



THE NEBRASKA STATEWIDE ARBORETUM PRESENTS

# OAKS FOR NEBRASKA & THE GREAT PLAINS

Justin Everton & Bob Henrickson, NSA 2011. For more plant information, visit [arboretum.unl.edu](http://arboretum.unl.edu) or [retreenebraska.unl.edu](http://retreenebraska.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 [retreenebraska.unl.edu](http://retreenebraska.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; 40-50' 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. **\*Chestnut Oak, *Quercus montana* (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. **\*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. **\*Dwarf Chinkapin 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. **\*English Oak, *Quercus robur* (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 robur* 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; 45-60' 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; 60'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. gambelii* 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 x bushii* (*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 x deamii* (*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 *gambelii*:** 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 x schuettei* (*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 x bebbiana* (*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**
- \*Clemons' (Heritage) Oak, Bur-English Oak cross - *Quercus x macdanielii* (*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 x bimundorum* (*Quercus alba* x *robur*):** Narrow habit and red fall color; 40'x 15'.
  - \*Regal Prince' (Ware) Oak, Swamp white-columnar English - *Quercus x warei* (*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 x schociana* (*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 x columnaris* (*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. **Sessile (Durmast) Oak, *Quercus petraea*:** 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 sites; does well in eastern Kansas; 30-40'x 30-40'.
48. **Water Oak, *Quercus nigra*:** Very distinctive tip-heavy leaves somewhat like blackjack 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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