	Y	M	Y	Y	Y	N	Y
MAPLE	*Acer*	maximowiczianum	**Nikko Maple**	N	all	Y	M	Y	N	Y	N	Y	N	Y
MAPLE	*Acer*	triflorum	**Three-Flowered Maple**	N	all	N	N	M	N	Y	N	Y	N	Y
SERVICEBERRY	*Amelanchier*	species	**Serviceberry**	Y	all	N	M	N	Y	N	Y	Y	Y	Y
HORNBEAM	*Carpinus*	betulus	**European Hornbeam**	N	all	M	M	M	N	M	Y	Y	N	Y
HORNBEAM	*Carpinus*	caroliniana	**American Hornbeam**	Y	all	N	Y	N	N	N	N	Y	N	Y
KATSURA	*Cercidiphyllum*	japonicum	**Katsura Tree**	N	all	N	Y	N	M	N	N	Y	N	Y
YELLOWWOOD	*Cladrastis*	kentukea (lutea)	**Yellowwood**	Y	C-S	M	M	N	N	Y	N	Y	Y	Y
FILBERT	*Corylus*	colurna	**Turkish Filbert**	N	all	Y	M	N	N	N	N	Y	N	Y
HAWTHORN	*Crataegus*	crus-galli	**Cockspur Hawthorn**	Y	all	Y	N	N	Y	Y	Y	Y	Y	Y
HAWTHORN	*Crataegus*	phaenopyrum	**Washington Hawthorn**	Y	all	Y	M	N	Y	Y	Y	Y	Y	Y
HAWTHORN	*Crataegus*	viridis	**Winter King Green Hawthorn**	Y	all	Y	M	N	Y	Y	Y	Y	Y	Y
RUBBER	*Eucommia*	ulmoides	**Hardy Rubber Tree**	N	C-S	Y	N	M	N	Y	N	N	N	N
MAACKIA	*Maackia*	amurensis	**Amur Maackia**	N	all	Y	N	N	N	Y	N	Y	N	Y
MAGNOLIA	*Magnolia*	species	**Magnolia**	N	all	M	M	N	M	M	Y	Y	Y	Y
HORNBEAM	*Ostrya*	virginiana	**Hop Hornbeam**	Y	all	Y	Y	N	N	N	N	Y	N	Y
CORKTREE	*Phellodendron*	amurense	**Amur Corktree**	N	C-S	M	M	M	N	N	Y	Y	N	Y
PEAR	*Pyrus*	calleryana	**Callery Pear**	N	all	Y	N	M	M	Y	Y	Y	Y	Y
LOCUST	*Robinia*	x ambigua	**Purple Robe Locust**	N	all	M	N	Y	Y	Y	Y	Y	Y	Y

TABLE KEY:
Y=yes
N=no
M=Moderate tolerance
All=all regions
C/S=Central to South
F=female

Medium Tree Tips

- *Grow to be a 25-40 foot tree at maturity.*
- *Check for mature size before planting near utility lines.*
- *Recommended for areas around the home, yard and with tree lawns that are 4 ft. or greater.*
- *Plant at least 25-35 feet away from structures.*

25 ft. or less

SMALL TREES

Indiana Community Tree Selection Guide

	Genus	Species	Common name	1 Native	2 Useful range	3 Drought tolerant	4 Wet tolerant	5 Salt tolerant	6 Insect & disease susceptible	7 Easy to transplant	8 Cultivated varieties	9 Fruit	10 Showy flower	11 Fall color
MAPLE	*Acer*	ginnala	**Amur Maple**	N	all	Y	N	Y	N	Y	Y	Y	Y	Y
MAPLE	*Acer*	griseum	**Paperbark Maple**	N	all	Y	M	Y	M	N	N	Y	N	Y
MAPLE	*Acer*	tartaricum	**Tartarian Maple**	N	all	Y	M	Y	M	M	N	Y	Y	Y
REDBUD	*Cercis*	canadensis	**Eastern Redbud**	Y	all	Y	N	N	M	Y	Y	Y	Y	Y
DOGWOOD	*Cornus*	alterniflia	**Pagoda Dogwood**	Y	all	Y	Y	Y	M	Y	N	Y	Y	Y
DOGWOOD	*Cornus*	kousa	**Kousa Dogwood**	N	all	N	N	Y	M	Y	Y	Y	Y	Y
CHERRY	*Cornus*	mas	**Cornelian Cherry**	N	all	N	Y	N	Y	Y	Y	Y	Y	Y
CRABAPPLE	*Malus*	species	**Crabapples**	N	all	V	V	V	V	V	Y	Y	Y	Y
CHERRIES	*Prunus*	species	**Cherries**	N	all	V	V	V	V	V	Y	Y	Y	Y
LILAC	Syringa	reticulata	**Japanese Tree Lilac**	N	all	Y	N	Y	N	Y	Y	Y	Y	Y
VIBURNUM	*Viburnum*	lantana	**Wayfaring Tree**	all	Y	Y	Y	N	Y	N	Y	Y	Y	Y
VIBURNUM	*Viburnum*	lentago	**Nannyberry Viburnum**	Y	all	Y	Y	N	M	Y	N	Y	Y	Y
VIBURNUM	*Viburnum*	plicatum tomentosum	**Doublefile Viburnum**	N	all	Y	M	N	Y	Y	Y	Y	Y	Y
VIBURNUM	*Viburnum*	prunifolium	**Blackhaw Viburnum**	Y	all	Y	Y	M	Y	Y	N	Y	Y	Y

TABLE KEY:
Y=yes
N=no
M=Moderate tolerance
All=all regions
C/S=Central to South
F=female
V=varies with cultivar

Small Tree Tips

- *Generally can be planted under and near power lines.*
- *Check mature height and spread before planting.*
- *Recommended for lawn widths 3 ft. or greater.*

Tree Characteristics

All trees have certain characteristics that enable them to thrive in the right site. The following characteristics are listed in the key and the user can determine what tree will fit into the chosen site based on these characteristics.

Native

A tree species that grows naturally in the region that it is being planted.

Useful range

When selecting a tree to plant, consider the different climates in Indiana. Northern regions normally have colder winters than southern regions which can affect tree survival. Certain trees may be better suited for planting in one climate over another. The State of Indiana has been divided into three regions: North, Central, and South.

Drought tolerant

A drought tolerant selection may need to be considered when a site lacks sufficient water where heat stress may occur. Examples would be an open sunny location, parking lot or a street.

Wet tolerant

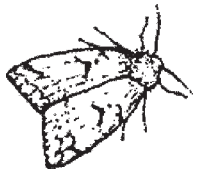
A wet tolerant tree selection may need to be considered when a site will have excessive moisture present. An example would be an area that floods or holds excessive soil moisture. A site with high clay soil may retain excessive water.

Salt tolerant

Salt tolerant trees may be needed when planted in locations where there is exposure to road salt spray or run off. Examples include areas along major thoroughfares, along salted sidewalks, and in parking lots.

Insect and disease prone

Insects and diseases can affect almost every tree. Most trees have specific problems, however, these may vary across different regions of the state. Severity of problems may change greatly from year to year. Tree selection should be made from disease resistant species in your area.



Easy to transplant

Certain species are easier to transplant than others. Transplanting time can also affect tree survival. Certain trees are best transplanted in spring because of slow recovery time after planting. The majority of the trees are best planted in the fall.

Cultivars

A named plant selection from which identical or near - identical plants can be produced through vegetative reproduction or cloning. They are often superior in quality.

Fruit or Seed

Tree fruiting may be considered a positive or negative. Positives can be fruit shape and color and the attraction of birds and other wildlife. Negatives are large falling fruit that causes excessive ground litter.

Showy flowers

All trees flower, however, some are more conspicuous than others. Typically, ornamental trees are selected for their showy flowers. Most ornamental trees are in bloom for one to three weeks starting in early spring while others begin blooming in early summer.

Site

The location where the tree will be planted.

Fall color

Fall leaf color can create interesting views. Different types of trees can create a color collage of yellow, red, orange, and purple. This may be a consideration in the design of a landscape.

References & Recommended Publications

Several references were used in compiling this guide. They are excellent tools for anyone who wants to plant trees. They are available in most bookstores and from the International Society of Arboriculture website.

Landscape Tree Factsheets, Including Evergreens for Screens - Gerhold, Lacasse, Wandell

Manual of Woody Landscape Plants - Michael Dirr

Plants for North America - Harrison Flint

Trees & Shrub Handbook, Selection-Care-Pests-Diseases - Morton Arboretum

Trees for Urban and Suburban Landscapes - Edward Gilman

Trees of Indiana - Charles Deam

Websites

There are many websites that offer tips on tree selection, identification, planting and care.

Indiana DNR, Division of Forestry; http://www.dnr.IN.gov/forestry
International Society of Arboriculture; http://www.treesaregood.com
National Arbor Day Foundation; http://arborday.org
Tree Link; treelink.org
Purdue University; http://www.fnr.purdue.edu/PubsOnLine/
USDA Forest Service, Northeast Area; http://www.na.fs.fed.us/spfo/fth_pub.html
USFS; Plants Database. http://plants.usda.gov/index.html

This guide was made possible by funding provided by the USDA Forest Service, Northeast Area, IDNR, Division of Forestry - Community & Urban Forestry, and the Indiana Urban Forest Council, Inc.

For Technical Support Contact:

- IDNR, Community & Urban Forestry, 317-915-9390; inurbfor@indy.net
- City Forester-may be available in your community. Contact your municipality to check.
- Indiana Urban Forest Council, 765-608-1941
- Purdue University Cooperative Extension Service-in your county, www.ces.purdue.edu/1-888-398-4636
- Soil and Water Conservation District (SWCD)-in your county
- Electric Utility-Indiana's major utilities have foresters who can advise regarding tree planting under power lines.

For additional information, contact IDNR, Community & Urban Forestry at 317-915-9390, urbanforestry@dnr.IN.gov, or the Indiana Urban Forest Council, Inc. at 765-608-1941; naiufc@insightbb.com

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Indiana City Foresters

Anderson	765-648-6853	Lafayette	765-807-1383
Bloomington	812-349-3716	LaPorte	219-362-8220
Carmel	317-571-2478	Madison	812-265-8308
Columbus	812-375-2742	Mishawaka	574-258-1664
Decatur	260-724-2520	Muncie	765-747-4847
Elkhart	574-295-7517	Noblesville	317-776-6348
Evansville	812-475-1426	South Bend	574-299-4783
Ft. Wayne	260-427-6403	Syracuse	574-457-3440
Gary	219-939-2561	Terre Haute	812-232-2727
Indianapolis	317-327-7094	W. Lafayette	765-775-5110

State Urban Forestry Coordinator
317-915-9390