OAKS FOR NEBRASKA & THE GREAT PLAINS

Justin Evertson & Bob Henrickson, NSA 2011. For more plant information, visit arboretum.unl.edu or retreenbraska.unl.edu.

Oaks are generally long-lived, strongly branched trees that are resistant to most pests and diseases and serve as habitat for a variety of birds, mammals, and over 400 species of moths and butterflies. When selecting an oak from a nursery, it is important to choose one with a fibrous root system (many fine roots) free of circling or in-turned roots. The planting of smaller-sized stock (less than 1.5" trunk caliper) and light, frequent watering for the first few months also dramatically increase the likelihood of long-term success. More information at retreenbraska.unl.edu.

N = Native to Central Great Plains; I = Introduced from Europe/Asia; *= Growing in Waverly Arboretum
R = Belongs to red oak group – acorns mature over two seasons and leaves typically have pointed lobes
W = Belongs to white oak group – acorns mature in one season and leaves typically have rounded lobes

Estimated size range is height x spread for trees growing in eastern Nebraska.

Proven Species (growing well in NE)

1. *Bear Oak, Quercus ilicifolia (R):* Shrubby, multi-stem habit; Northeast US native; leaves similar to red oak; slow grower; 10-20′ x 10-20′.
2. *Black Oak, Quercus velutina (N, R):* Large growing native similar to red oak; leaves are glossy and dark-green above with velvety undersides; nice red-maroon fall color; should be planted more; 40-60′ x 40-50′.
3. Blackjack Oak, Quercus marilandica (N, R): Shorter and slower growing than most oaks with distinctive tri-lobed leaves; can take on a very natural look with age; tough and underutilized; good fall color; 30-40′ x 25-35′.
4. *Bur Oak, Quercus macrocarpa (N, W):* Our most common native oak; big and majestic - tough and reliable; thick, corky bark helped it to withstand prairie fire; twigs can have corky ridges; large, fan-shaped leaves; named for large acorns with bur-like fringes; 50-70′ x 50-70′.
5. *Cherrybark Oak, Quercus pagoda (R):* Similar to red oak but with rough, scaly bark that can resemble black cherry when mature; prefers moist, fertile soils; can be fast growing; 40-60′ x 35-50′.
6. *Chesnut Oak, Quercus montana (pinus) (W):* Bright green, chestnut-like leaf; prefers moist, fertile soils; distinctive ridged bark somewhat resembles an alligator’s back when mature; 45-60′ x 40-50′.
7. *Dwarf Chinkapin Oak, Quercus muehlenbergii (N, W):* Narrow, chestnut-like leaves; flaky, gray-yellowish bark with maturity; tolerates high pH soils; should be planted more; 40-60′ x 30-50′.
8. *English Oak, Quercus prinoides (N, W):* Variable habit from shrubby to tree form; prolific acorn producer; can have nice yellow fall color; national champion grows near Salem Nebraska; 10-25′ x 10-20′.
9. *Egyptian Oak, Quercus phellos (I, W):* Similar to white oak but with smaller, glossy-green leaves and long, abundant acorns; habit can vary from round and spreading to upright; tough and reliable; 60′ x 50′. Numerous cultivated varieties have been developed including columnar types (Quercus phellos var. fastigiata) that stay narrow; variety ‘Salicifolia’ has narrow leaves similar to shingle oak.
10. *Gambel Oak, Quercus gambelii (W):* Native to southern Rocky Mountains; variable multi-stem habit – can be very shrubby in dry, difficult locations and more tree-like on better sites; very drought tolerant; 15-25′ x 10-20′.
11. *Japanese Emperor (Daimyo) Oak, Quercus dentata (I):* Similar to Q. mongolica; large, thick, fuzzy leaves held through winter making it somewhat prone to ice damage when young; 25-40′ x 20-40′.
12. *Liotung Oak, Quercus liaotungensis: (I):* Native to China and similar to Mongolian oak; large leaves; 30-40′ x 30-40′.
13. *Mongolian Oak, Quercus mongolica (I, W):* Similar to Bur Oak in habit and adaptability though doesn’t grow as large; chestnut-like leaves; performing well in N. Dakota; 40-50′ x 34-45′.
14. *Northern Pin (Hills) Oak, Quercus ellipsoidalis (R):* Similar to pin oak but less prone to iron chlorosis; native to northern US; good red/maroon fall color; 40-50′ x 35-45′.
15. *Overcup Oak, Quercus lyrata (W):* Large bur oak-like leaves; acorns nearly covered by cap; 40-50′ x 35-45′.
16. *Pin Oak, Quercus palustris (R):* Beautiful, tall, upright habit with descending lower branches; good fall color; heavy acorn producer; very prone to iron chlorosis and should only be planted on acidic soils [pH <7.0]; 50-70′ x 40-50′.
17. *Post Oak, Quercus stellata (N, W):* Tough, corky bark; medium rounded tree; distinctive, cruciform leaves; native into southern Iowa and eastern Kansas; 25-35′ x 25-35′.
18. *Red Oak, Quercus rubra (N, R):* Very reliable native; rounded habit; 7-9 shallowly lobed leaves are dull-green in summer with nice red fall color; 50-60′ x 45-55′.
19. *Sawtooth Oak, Quercus acutissima (I):* Fast growing oak from Asia; long, narrow leaves with sawtooth-like edges; upright growth when young; distinctive frilled acorn caps; 50-60′ x 40-50′.
20. *Scarlet Oak, Quercus coccinea (R):* Similar to pin oak; scarlet fall color; avoid high pH soils; 40-50′ x 40-50′.
21. *Shingle Oak, Quercus imbricaria (N, R):* Distinctive narrow, smooth-edged leaves hold through winter; tan-yellow fall color; 45′ x 35-45′.
22. *Shumard Oak, Quercus shumardii (N, R): Very similar to red oak in habit and leaf shape; good heat and drought tolerance; reliable red fall color; should be planted more; 40-50’x 40-50’.

23. *Swamp Chestnut Oak, Quercus michauxii (W): Similar to chestnut oak; native to wetter soils of southeastern US; scaly-grayish bark similar to white oak; 40-50’x 40-50’.

24. *Swamp White Oak, Quercus bicolor (W): One of the most popular oaks for planting; attractive glossy leaves with silvery underside; good for wet or dry soils; can be chlorotic on high pH soils; 50’x 50’.

25. *Texas Red (Buckley) Oak, Quercus buckleyi (R): Related to shumard oak but leaves smaller and more glossy; native to southern Great Plains; very good drought tolerance; bright red fall color; 25-40’x 20-35’.

26. *Wavyleaf Oak, Quercus xundulata (W): A naturally occurring hybrid of *Q. gambelli and *Q. turbinella from Rocky Mountains and SW US; semi-evergreen leaves; typically multi-stem and shrubby; 10-20’x 10-20’.

27. *White Oak, Quercus alba (N, W): Native to E. GP and extreme southeast Nebraska; similar in stature to bur oak – majestic and inspiring; light gray, scaly bark; fewer acorns; good fall color; 55-65’x 55-60’.

### Oak Hybrids, Varieties, & Cultivars

28. Black-blackjack (Bush) Oak, *Quercus xbushii* (*Q. marilandica x velutina*), N: Very similar to blackjack oak; occurs naturally in southeast Nebraska; 20-30’x 20-30’.

29. Bur-chinkapin (Deams) Oak, *Quercus xdeamii* (*Q. macrocarpa x muehlenbergii*), N: Occasionally found in southeast Nebraska; a nice specimen grows on the Peru State College campus; 40-60’x 40-50’.

30. Bur-gambel Oak, *Quercus macrocarpa x gambelli*: Great heat and drought tolerance makes it a good choice for western Great Plains; abundant acorns at a young age (4yrs); 25-40’x 25-45’.

31. *Bur-swamp white (Schuette) Oak, Quercus xschuettei* (*Q. bicolor x macrocarpa*): Vigorous habit; glossy, dark green leaves resist lace bugs; good acorn production; 50-60’x 50-60’.

32. Bur-white (Bebbs) Oak, *Quercus xbebiana* (*Q. alba x macrocarpa*): Great looking tree that is very hardy and a vigorous grower; good fall color on some trees; 50-60’x 50-60’.

### 33-36 English Oak Cultivars

**Clemens’ (Heritage) Oak, Bur-English Oak cross - *Quercus xmacdanielii* (*Q. macrocarpa x robur*): Vigorous grower with abundant acorn production; glossy leaves resist mildew; 50-60’x 30-40’.

**Crimson Spire’ Oak, White-English cross - *Quercus xbimidorum* (*Q. alba x robur*): Narrow habit and red fall color; 40’x 15’.

**Regal Prince’ (Ware) Oak, Swamp white-columnar English - *Quercus xwarei* (*Q. robur var fastigiata x bicolor*): Regal Prince Oak has a very attractive, upright habit with glossy foliage.

Swamp white-English (Procera) Oak, *Quercus bicolor x robur*: Tall, upright, vigorous habit; heavy acorn producer; offered by Oikos Tree Crops; 50-70’x 45-60’.

37. Pin-willow (Pillow) Oak, *Quercus xschoiciana* (*Q. phellos x palustris*): Seedlings produced from a tree in Lincoln are fast growing, upright and very attractive; shows promise for SE Nebraska; 40-60’x 40-50’.

38. Red-pin Oak, *Quercus xcolurnaris* (*Q. palustris x rubra*): Fairly common hybrid in nature and in nursery industry; many nice, large trees grow in Lincoln; avoid high pH soils; 50-60’x 40-50’.

### Promising Oaks (need further testing or special siting)

39. Chinese Cork Oak, *Quercus variabilis*: Leaves and habit similar to sawtooth oak; corky bark; 40-60’x 35-55’.

40. *Downy Oak, Quercus pubescens*: Attractive small, leathery leaves that emerge pubescent, thus its common name; short, irregular habit; doing well in Waverly; 20-30’x 20-30’.

41. *Hungarian Oak, Quercus frainetto*: Native to Balkan Peninsula; white oak family; attractive glossy leaves with silvery undersides; doing well in Waverly; 35-45’x 30-40’.

42. Mohr (shin) Oak, *Quercus mohriana*: Native to New Mexico, west Texas/Oklahoma; shrubby, multi-stem habit; distinctive leaves with silvery pubescent undersides; tolerates dry, alkaline soils; 15-25’x 10-20’.

43. *Oriental White Oak, Quercus aliena*: From China; glossy, chestnut-like leaves; nice fall color; doing well in Waverly; 40-50’x 30-40’.

44. Persian (Caucasian) Oak, *Quercus macranthera*: Similar to downy oak; showing promise in Fort Collins, CO.

45. Sesilie (Durmast) Oak, *Quercus petrea*: Native to Europe and similar to English oak; showing promise in Fort Collins, CO; 40-50’x 40-50’.

46. Shrub Live Oak, *Quercus turbinella* (W): Shrubby habit; semi-evergreen; best for western Great Plains; 15’x 15’.

47. Southern Red Oak, *Quercus falcata*: Somewhat similar to red oak but with distinctive turkey-foot like leaves that have wider lower lobes; maroon fall color; good on dry soils; does well in eastern Kansas; 30-40’x 30-40’.

48. Water Oak, *Quercus nigra*: Very distinctive tip-heavy leaves somewhat like black jack oak; prefers moist, well-drained soils; 30-40’x 30-40’.

49. Nuttall Oak, *Quercus nuttallii*: Similar to shumard oak; native to lower Mississippi drainage basin; tolerates poorly drained soils; red fall color; 40-60’x 35-50’.

50. Turkey Oak, *Quercus cerris* (I): Native to Europe and Asia Minor; leaves similar to white oak; tolerates alkaline soils; 40-60’x 40-50’.

51. Valley Oak, *Quercus lobata*: From central California; leaves and habit similar to white oak; doing well in Fort Collins, CO; 30-40’x 30-40’.

52. *Willow Oak, Quercus phellos*: Narrow willow-like leaves; pin-oak like habit and siting requirements; 45’x 40’.
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