

Tolerances of Different Tree Species

Common Name	Environmental Characteristics and Tolerances									
	Native to Mississippi	¹ Growth Rate	² Average Life Span	³ Net Effect on Air Quality	⁴ Soil Moisture	⁵ Drought Tolerance	⁶ Preferred pH of Soil	⁷ Light Required	⁸ Tolerance to Construction	⁹ Tolerant for Urban Use
Ash, Green	X	F	M	0.09	M	H	sl ac-sl alk	FS	G	
Ash, White	X	M	M	0.1	M	L	sl ac-sl alk	FS	M	
Baldcypress	X	M	L	0.032	M	H	ac-sl alk	FS	G	X
Birch, River	X	F	M	0.117	M	L	Acidic	PS	G	
Blackgum (Tupelo)	X	S	M	-0.053	M	M	sl ac-sl alk	FS	G	X
Cherry, Black	X	F	M	0.083	M	M	sl ac	FS	M	
Cottonwood, Eastern	X	F	M	-0.708	M	M	sl ac-sl alk	FS	G	X
Crapemyrtle, Common	X	F	M	0.004	M	H	ac-sl alk	FS		
Dogwood, Flowering	X	M	M	0.021	M	L	ac-nu	PS	M	
Elm, American	X	M	M	0.143	M	H	sl ac-sl alk	FS	M	
Hickory, Butternut	X	F	L	0.069	M	L	Acidic	FS	P	
Holly, American	X	S	L	0.013	M	H	Acidic	PS	G	
Magnolia, Southern	X	M	L	0.002	M	M	Acidic	FS	M	
Maple, Red	X	F	L	0.084	M	L	sl ac	FS	G	
Maple, Sugar	X	M	L	0.1	M	M	sl ac-sl alk	PS	P/M	
Oak, Nuttall	X	M	L		M	M	ac	FS		
Pecan	X	S	M	0.088	M	L	sl ac-sl alk	FS	M/G	
Pine, Longleaf	X	M	L	0.01	M	H	ac-sl alk	FS	M/G	
Sweetgum	X	M	M	0.118	M	M	ac	FS	G	

¹ Typical rate of growth under urban conditions;

S = Slow: ½ to 1 ½ feet per year

M = Moderate: 1 ½ - 2 ½ feet per year

F = Fast: 2 ½ - 3+ feet per year

² The useful service life of the species. A tree is at the end of its useful service life when its risk of failure becomes unacceptable and cannot be improved or when the tree is no longer an asset due to its appearance or condition;

S = Short: less than 25 years of useful life

M = Moderate: 25 to 40 years of useful life

L = Long: 50+ years of useful life

³ The net monetary effects in cents attributable to the species on air quality; listed as a benefit or cost. Includes the species net effect on ozone, sulfur dioxide, nitrogen dioxide, particulate matter and carbon monoxide.

⁴ The typical soil moisture conditions for the species in its native habitat;

H = Hydric: wet and may be occasionally flooded for short periods

M = Mesic: moist but moderately well- to well-drained

X = Xeric: dry and very well drained

⁵ Tolerance of the species to infrequent rain, low soil moisture, full sun and high temperatures;

L = Low; not tolerant to drought

M = Moderate; tolerant to mild drought; somewhat tolerant to severe drought

H = High; very tolerant to mild, severe and prolonged drought

6 Relative soil acidity or alkalinity preferred by the species. In many cases, a range of pH of 7.0 is neutral, a pH of less than 7.0 is acidic and a pH of greater than 7.0 is alkaline;

Acidic = acidic (5.0 – 6.0)

sl ac = slightly acidic (6.0 – 7.0)

nu = neutral (7.0)

sl al = slightly alkaline (7.0 – 8.0)

al = alkaline (8.0 – 8.5)

blank = no information available

7 The amount of sunlight the tree prefers or will tolerate. Trees that are typically found in the understory or are characteristic of late forest successional stages prefer shade or at least partial shade, while trees that typically form the understory or are characteristic of early successional stages prefer full sun;

FS = Full sun

PS = Partial shade

SH = Shade

8 The broad tolerance of the species in its home range to construction damage;

P = Poor

M = Moderate

G = Good

9 Based upon other characteristics and tolerances to urban conditions; an "X" indicates the species is suitable for planting under "tough" urban conditions.