



Florida Fancy

#### TYPE THREE MATRIX

Scientific Name: *Ilex x attenuata* Ashe  
 'East Palatka'  
 Common Name: East Palatka holly

**Florida Fancy**—There is one trunk, and the crown is uniform and full.

**Florida #1**—There is one trunk, and the crown is not uniform because parts of it are missing.

**Florida #2**—The crown is not uniform because large parts of it are missing. The trunk forks into three nearly equal sized trunks in the upper half of the tree.



Florida No. 1



Florida No. 2

### TYPE THREE MATRIX

Scientific Name: *Ilex x attenuata* Ashe  
'Savannah'

Common Name: Savannah holly

**Florida Fancy**—There is one trunk, and the crown is uniform.

**Florida #1**—There is one trunk, and there is a portion of the crown missing, forming an asymmetrical canopy.

**Florida #2**—The crown is very one-sided and asymmetrical.



Florida Fancy



Florida No. 1



Florida No. 2

**EXAMPLES**

acacia, sweet  
apple, crab  
bischofia  
bottlebrush  
buttonwood  
cherry, Barbados-  
crape-myrtle  
crape-myrtle, queen's  
dogwood, Jamaican-  
elder, yellow-  
elm, American  
elm, Chinese  
elm, Drake  
elm, winged  
frangipani  
geiger tree  
glorybush  
hackberry  
hawthorn  
holly, yaupon  
jacaranda  
Jerusalem thorn

**TYPE FOUR MATRIX — VASE SHAPES**

CALIPER	MINIMUM TREE HEIGHT	MAXIMUM TREE HEIGHT	MAXIMUM CROWN SPREAD DIAMETER			MINIMUM B&B ROOT-BALL DIAMETER	MINIMUM GROW BAG ROOT-BALL DIAMETER	MINIMUM CONTAINER VOLUME
			FL. FAN.	#1	#2			
1/4"	18"	30"	10"	8"	6"	6"	—	4" Sleeve
1/2"	2'	6'	10"	8"	6"	8"	—	1 Gal.
3/4"	3'	7'	18"	16"	10"	14"	—	3 Gal.
1"	4'	8'	24"	18"	14"	16"	12"	5 Gal.
1 1/4"	5'	9'	30"	25"	20"	18"	14"	7 Gal.
1 1/2"	6'	10'	36"	30"	24"	20"	16"	15 Gal.
2"	6'	12'	48"	42"	30"	24"	18"	15 Gal.
2 1/2"	7'	14'	60"	48"	36"	28"	18"	25 Gal.
3"	8'	15'	6'	5'	4'	32"	20"	45 Gal.
3 1/2"	8'	16'	7'	6'	5'	36"	24"	65 Gal.
4"	9'	17'	8'	7'	6'	40"	30"	95 Gal.
4 1/2"	10'	18'	9'	8'	7'	44"	36"	95 Gal.
5"	12'	19'	11'	10'	8'	48"	36"	95 Gal.
5 1/2"	14'	20'	14'	12'	10'	50"	—	200 Gal.

**Notes:**

1. Trees to be graded under this matrix are listed in the index of plant materials on pages 37-44.
2. Any liner less than 1/4" caliper shall be a minimum of 12" in height, well-rooted in its container which shall not be less than 2" in diameter. Bare-root trees shall be so noted.
3. Ball depth on B&B stock shall be at least 2/3 of the root-ball diameter shown. For trees larger than 5 1/2" caliper, root-ball diameter shall be 8.5" for each inch of tree caliper. Trees grown in soils with a high water table can have shallower root balls provided the root-ball diameter is increased to the next larger tree size in the table.
4. For the purpose of determining minimum root-ball diameter, cured trees can have a caliper up to 1" larger than indicated in the table.

**EXAMPLES**

lignum-vitae  
maple, Japanese  
mimosa  
myrtle, wax-  
pencil tree  
photinia, 'Red Top'  
plum, Chickasaw  
plum, hog-  
plum, pigeon-  
poinciana, dwarf  
poinciana, royal  
poinciana, yellow  
privet, glossy  
privet, wax  
redbud  
sea-grape  
tamarind, wild-  
women's-tongue tree



## TYPE FOUR MATRIX



Florida Fancy

Scientific Name: *Lagerstroemia indica* L.  
& tree cvs.  
Common Name: crape-myrtle

**Florida Fancy**—Trunks and major branches are not touching, and the crown is uniform and full.

**Florida #1**—The crown is full, but branches and trunks are touching.

**Florida #2**—The crown is thin and slightly one-sided. Flush cuts were made when removing branches, and bark is included in the crotches of main branches. This cannot be seen in the photograph (see Fig. 7a, page 46).



Florida No. 1



Florida No. 2

## TYPE FOUR MATRIX

Scientific Name: *Ligustrum japonicum*  
Thunb.

Common Name: wax privet

**Florida Fancy**—The crown is full and uniformly balanced.

**Florida #1**—The crown is full but slightly unbalanced.

**Florida #2**—The crown is open and not well balanced.



Florida Fancy



Florida No. 1



Florida No. 2



## TYPE FOUR MATRIX



Florida Fancy

Scientific Name: *Ulmus parvifolia* Jacq.  
& cvs.

Common Name: Chinese elm

**Florida Fancy**—Branches are well-distributed along a single trunk, and the crown is uniform.

**Florida #1**—The crown is uniform, but two major branches in the crown are opposite each other.

**Florida #2**—The trunk divides into two nearly equal-sized trunks in the lower half of the tree.



Florida No. 1



Florida No. 2

TYPE FIVE MATRIX — OVAL SHAPES								
CALIPER	MINIMUM TREE HEIGHT	MAXIMUM TREE HEIGHT	MINIMUM CROWN SPREAD DIAMETER			MINIMUM B & B ROOT-BALL DIAMETER	MINIMUM GROW BAG ROOT-BALL DIAMETER	MINIMUM CONTAINER VOLUME
			FL. FAN.	#1	#2			
1/4"	12"	30"	8"	6"	4"	6"	—	4" Sleeve
1/2"	2'	6'	12"	9"	6"	8"	—	1 Gal.
3/4"	4'	8'	24"	18"	12"	14"	—	3 Gal.
1"	5'	10'	28"	21"	15"	16"	12"	5 Gal.
1 1/4"	5'	11'	30"	24"	18"	18"	14"	7 Gal.
1 1/2"	6'	12'	36"	30"	24"	20"	16"	15 Gal.
2"	6'	15'	42"	36"	30"	24"	18"	15 Gal.
2 1/2"	6'	16'	48"	36"	30"	28"	18"	25 Gal.
3"	7'	17'	60"	48"	42"	32"	20"	45 Gal.
3 1/2"	8'	19'	6'	5'	4'	36"	24"	65 Gal.
4"	9'	22'	7'	6'	5'	40"	30"	95 Gal.
4 1/2"	11'	24'	8'	7'	6'	44"	36"	95 Gal.
5"	13'	26'	8'	7'	6'	48"	36"	95 Gal.
5 1/2"	14'	28'	9'	8'	7'	50"	—	200 Gal.

Notes:

- Trees to be graded under this matrix are listed in the index of trees on pages 37-44.
- Any liner less than 1/4" caliper shall be a minimum of 12" in height, well-rooted in its container which shall not be less than 2" in diameter. Bare-root trees shall be so noted.
- Ball depth on B&B stock shall be at least 2/3 of the root-ball diameter shown. For trees larger than 5 1/2" caliper, root-ball diameter shall be 8.5" for each inch of tree caliper. Trees grown in soils with a high water table can have shallower root balls provided the root-ball diameter is increased to the next larger tree size in the table.
- For the purpose of determining minimum root-ball diameter, cured trees can have a caliper up to 1" larger than indicated in the table.

EXAMPLES
maple, silver
mastwood
mulberry, red
noronhia
oak, blackjack
oak, bluff
oak, post
oak, sawtooth
oak, southern red
oak, swamp-chestnut
oak, willow
paradise tree
parasol tree
podocarpus, nagi
podocarpus, yew
podocarpus, weeping
poplar
rosewood
sapodilla
sassafras
satinleaf
senna
sourwood
syzygium
tabebuia
tupelo

### TYPE FIVE MATRIX

Scientific Name: *Acer rubrum* L. & cvs.  
Common Name: red maple

**Florida Fancy**—There is one straight trunk, and the crown is uniform.

**Florida #1**—The crown is uniform, but the trunk divides into two nearly equal-sized trunks in the top half of the tree.

**Florida #2**—The crown is uniform, but the trunk divides into two nearly equal-sized trunks in the lower half of the tree.



Florida Fancy



Florida No. 1



Florida No. 2



## TYPE FIVE MATRIX

Scientific Name: ***Quercus laurifolia***  
**Michaux**  
Common Name: **laurel oak**

**Florida Fancy**—Branches are well-distributed along a single trunk, and the crown is full. The slight bend in the lower trunk is not severe enough to downgrade the tree.

**Florida #1**—Branches are well-distributed along a single trunk, but the crown is too narrow. The tree would have been a Florida Fancy if the crown was slightly wider.

**Florida #2**—The trunk divides into three nearly equal-sized trunks in the upper half of the tree.



Florida Fancy



Florida No. 1



Florida No. 2

# **INDEX OF TREES COMMONLY SOLD BY FLORIDA NURSERIES LISTED BY COMMON NAME AND MATRIX TYPE**

**Instructions:** Find the tree you are grading in the list below and note the matrix type in the left column. Return to Step 3 on page 4.

Matrix type	Common Name*	Genus/Species
5	acacia, earleaf	<i>Acacia auriculiformis</i>
4	acacia, sweet	<i>Acacia farnesiana</i>
5	African-tulip tree	<i>Spathodea campanulata</i>
2	almond, tropical-	<i>Terminalia catappa</i>
1	apple, pitch-	<i>Clusia rosea</i>
4	apple, crab	<i>Malus angustifolia</i>
5	arborvitae, oriental	<i>Platycladus orientalis</i>
5	ash	<i>Fraxinus</i> spp.
2	avocado	<i>Persea americana</i>
2	bald-cypress	<i>Taxodium distichum</i>
4	Barbados-cherry	<i>Malpighia glabra</i>
5	basswood	<i>Tilia</i> spp.
1	bauhinia	<i>Bauhinia</i> spp.
3	bay, loblolly	<i>Gordonia lasianthus</i>
1	bay, red-	<i>Persea borbonia</i>
5	bay, sweet-	<i>Magnolia virginiana</i>
5	beech, blue-	<i>Carpinus caroliniana</i>
2	birch, river	<i>Betula nigra</i> & cvs.
4	bischofia	<i>Bischofia javanica</i>
5	black-gum	<i>Nyssa</i> spp.
1	black-olive	<i>Bucida buceras</i>
5	blue-beech	<i>Carpinus caroliniana</i>
4	bottlebrush	<i>Callistemon</i> spp.
5	Brazilian beautyleaf	<i>Calophyllum brasiliense</i>
2	bunya-bunya	<i>Araucaria bidwillii</i>
4	buttonwood	<i>Conocarpus erectus</i> & cvs. & vars.
1	camphor tree	<i>Cinnamomum camphora</i>
1	carambola	<i>Averrhoa carambola</i>
2	cedar, eastern red-	<i>Juniperus virginiana</i>
2	cedar, Japanese-	<i>Cryptomeria japonica</i>
2	cedar, southern red-	<i>Juniperus silicicola</i>
4	cherry, Barbados-	<i>Malpighia glabra</i>
2	China-fir	<i>Cunninghamia lanceolata</i>
5	chinaberry	<i>Melia azedarach</i>
5	Chinese pistache	<i>Pistacia chinensis</i>
1	citrus	<i>Citrus</i> spp.
5	cottonwood	<i>Populus</i> spp.
4	crape-myrtle	<i>Lagerstroemia indica</i> & tree cvs.
4	crape-myrtle, queen's	<i>Lagerstroemia speciosa</i>
1	Cuban-laurel	<i>Ficus microcarpa</i>
2	cypress, bald-	<i>Taxodium distichum</i>
3	cypress, Italian	<i>Cupressus sempervirens</i>
2	cypress, Leyland	<i>X Cupressocyparis leylandii</i>
1	dogwood, flowering	<i>Cornus florida</i> & cvs.
4	dogwood, Jamaican-	<i>Piscidia piscipula</i>
4	elder, yellow-	<i>Tecomastans</i>

\*Hyphens in the common names indicate that the name used does not correspond to the name ordinarily given to that particular group of plants. For example: yellow-elder is not a true elder; China-fir is not a fir; etc.

Matrix type	Common Name	Genus/Species
4	elm, American	<i>Ulmus americana</i>
4	elm, Chinese	<i>Ulmus parvifolia</i>
4	elm, Drake	<i>Ulmus parvifolia</i> 'Drake'
5	eucalyptus	<i>Eucalyptus</i> spp.
5	eucalyptus, 'Silver Dollar'	<i>Eucalyptus cinerea</i>
1	fig, fiddle leaf	<i>Ficus lyrata</i>
1	fig, rusty	<i>Ficus rubiginosa</i>
1	fig, weeping	<i>Ficus benjamina</i>
2	fir, China-	<i>Cunninghamia lanceolata</i>
1	floss silk tree	<i>Chorisia speciosa</i>
4	frangipani	<i>Plumeria rubra</i>
5	fringetree	<i>Chionanthus virginicus</i>
5	fringetree, oriental	<i>Chionanthus retusus</i>
3	garcinia	<i>Garcinia speciosa</i>
4	geiger tree	<i>Cordia sebestena</i>
5	ginkgo	<i>Ginkgo biloba</i> & cvs.
4	glorybush	<i>Tibouchina urvilleana</i>
1	goldenrain tree	<i>Koelreuteria</i> spp.
5	guava	<i>Psidium guajava</i>
5	gum, black-	<i>Nyssa</i> spp.
1	gumbo limbo	<i>Bursera simaruba</i>
4	hackberry	<i>Celtis laevigata</i>
4	hawthorn	<i>Crataegus</i> spp.
5	hickory	<i>Carya</i> spp.
2	holly, American	<i>Ilex opaca</i>
5	holly, dahoon	<i>Ilex cassine</i> & vars. & cvs.
3	holly, East Palatka	<i>Ilex attenuata</i> 'East Palatka'
3	holly, Foster	<i>Ilex attenuata</i> 'Fosteri'
1	holly, round	<i>Ilex rotunda</i>
5	holly, lusterleaf	<i>Ilex latifolia</i>
5	holly, Nellie Stevens	<i>Ilex</i> 'Nellie R. Stevens'
3	holly, Savannah	<i>Ilex attenuata</i> 'Savannah'
3	holly, weeping yaupon	<i>Ilex vomitoria</i> 'Pendula'
4	holly, yaupon	<i>Ilex vomitoria</i>
5	hophornbeam, American	<i>Ostrya virginiana</i>
1	Indian-rubber tree	<i>Ficus elastica</i>
4	jacaranda	<i>Jacaranda mimosifolia</i>
4	Jamaican-dogwood	<i>Piscidia piscipula</i>
2	Japanese-cedar	<i>Cryptomeria japonica</i>
1	Japanese pagoda tree	<i>Sophora japonica</i>
4	Jerusalem thorn	<i>Parkinsonia aculeata</i>
1	kapok	<i>Ceiba pentandra</i>
5	kopsia	<i>Ochrosia elliptica</i>
1	laurel, Cuban-	<i>Ficus microcarpa</i> & cvs.
4	lignum-vitae	<i>Guaiacum sanctum</i>
5	linden	<i>Tilia</i> spp.
5	locust, honey	<i>Gleditsia triacanthos</i> & cvs.
1	loquat	<i>Eriobotrya japonica</i>
1	lychee	<i>Litchi chinensis</i>
3	magnolia, 'Little Gem', 'Mainstreet', etc.	<i>Magnolia grandiflora</i> cvs.



Matrix type	Common Name	Genus/Species
5	magnolia, saucer	<i>Magnolia soulangeana</i>
2	magnolia, southern	<i>Magnolia grandiflora</i>
1	mahoe	<i>Hibiscus tiliaceus</i>
5	mahogany, West Indian	<i>Swietenia mahagoni</i>
1	mango	<i>Mangifera indica</i> & cvs.
1	mangrove, black	<i>Avicennia germinans</i>
5	maple, Florida	<i>Acer floridanum</i>
4	maple, Japanese	<i>Acer palmatum</i>
5	maple, red	<i>Acer rubrum</i> & cvs.
5	maple, silver	<i>Acer saccharinum</i>
5	mastwood	<i>Calophyllum inophyllum</i>
4	mimosa	<i>Albizia julibrissin</i>
2	mimusops	<i>Mimusop</i> spp.
5	mulberry, red	<i>Morus rubra</i>
2	Norfolk Island-pine	<i>Araucaria heterophylla</i>
5	noronhia	<i>Noronhia emarginata</i>
5	oak, blackjack	<i>Quercus marilandica</i>
5	oak, bluff	<i>Quercus austrina</i>
2	oak, Darlington	<i>Quercus hemisphaerica</i>
1	oak, laurel	<i>Quercus laurifolia</i>
1	oak, live	<i>Quercus virginiana</i>
2	oak, pin	<i>Quercus palustris</i>
5	oak, post	<i>Quercus stellata</i>
1	oak, sand live	<i>Quercus geminata</i>
5	oak, sawtooth	<i>Quercus acutissima</i>
2	oak, Shumard	<i>Quercus shumardii</i>
2	oak, silk-	<i>Grevillea robusta</i>
5	oak, southern red	<i>Quercus falcata</i>
5	oak, swamp-chestnut	<i>Quercus michauxii</i>
1	oak, water	<i>Quercus nigra</i>
1	oak, white	<i>Quercus alba</i>
5	oak, willow	<i>Quercus phellos</i>
1	olive, black-	<i>Bucida buceras</i>
1	olive, spiny black-	<i>Bucida spinosa</i>
1	pagoda tree, Japanese	<i>Sophora japonica</i>
5	paradise tree	<i>Simarouba glauca</i>
5	parasol tree	<i>Firmiana simplex</i>
4	pencil tree	<i>Euphorbia tirucalli</i>
4	photinia, 'Red Top' & 'Red Tip'	<i>Photinia</i> spp. & CVS.
4	pigeon-plum	<i>Coccoloba diversifolia</i>
2	pine	<i>Pinus</i> spp.
2	pine, Norfolk Island-	<i>Araucaria heterophylla</i>
2	pine, screw-	<i>Pandanus utilis</i>
5	pistache, Chinese	<i>Pistacia chinensis</i>
1	pitch-apple	<i>Clusia rosea</i>
4	plum, Chickasaw	<i>Prunus angustifolia</i>
4	plum, pog	<i>Prunus umbellata</i>
4	plum, pigeon-	<i>Coccoloba diversifolia</i>
5	podocarpus, nagi	<i>Podocarpus nagi</i>
5	podocarpus, Japanese yew	<i>Podocarpus macrophyllus</i>
5	podocarpus, weeping,	<i>Podocarpus gracilior</i>
4	poinciana, dwarf	<i>Caesalpinia pulcherrima</i>
4	poinciana, royal	<i>Delonix regia</i>
4	poinciana, yellow	<i>Peltophorum pterocarpum</i>

Matrix Type	Common Name	Genus/Species
5	poplar	<i>Populus</i> spp.
4	privet, glossy	<i>Ligustrum lucidum</i>
4	privet, wax	<i>Ligustrum japonicum</i>
4	redbud	<i>Cercis canadensis</i>
2	river birch	<i>Betula nigra</i> & cvs.
5	rosewood, Indian	<i>Dalbergia sissoo</i>
1	rubber tree, Indian-	<i>Ficus elastica</i>
5	sapodilla	<i>Manilkara zapota</i>
5	sassafras	<i>Sassafras albidum</i>
5	satinleaf	<i>Chrysophyllum</i> spp.
1	sausage tree	<i>Kigelia africana</i>
3	schefflera	<i>Schefflera actinophylla</i>
2	screw-pine	<i>Pandanus utilis</i>
4	sea-grape	<i>Coccoloba uvifera</i>
5	senna	<i>Cassia</i> spp.
1	shaving brush tree	<i>Pseudobombax ellipticum</i>
1	silk-cotton tree, red	<i>Bombax ceiba</i>
2	silk-oak	<i>Grevillea robusta</i>
5	sourwood	<i>Oxydendrum arboreum</i>
1	spiny black-olive	<i>Bucida spinosa</i>
3	stopper	<i>Eugenia</i> spp.
2	sweetgum	<i>Liquidambar styraciflua</i> & cvs.
1	sycamore	<i>Platanus occidentalis</i>
5	syzygium	<i>Syzygium</i> spp.
5	tabebuia	<i>Tabebuia</i> spp.
1	tamarind	<i>Tamarindus indica</i>
4	tamarind, wild-	<i>Lysiloma latisilqua</i>
2	tropical-almond	<i>Terminalia catappa</i>
5	tulip-poplar	<i>Liriodendron tulipifera</i>
5	tulip tree, African-	<i>Spathodea campanulata</i>
5	tupelo	<i>Nyssa</i> spp.
5	walnut, black	<i>Juglans nigra</i>
4	wax-myrtle	<i>Myrica cerifera</i>
1	weeping willow	<i>Salix babylonica</i>
4	wild-tamarind	<i>Lysiloma latisilqua</i>
4	women's-tongue tree	<i>Albizia lebeck</i>
4	yellow-elder	<i>Tecomastans</i>

**INDEX OF TREES COMMONLY SOLD BY FLORIDA NURSERIES LISTED BY  
SCIENTIFIC NAME AND MATRIX TYPE**

<b>Matrix Type</b>	<b>Genus/Species</b>	<b>Common Name*</b>
5	<i>Acacia auriculiformis</i> Cunn. ex Benth.	earleaf acacia
4	<i>Acacia farnesiana</i> (L.) Willd.	sweet acacia
5	<i>Acer floridanum</i> (Chapman) Pax.	Florida maple
4	<i>Acer palmatum</i> Thunb.	Japanese maple
5	<i>Acersaccharinum</i> L.	silver maple
5	<i>Acer rubrum</i> & cvs.	red maple
4	<i>Albizia julibrissin</i> Durazz.	mimosa
4	<i>Albizia lebbeck</i> (L.) Benth.	women's-tongue tree
2	<i>Araucaria bidwillii</i> Hooker f.	bunya-bunya
2	<i>Araucaria heterophylla</i> (Salisb.) Franco	Norfolk Island-pine
1	<i>Averrhoa carambola</i> L.	carambola
1	<i>Avicennia germinans</i> (L.) L.	black mangrove
1	<i>Bauhinia</i> spp.	bauhinia
3	<i>Nolina recurvata</i> (= <i>Beaucarnea</i> )	ponytail
2	<i>Betula nigra</i> & cvs.	river birch
1	<i>Bischofia javanica</i> Blume	bischofia
1	<i>Bombax ceiba</i> L.	red silk-cotton tree
1	<i>Bucida buceras</i>	black-olive
1	<i>Bucida spinosa</i> (Northr.) Jennings	spiny black-olive
1	<i>Bursera simaruba</i> (L.) Sarg.	gumbo limbo
4	<i>Caesalpinia pulcherrima</i> (L.) Swartz	dwarf poinciana
4	<i>Callistemon</i> spp.	bottlebrush
5	<i>Calophyllum brasiliense</i> Camb.	Brazilian beautyleaf
5	<i>Calophyllum inophyllum</i> L.	mastwood
5	<i>Carpinus caroliniana</i> Walter	blue-beech
5	<i>Caryaspp.</i>	hickory
5	<i>Cassiaspp.</i>	senna
1	<i>Ceiba pentandra</i> (L.) Gaertn.	kapok
4	<i>Celtis laevigata</i> Willd.	hackberry
4	<i>Cercis canadensis</i> L.	redbud
5	<i>Chionanthus retusus</i> Lindl.	oriental fringetree
5	<i>Chionanthus virginicus</i> L.	fringetree
1	<i>Chorisia speciosa</i> St. Hil.	floss silk tree
5	<i>Chrysophyllum</i> spp.	satinleaf
1	<i>Cinnamomum camphora</i>	camphor tree
1	<i>Citrus</i> spp.	citrus
1	<i>Clusia rosea</i> Jacq.	pitch-apple
4	<i>Coccoloba diversifolia</i> Jacq.	pigeon-plum
4	<i>Coccoloba uvifera</i> (L.) L.	sea-grape
4	<i>Conocarpus erectus</i> L. & cvs.	buttonwood
4	<i>Cordia sebestena</i> L.	geiger tree
1	<i>Cornus florida</i> L. & cvs.	flowering dogwood
4	<i>Crataegus</i> spp.	hawthorn
2	<i>Cryptomeria japonica</i> D. Don	Japanese-cedar
2	<i>Cunninghamia lanceolata</i> (Lamb.) Hook	China-fir
2	<i>X Cupressocyparis leylandii</i>	Leyland cypress
3	<i>Cupressus sempervirens</i> L.	Italian cypress
5	<i>Dalbergia sissoo</i> DC.	Indian rosewood
4	<i>Delonix regia</i> (Bojer ex Hook.) Raf.	royal poinciana

\*Hyphens in the common names indicate that the name used does not correspond to the name ordinarily given to that particular group of plants. For example: yellow-elder is not a true elder; China-fir is not a fir, etc.



Matrix Type	Genus/Species	Common Name
1	<i>Eriobotrya japonica</i> (Thunb.) Lindl.	loquat
5	<i>Eucalyptus</i> spp.	eucalyptus
5	<i>Eucalyptus cinerea</i> Benth.	silver dollar eucalyptus
3	<i>Eugenia</i> spp.	stopper
4	<i>Euphorbia tirucalli</i> L.	pencil tree
1	<i>Ficus benjamina</i> L.	weeping fig
1	<i>Ficus elastica</i> Hornem. & cvs.	Indian-rubber tree
1	<i>Ficus lyrata</i> Warb.	fiddle leaf fig
1	<i>Ficus microcarpa</i> L. Vent. & cvs.	Cuban-laurel
1	<i>Ficus rubiginosa</i> & cvs.	rusty fig
5	<i>Firmiana simplex</i> (L.) W.F. Wight	parasol tree
5	<i>Fraxinus</i> spp.	ash
3	<i>Garcinia speciosa</i> Wall.	garcinia
5	<i>Ginkgo biloba</i> L. & cvs.	ginkgo
5	<i>Gleditsia triacanthos</i> L. & cvs.	honey locust
3	<i>Gordonia lasianthus</i> & cvs.	loblolly bay
2	<i>Grevillea robusta</i> A. Cunn.	silk-oak
4	<i>Guaiacum sanctum</i> L.	lignum-vitae
1	<i>Hibiscus tiliaceus</i> L.	mahoe
5	<i>Ilex</i> 'Nellie R. Stevens'	Nellie Stevens hybrid holly
3	<i>Ilex attenuata</i> Ashe 'East Palatka'	East Palatka holly
3	<i>Ilex attenuata</i> 'Fosteri'	Foster holly
3	<i>Ilex attenuata</i> 'Savannah'	Savannah holly
5	<i>Ilex cassine</i> L. & vars. & cvs.	dahoon holly
5	<i>Ilex latifolia</i> Thunb.	lusterleaf holly
2	<i>Ilex opaca</i> Aiton	American holly
1	<i>Ilex rotunda</i> Thunb.	round holly
4	<i>Ilex vomitoria</i> Aiton	yaupon holly
3	<i>Ilex vomitoria</i> Aiton 'Pendula'	weeping yaupon holly
4	<i>Jacaranda mimosifolia</i> D. Don	jacaranda
5	<i>Juglans nigra</i> L.	black walnut
2	<i>Juniperus silicicola</i> (Small) L.H. Bailey	southern red-cedar
2	<i>Juniperus virginiana</i> L.	eastern red-cedar
1	<i>Kigelia africana</i> (Lam.) Benth.	sausage tree
1	<i>Koelreuteria</i> spp.	goldenrain tree
4	<i>Lagerstroemia indica</i> & tree cvs.	crape-myrtle
4	<i>Lagerstroemia speciosa</i> (L.) Pers.	queen's crape-myrtle
4	<i>Ligustrum japonicum</i>	wax privet
4	<i>Ligustrum lucidum</i> Aiton f.	glossy privet
2	<i>Liquidambar styraciflua</i> & cvs.	sweetgum
5	<i>Liriodendron tulipifera</i> L.	tulip-poplar
1	<i>Litchi chinensis</i> Sonn.	lychee
4	<i>Lysiloma latisiliqua</i> (L.) Benth.	wild-tamarind
2	<i>Magnolia grandiflora</i>	southern magnolia
3	<i>Magnolia grandiflora</i> cvs.	'Little Gem', 'Mainstreet', etc.
5	<i>Magnolia x soulangeana</i> Soul.-Bod.	saucer magnolia
5	<i>Magnolia virginiana</i> L.	sweet-bay
4	<i>Malpighia glabra</i> L.	Barbados-cherry
4	<i>Malus angustifolia</i> (Aiton) Michaux	crab apple
1	<i>Mangifera indica</i> L. & cvs.	mango
5	<i>Manilkara zapota</i> (L.) Van Royen	sapodilla
5	<i>Melia azedarach</i> L.	chinaberry
2	<i>Mimusops</i> spp.	mimusops

Matrix Type	Genus/Species	Common Name
5	<i>Morus rubra</i> L.	red mulberry
4	<i>Myrica cerifera</i>	wax-myrtle
3	<i>Nolina recurvata</i> (Lem.) Hemsl.	ponytail
5	<i>Noronhia emarginata</i> (Lam.) Hook.	noronhia
5	<i>Nyssaspp.</i>	tupelo & black-gum
5	<i>Ochrosia elliptica</i> Labill.	kopsia
5	<i>Ostrya virginiana</i> (Mill.) K. Koch	American hophornbeam
5	<i>Oxydendrum arboreum</i> (L.) DC.	sourwood
2	<i>Pandanus utilis</i> Bory	screw-pine
4	<i>Parkinsonia aculeata</i> L.	Jerusalem thorn
4	<i>Peltophorum pterocarpum</i> (DC.) Heyne	yellow poinciana
2	<i>Persea americana</i> Mill.	avocado
1	<i>Persea borbonia</i> (L.) Spreng.	red-bay
4	<i>Photinia spp. &amp; cvs.</i>	'Red Top' & 'Red Tip' photinia
2	<i>Pinus spp.</i>	pine
4	<i>Piscidia piscipula</i> (L.) Sarg.	Jamaican-dogwood
5	<i>Pistacia chinensis</i> Bunge	Chinese pistache
1	<i>Platanus occidentalis</i>	sycamore
5	<i>Platycladus orientalis</i> (L.) Franco	oriental arborvitae
4	<i>Plumeria rubra</i> L.	frangipani
5	<i>Podocarpus gracilior</i> Pilg.	weeping podocarpus
5	<i>Podocarpus macrophyllus</i> (Thunb.) D. Don & cvs.	Japanese yew podocarpus
5	<i>Podocarpus nagi</i> (Thunb.) Mak.	nagi podocarpus
5	<i>Populus spp.</i>	poplar & cottonwood
4	<i>Prunus angustifolia</i> Marsh.	Chickasaw plum
4	<i>Prunus umbellata</i> Elliot	hog plum
1	<i>Pseudobombax ellipticum</i> (HBK) Dugand	shaving brush tree
5	<i>Psidium guajava</i> L.	guava
5	<i>Quercus acutissima</i> Carruth.	sawtooth oak
1	<i>Quercus alba</i> L.	white oak
5	<i>Quercus austrina</i> Small	bluff oak
5	<i>Quercus falcata</i> Michaux	southern red oak
1	<i>Quercus geminata</i> Small	sand live oak
2	<i>Quercus hemisphaerica</i> Willd.	Darlington oak
1	<i>Quercus laurifolia</i>	laurel oak
5	<i>Quercus marilandica</i> Muenchh.	blackjack oak
5	<i>Quercus michauxii</i> Nutt.	swamp-chestnut oak
1	<i>Quercus nigra</i> L.	water oak
2	<i>Quercus palustris</i> Muenchh.	pin oak
5	<i>Quercus phellos</i> L.	willow oak
2	<i>Quercus shumardii</i> Buckl.	Shumard oak
5	<i>Quercus stellata</i> Wangenh.	post oak
1	<i>Quercus virginiana</i>	live oak
1	<i>Salix babylonica</i> L.	weeping willow
5	<i>Sassafras albidum</i> (Nutt.) Nees	sassafras
3	<i>Schefflera actinophylla</i> (Endl.) Harms	schefflera
5	<i>Simarouba glauca</i> DC.	paradise tree
1	<i>Sophora japonica</i> L. & cvs.	Japanese pagoda tree
5	<i>Spathodea campanulata</i> Beauv.	African-tulip tree
5	<i>Swietenia mahagoni</i> (L.) Jacq.	West Indian mahogany
5	<i>Syzygium spp.</i>	syzygium
5	<i>Tabebuia spp.</i>	tabebuia

Matrix Type	Genus/Species	Common Name
1	<i>Tamarindus indica</i> L.	tamarind
2	<i>Taxodium distichum</i>	bald-cypress
4	<i>Tecoma stans</i> (L.) HBK.	yellow-elder
2	<i>Terminalia catappa</i> L.	tropical-almond
5	<i>Tilia</i> spp.	linden & basswood
4	<i>Ulmus alata</i> Michaux	winged elm
4	<i>Ulmus americana</i> L. & cvs.	American elm
4	<i>Ulmus parvifolia</i> Jacq. & cvs.	Chinese elm
4	<i>Ulmus parvifolia</i> 'Drake'	Drake elm



## GLOSSARY OF TREE TERMS

**Balled and burlapped (B & B):** A soil ball containing roots of the plant wrapped and secured in synthetic, natural or treated burlap, and/or wire. All synthetic fabric (Lenomesh) should be removed from the root ball prior to planting. True biodegradable burlap can be left around the root ball.

**Caliper:** Trunk caliper (trunk diameter) is measured 6 inches from the ground on trees up to and including 4 inches in caliper, and 12 inches above the ground for larger trees. Since trunks are seldom round, the average of the largest diameter and that perpendicular to it is referred to as caliper. Any accurate device including a diameter tape may be used to measure caliper. Trees are placed in diameter classes in order to grade them. For example, trees in the 2-inch class include those calipering 2 inches up to but not including 2½ inches; those in the 2½-inch class include trees calipering 2½ inches up to but not including 3 inches, and so forth.

**Dominant leader:** The trunk that grows up through the center of the tree and obviously dominates the rest of the branches. A dominant leader originates from a single dominant trunk and is the topmost part of a tree.

**Chlorotic:** A lightness or bleaching (typically yellowing) of green color in the foliage unlike the normal color. This indicates that the plant has not been maintained in the best of health. Chlorotic is not to be confused with normal yellowing of foliage common on many deciduous species late in the season. It is also not to be confused with yellowing of leaves on evergreens just prior to a new leaf flush.

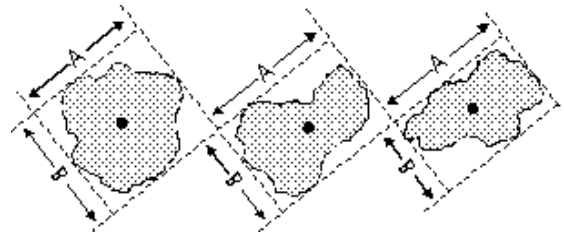
**Clear trunk:** An industry term referring to that portion of the trunk maintained free of any branches. The clear trunk is the lower portion of the trunk measured from the soil line up to the first major branch. Temporary branches may exist on a clear trunk.

**Conifer:** Includes the genera *Cryptomeria*, *Cupressocypariss*, *Cunninghamia*, *Cupressus*, *Pinus*.

**Corrective pruning:** Pruning which removes one or more branches or trunks to create a stronger, well-structured tree framework.

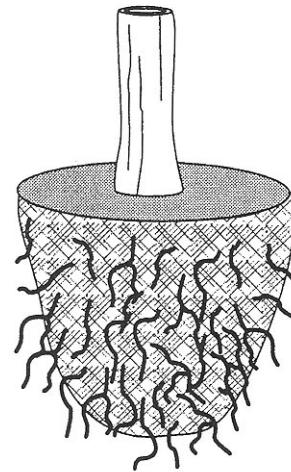
**Crown:** The branches, twigs and leaves that make up the foliage portion of the tree.

**Crown spread diameter:** Crown spread diameter is the average of the widest branch spread and that perpendicular to it (see Fig. 5).



**Fig. 5.** Add A and B together and divide by two to obtain crown spread diameter.

**Cured trees:** Field-grown trees that are balled and burlapped in the nursery with visible roots growing through the burlap (Fig. 6).



**Fig. 6.** Cured trees have roots growing through the burlap.

**DBH:**  
Diameter at breast height. This is not an appropriate method for valuating nursery trees.



**Fig. 7a.** Example of a weak union illustrating embedded or included bark which is squeezed between the two trunks.



**Fig. 8.** Note the circling roots growing along the outside surface of the root ball.



**Fig. 7b.** Example of strong branch union without embedded or included bark. Note the dark tissue on the trunk just above the branch crotch. This is the branch bark ridge. Its presence above the branch indicates there is no included bark.

**Espalier:** Any plant that is pruned, shaped and trained against a trellis, usually in a container.

**Excessively root bound:** A condition of container-grown trees where there are several roots larger than  $\frac{1}{4}$  inch diameter growing on the outside edge of the root ball (see Fig. 8).

**Flush cut:** A pruning cut made too close to, or flush with, the trunk. This type of cut is very detrimental to tree health and is not recommended (see Fig. 4 on page 13). It is often difficult to determine whether a flush cut was made 2 or more years after the cut was made on a young tree.

**Grade:** A level of plant quality that meets minimum standards.

**Grow bag:** A fabric container used for growing trees in field soil. Synthetic fabric grow bags should be removed before planting.

**Included bark:** Also referred to as embedded bark. Bark between a branch and trunk or between trunks that is squeezed together in the crotch of the branch (see Fig. 7a). This typically happens on upright-growing, large-diameter branches which grow at a rate which is similar to the growth rate of the trunk. This branch will be poorly connected to the trunk and could easily break off from the trunk as the tree grows older.

**Leader:** That part of the trunk that extends into the top  $\frac{1}{4}$  of the tree.

**Major branch:** A branch that is among the largest in diameter on the tree.

**Multiple leaders:** Two or more trunks growing nearly parallel to each other, originating any place along the stem. The crotch angle between them is often very narrow. This tree defect is more serious when it occurs on the lower portion of the tree.

**Nearly-equal diameter:** One trunk or branch is at least  $\frac{2}{3}$  the diameter of the other. Measure the branch diameter several inches out from the crotch beyond any swelling at the branch base. Measure the larger branch or trunk just above the crotch.

**Poodle:** A plant that is pruned and trained into balls or other formal shapes.

**Root-ball diameter:** The average diameter of the widest portion of the root ball and that perpendicular to it. This shall be measured near the top of the root ball.

**Roots growing out of the container:** Trees can be downgraded if roots greater than  $\frac{1}{5}$  the diameter of the trunk are growing out the bottom of the container or out of the grow bag (Fig. 9).



**Fig. 9.** Two roots greater than  $\frac{1}{5}$  the diameter of the trunk growing out the bottom of the container.

**Secondary branches:** Branches originating from primary or major branches.

**Sturdy in the root ball:** When the trunk bends along its vertical length instead of pivoting at the base of the trunk, or moving in the root ball when the root ball of a container-grown plant can be slipped from the container with all or most of the media intact with the roots.

**Temporary branches:** Short branches meant to be pruned from the tree in the near future as the tree grows and produces major branches.

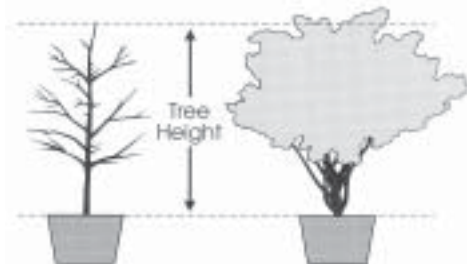
**Topiary:** A formal, man-manipulated plant form, either tree or shrub, developed and maintained by frequent clipping and shearing. Such forms include standards, sheared pyramids, espaliers, columns, animal topiaries, large bonsai and other special shapes. Enter the grading process at Step 6, skipping

steps 1-5, when grading topiaries. Trees planted as topiaries are usually maintained in that form in the landscape by regular trimming of the branches. They are not meant to be grown out in the landscape to the natural shape or size of the plant. The natural form is not allowed to develop (see Fig. 10).



**Fig. 10.** A topiary is sheared or trimmed to a variety of shapes, including a pyramid.

**Tree height:** Tree height is measured from the ground to the topmost portion of the tree (see Fig. 11). Height must be measured before pruning the tree. On small, multitrunked trees such as crape-myrtle, Japanese ligustrum and wax-myrtle, tree height is measured to the top of the main body of the crown.



**Fig. 11.** Measuring tree height.

**Trunk dogleg:** A significant 's' - shaped deformation in the trunk (see Fig. 12).

**Fig. 12.** The angle 'A' can be no more than 30°. The distance 'B' can be no more than the trunk diameter.



**Trunk wound:** A trunk injury that is open and not sealed over, or closed. A properly executed pruning cut that is not closed over is not considered a trunk wound.

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