



THE NEBRASKA STATEWIDE ARBORETUM PRESENTS

# DROUGHT TOLERANT TREES FOR EASTERN NE

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Proper tree selection is important in developing drought tolerant landscapes. Most tree species are at least somewhat drought tolerant while some species are exceptionally tolerant. In addition to species selection, other ways to help make landscape more drought resilient include: proper placement in the landscape, mulching around trees, planting trees in groups, and improving soil health and organic content.

**EXCELLENT DROUGHT TOLERANCE:** The following species, when healthy and well-established, will likely survive moderate droughts in eastern Nebraska without supplemental moisture. However, for very severe droughts supplemental moisture may be necessary.

## Medium/Large Deciduous Trees (typically over 30 feet tall at maturity)

1. **Buckeye, Ohio** - *Aesculus glabra* (native; very tough & adaptable; rounded form; interesting 'buckeye' fruit; 30'x 30')
2. **Catalpa, Northern** - *Catalpa speciosa* (native; tough tree; large, heart-shaped leaves, showy flowers and long seed pods; 50'x 35')
3. **Coffeetree, Kentucky** - *Gymnocladus dioica* (native; amazingly adaptable; beautiful winter form; 50'x 40')
4. **Elm, American** - *Ulmus americana* (disease resistant varieties include 'Valley Forge', 'New Harmony', 'Jefferson'; 50'x50')
5. **Elm, Lacebark** - *Ulmus parvifolia* (distinctive mottled bark; yellow seeds in fall attractive against glossy foliage; 35'x 25')
6. **Elm, 'Cathedral'** - tough and adaptable; developed in Wisconsin; *U. pumila* x *U. japonica*; 40-50'x 40-50'.
7. **Elm, 'Frontier'** - smaller, glossy leaves; lacy bark pattern; purple fall color; *U. parvifolia* x *U. carpinifolia*; 40' x 30'.
8. **Elm, 'Triumph'** - cross between 'Vanguard' and 'Accolade'; very adaptable; vigorous upright growth habit; 60'x 40'.
9. **Hackberry** - *Celtis occidentalis* (native; tough and reliable; distinctive warty bark; arching habit; good street tree; 50'x 50')
10. **Honeylocust** - *Gleditsia triacanthos* (native; very tough and reliable; provides dappled shade; 55'x 40'; many seedless/thornless forms)
11. **Oak, Black** - *Quercus velutina* (native; glossy, dark-green leaf; great spring and fall color; needs to be used more; 50'x 45')
12. **Oak, Blackjack** - *Quercus marilandica* (interesting natural habit; attractive, glossy foliage; tough and underutilized; 35'x 25')
13. **Oak, Bur** - *Quercus macrocarpa* (outstanding native; big and majestic; very tough and reliable; 60'x 75')
14. **Oak, Chinkapin** - *Quercus muehlenbergii* (great native tree; tolerates high pH soils; narrow, chestnut-like leaves; 50'x 40')
15. **Oak, Post** - *Quercus stellata* (tough, corky bark; medium rounded tree; seldom seen in Nebraska; 30'x 25')
16. **Oak, Red** - *Quercus rubra* (reliable native; common, tough and adaptable; nice red fall color; 50'x 50')
17. **Sycamore** - *Platanus occidentalis* (tough native; beautiful mottled and creamy/white bark; good on wet sites; up to 80'x 50')
18. **Walnut, Black** - *Juglans nigra* (native; proven throughout Nebraska; tough and reliable; good lumber tree; 60'x 45')

## Small Deciduous Trees (under 20' tall)

19. **Cherry, Canada Red** - *Prunus virginiana* 'Shubert' (purple-leaf form of native chokecherry; suckering habit; tough; 20'x 20')
20. **Chokecherry** - *Prunus virginiana* (tough native; attractive white flowers in spring; good for birds; suckering habit; to 20' tall)
21. **Dogwood, Gray** - *Cornus racemosa* (native; large shrub or small tree; good dusty-red fall color; multi-stem habit; 15'x 10')
22. **Hoptree (Wafer Ash)** - *Ptelea trifoliata* (large shrub or small tree; rounded form; distinctive disc-like fruit; 15'x 15')
23. **Maple, Shantung** - *Acer truncatum* (glossy, distinctive leaves; rounded form; proving to be tough/reliable; 15'x 15')
24. **Maple, Tatarian** - *Acer tataricum* (multi-stem habit; easy to grow; drought tolerant; good fall color; 20'x 15')
25. **Oak, Dwarf Chinkapin** - *Quercus prinoides* (native; variable habit but usually shrubby; prolific acorn producer; 15'x 10')
26. **Redbud** - *Cercis canadensis* (native; attractive purple flowers in early spring; select from hardy seed source; 20'x 15')

## Evergreen Trees

27. **Juniper, Chinese** - *Juniperus chinensis* (tight growing juniper; tree form types available include 'Keteleer'; 15-25'x 10-15')
28. **Pine, Bosnian** - *Pinus heldreichii* var. *leucodermis* (☼); great looking tree; dark green; similar to Austrian pine; 45'x 30')
29. **Pine, Jack** - *Pinus banksiana* (extremely hardy; irregular, gnarled growth habit; windswept look; 40'x 25')
30. **Pine, Limber** - *Pinus flexilis* (native; slow growing; soft needles; very flexible branches; plant on well-drained soils; 50'x 30')
31. **Pine, Ponderosa** - *Pinus ponderosa* (native; best on well-drained soils; attractive cinnamon-brown-black bark; 65'x 30')
32. **Pine, Southwestern White** - *Pinus reflexa* (graceful five-needle pine; 'Vanderwolfs' a common form; 35'x 20')
33. **Redcedar, Eastern** - *Juniperus virginiana* (very tough; nice striated bark on mature trees; 40'x 30')
34. **Spruce, Black Hills** - *Picea glauca* var. *densata* (alternative to blue spruce; slower growing; native to Black Hills; 50'x 30')

**GOOD DROUGHT TOLERANCE:** The following species will survive most “normal” years but will likely require at least some supplemental moisture during moderate and severe drought periods.

### Medium/Large Deciduous Trees (typically over 40 feet tall at maturity)

35. **Ash, Manchurian** - *Fraxinus mandshurica* (from Asia; upright growth; drought tolerant; may be resistant to EAB; 40'x 30')
36. **Aspen, Bigtooth** - *Populus grandidentata* (native to northern U.S.; attractive green/white bark; narrow habit; 35'x 25')
37. **Baldcypress** - *Taxodium distichum* (a graceful, deciduous conifer; great for wet areas; drought tolerant; good fall color; 50'x 30')
38. **Cherry, Black** - *Prunus serotina* (native; eye-catching when in flower; fast growing, adaptable; 35'x 20')
39. **Cottonwood, Eastern** - *Populus deltoides* (majestic native; not for extremely dry sites; avoid most cultivars; 80'x 60')
40. **Filbert, Turkish** - *Corylus colurna* (also called tree hazel; pyramidal shape like linden; scaly bark; 35'x 25')
41. **Hickory, Bitternut** - *Carya cordiformis* (most common native hickory; sulphur-yellow buds; transplant when small; 40'x 30')
42. **Hickory, Shagbark/Shellbark** - *Carya spp* (native; shaggy bark; yellow fall color; prefers moist, fertile soil; transplant when small; 50'x 40')
43. **Lilac, Japanese Tree** - *Syringa reticulata* (billowy white flowers in May; attractive bark; can grow to 30'x 25')
44. **Linden, American** - *Tilia americana* (native; large leaves; drought tolerant; heavy shade; fragrant flowers; 60'x 40')
45. **Linden, Silver** - *Tilia tomentosa* (similar to T. americana; dark, shiny leaves have silvery underside; 50'x 40')
46. **Magnolia, Cucumber tree** - *Magnolia acuminata* (thick lustrous leaves; cucumber like fruit; 40'x 30')
47. **Maple, Freeman (Autumn Blaze)** - *Acer x freemanii* (hybrid red/silver maple; tolerates wet soils; good fall color; 45'x 35')
48. **Maple, Miyabe** - *Acer miyabei* (similar to hedge maple but appears to be more adaptable; thick, glossy leaves; 30'x 25')
49. **Maple, Norway** - *Acer platanoides* (dark green leaves; dense shade; grafted clones prone to frost cracking; 40'x 35'; many cultivars)
50. **Maple, Sugar** - *Acer saccharum* (beautiful tree that should be planted more; nice fall color and attractive chalky bark; 50'x 50'; suitable cultivars and selections include Caddo, 'Fall Fiesta', 'Green Mountain', 'Legacy', 'Table Rock', 'Wright Brothers')
51. **Oak, Chestnut** - *Quercus montana* (interesting chestnut-like leaf; prefers moist, fertile soils; avoid high pH soil; 50'x 35')
52. **Oak, English** - *Quercus robur* (similar to white oak; tough, reliable; long, abundant acorns; narrow types available; 60'x 50')
53. **Oak, Pin** - *Quercus palustris* (often chlorotic on high pH soils and not generally recommended; 70'x 40')
54. **Oak, Scarlet** - *Quercus coccinea* (similar in habit to pin oak; beautiful scarlet color in fall; avoid high pH soils; 50'x 40')
55. **Oak, Shingle** - *Quercus imbricaria* (very distinctive narrow, smooth leaves that are held through winter; 45'x 35')
56. **Oak, Shumard** - *Quercus shumardii* (rarely planted; drought tolerant; similar to red oak; good fall color; 45'x 40')
57. **Oak, Swamp White** - *Quercus bicolor* (popular; attractive glossy leaves with silver underside; good for wet or dry soils; 60'x 50')
58. **Oak, White** - *Quercus alba* (native to s.e. Neb; similar in stature to bur oak; good fall color; few acorns; 65'x 60')
59. **Pagodatree, Japanese** - *Sophora japonica* (uniformly round; attractive, late summer flowers in creamy panicles; 30'x 30')
60. **Pecan** - *Carya illinoensis* (makes a nice yard tree; underutilized; seek northern seed sources; transplant when small; 50'x 50')
61. **Persimmon** - *Diospyros virginiana* (native to e. G.P.; distinctive blocky bark; tasty fruit; prefers moist, fertile soil; 30'x 20')
62. **Planetree, London** - *Platanus x acerifolia* (similar to sycamore with very attractive smooth, creamy bark; 70'x 50')
63. **Sycamore** - *Platanus occidentalis* (tough native; beautiful mottled and creamy/white bark; good on wet sites; up to 80'x 50')
64. **Yellowwood** - *Cladrastis kentukea* (unique creamy-white, paniced flowers; attractive smooth bark; temperamental; 25'x 20')

### Small Deciduous Trees (under 20' tall)

65. **Chestnut, Chinese** - *Castanea mollissima* (similar to American Chestnut but smaller and more rounded; 25'x 25')
66. **Crabapple, Flowering** - *Malus spp.* (a wide variety of selections with varied flower/fruit colors and size ranges available)
67. **Dogwood, Corneliancherry** - *Cornus mas* (tough, reliable; large shrub or small tree; early yellow flowers; red fruit; 15'x 15')
68. **Hawthorn, Downy** - *Crataegus mollis* (native to northern and western GP; downy leaves in spring; low, spreading habit; 15'x 15')
69. **Hawthorn, Washington** - *Crataegus phaenopyrum* (attractive foliage, flower and fruit; tough; relatively disease free; 20'x 20')
70. **Hophornbeam (Ironwood)** - *Ostrya virginiana* (native understory tree; shaggy bark; yellow fall color; hop like fruit; 20'x 15')
71. **Hornbeam, American** - *Carpinus caroliniana* (nice sinewy-smooth steel gray bark; low spreading habit; 20'x 20')
72. **Maackia, Amur** - *Maackia amurensis* (seldom seen legume; worth a closer look; attractive summer flowers; 25'x 20')
73. **Serviceberry (Juneberry)** - *Amelanchier spp.* (multi-season interest; tasty fruits; many cultivars available; 10-20'x 10-20')

### Evergreen Trees

74. **Douglasfir** - *Pseudotsuga menziesii* (soft blue-green needles; distinctive cones; graceful habit; avoid open sites; 50'x 30')
75. **Fir, Concolor** - *Abies concolor* (attractive blue-green, long, upswept needles; most reliable fir for Nebraska; 50'x 25')
76. **Pine, Eastern White** - *Pinus strobus* (graceful; fast growth; soft, long needles; tolerates damp soils; grows big to 70'x 40')
77. **Pine, Red** - *Pinus resinosa* (northeast U.S. native; slow growing; reddish bark; 40'x 30')
78. **Pine, Swiss Stone** - *Pinus cembra* (to 50' tall; similar to Korean Pine; seldom seen; edible nut; soft foliage)
79. **Spruce, Colorado** - *Picea pungens* (very adaptable; common throughout Nebraska; wide size range from 45-70'x 15-35'; variety *glauca* is the common “Blue Spruce” and includes brighter blue cultivars such as ‘Hoopsi’, ‘Moerheim’ and ‘Thompson’)
80. **Spruce, Norway** - *Picea abies* (pendulous (weeping) branch tips; tolerates moist sites; largest of the spruce growing to 70'x 40')
81. **Spruce, Serbian** - *Picea omorika* (weeping habit more graceful than *P. abies*; attractive dark cones; slower growing; 45'x 20')
82. **Spruce, White** - *Picea glauca* (very cold hardy; shorter needles than *P. pungens*)