I have a test I administer, in secret to all the members of the Nebraska Statewide Arboretum. Actually, I find that most members turn slowly toward the oaks, as if locked out of the corner of my eye, I see their heads turn slowly toward the oaks, as if locked on by radar. They usually don’t say a word, but their involuntary response says volumes. The oaks speak. Actually, I find that most members of the Nebraska Statewide Arboretum are oak people. For the interest of brevity, however, I offer up a few oaks of the day, you can whiz past this spot if you’re mind set on driving and the business of the day, you can whiz past this spot in just moments. And bur oaks are not exactly extroverts; they have a contented, mischievous, and in silence, to traveling companions, they provide ample opportunities for contemplation. Of course, one oak that comes to my mind include long-limbed, majestic, bold, kingly, massive, colorful, full-of-life, and awe-inspiring. Others have described them as beautiful, haunting, nearly, twisted, resilient, solid, miserly, and cautiously attentive. Of course the description of an oak will vary among species. For example a pin oak (Quercus palustris) might be described as being solidly with its strong central leader and upright habit. Although it can get wide with age, it is obviously trying to grow tall as it reaches for the sky. The bur oak (Quercus macrocarpa) on the other hand might be better described as a sumo wrestler. It strives for a squat and spreading habit. Unlike the “wizard hat” shape of the pin oak, the bur oak takes on more the look of an open umbrella. Oaks have so many great attributes that it’s hard to focus on just a few. In the interest of brevity, however, I offer the following ten reasons why I enjoy them so much: They are found in almost any soil situation imaginable. 

Oaks are the backbone of the eastern hardwood forest and they occur naturally in all contiguous 48 states of the U.S. They are long-lived and relatively disease and pest free. Oaks are stout and tough and hold well against weather extremes. They provide abundant shade and wind protection as they mature. They provide some of the best lumber for furniture and building. Oaks provide food and shelter to an astounding variety of wildlife. They are beautiful in form, texture and color (including fall color!). They are easy to grow from seed. When the right species is selected for a given site, an oak needs almost nothing to thrive. In fact, if we don’t kill the tree in careless management of the landscape we will likely have a friend for life!

Another great attribute about the oaks is that there is a species for nearly any size and growth form desired. Hill’s oak (Quercus ellipsoidalis) has an upright habit and may grow to 75’ tall. A white oak (Quercus alba) takes on a rounded shape between 50 and 60’ tall. The upright English oak (Quercus robur ‘Fastigiata’) may grow up to 50’ tall but only to 10’ wide. A gambel oak (Quercus gambelii) makes a nice multi-stem patio size tree from 15 to 25’ tall. And the dwarf chinkapin oak (Quercus prinoides) often grows as a spreading shrub that stays under 15’ tall. There’s just no doubt about it. Anyone looking to plant a tree would be wise to consider an oak. Such a tree will not only provide great benefits and inspiration to the person who plants it, it will quite possibly do the same for many generations to come. What a gift for the future!

“Exactly what The Seed will look like when it has grown is yet unknown. What we do know is that it has been planted in the rich earth of Nebraska. It will be nourished by the contributions of many individuals. Therefore, it is hoped and, indeed, believed that The Seed will in good time grow into a lusty sapling, even into a mature tree shedding its shade and fruit on the people of Nebraska.”

Joe Young, April 1978
Nebraska Native Oaks

Bob Herrickson, Nebraska Forest Service for the Statewide Arboretum

**Quercus alba**, white oak
A handsome oak with deeply cut leaves that turn bright red in fall and remain on the tree throughout winter. Flowering growing but long lived, developing ash-gray bark on older trees. Leaves reddish when unfolding. Native to extreme southeastern Nebraska. 70' high.

**Quercus macrocarpa**, bur oak
A picturesque, durable oak with dark green, leathery leaves that flutter to the ground after the first hard freeze. Tolerates drought and alkaline soils. Fast growing when planted young. Native throughout Nebraska and the Great Plains. To 75' high.

**Quercus marilandica**, blackjack oak
A seldom seen native of northeastern Nebraska; very gnarly growth habit and unusual, handsome foliage; tough 30' tree for well-drained soils; very drought tolerant.

**Quercus muehlenbergii**, chinkapin oak
This oak is native to the southeastern portion of the state along the rich bottomlands and dry slopes of the Missouri River bluffs. Its ash gray, flaky bark and lustrous, coarsely toothed foliage is attractive, but I really enjoy its majestic growth habit. This is a bold tree that should be planted more often. 40-50' high, 40' wide.

**Quercus prinoides**, dwarf chinkapin oak
This is one of the best native shrub oaks available. Very clean toothed foliage, almost holly-like. Height rarely exceeds 15 feet. A tough, reliable performer for a small garden site. Native to extreme southeastern Nebraska. Hardy to zone 4.

**Quercus rubra**, red oak
A fast-growing oak with a broad-spreading, open crown. The leaves are medium green and turn rust to brick-red in fall. Prefers well-drained soils and full sun. Native to southeastern Nebraska. 50' h, 50' w.

**Quercus velutina**, black oak
Similar to red oak but native to more upland forests along southeastern Nebraska; handsome glossy leaf with great orange-red fall color; excessive taproot so transplant young; needs full sun; tolerates variety of soil types. 50-60' high.

Regional Native Oaks

**Quercus bicolor**, swamp white oak
This oak is as broad as tall and forms an open, round topped crown. Mature trees form rugged old trunks with flaky, grayish-brown bark. It has deep green leaves that are whitish and velvety beneath. Adaptable to a variety of soil types and transplant easier than most other oaks. Native to Iowa, Missouri eastward to the Atlantic. 40-50' high.

**Quercus coccinea**, scarlet oak
Dark green deeply lobed leaves turn glowing scarlet in late fall. Looks similar to red oak but occupies upland, dry soils in nature. Brilliance of fall display depends on the latitude of seed origin, as this oak is native from Missouri eastward to Georgia. Up to 60'.

**Quercus ellipsoidalis**, hill's oak
Similar in appearance to pin oak but the only oak in this group that is tolerant of alkaline soils. Deeply cut leaves turn a deep crimson earlier in the fall. Tough, drought tolerant tree native to Minnesota and western Iowa. 50-60' high. Hardy to zone 4.

**Quercus imbricaria**, shingle oak
An unusual oak with lustrous lance-shaped to oblance leaves that turn a rich bronze color in fall. The leaves persist into winter and it performs well in a variety of sites and conditions. Early settlers used this oak to shingle 50-60' high. Hardy to zone 4.

**Quercus lyrata**, overcup oak
This oak grows naturally on poorly drained, clay soils from Missouri eastward. Long lobed leaves offer little fall color and acorns completely enclosed in a knobby cap. Mature trees thriving in Auburn, NE. 50' high. Hardy to zone 5.

**Quercus michauxii**, swamp chestnut oak
Toothed leaves similar to chestnut oak but more leathery; attractive, scaly bark; tolerates wet or dry soils; native to lowlands as far west as Missouri; fall color bronze-red. Hardy to zone 5.

**Quercus nuttalli**, Nuttall oak
The southern look-alike to pin oak. It grow naturally along the lower Mississippi Valley up to Illinois. Fast growing and tolerates higher pH; and red fall color on leaves that will drop in fall. A good acorn producer. 40-60' high. Hardy to zone 5.

**Quercus palustris**, pin oak
This durable oak grows naturally on poorly drained, clayey soils in southeastern Iowa and Missouri. Avoid planting in high pH soils. Brillant red fall color, persistent leaves in winter ideal for windbreak. 60'.

**Quercus prinus**, chestnut oak
Also called rock oak because of its ability to grow on rocky, shallow soils. Tolerates high pH. Also found in rich river bottom lands from Illinois eastward. Handsome chestnut-like leaves turn deep red in fall. Easy to transplant, best on deep, fertile soils. 60' high.

**Quercus shumardii**, shumard oak
A large durable shade tree with a pyramidal habit and spreading with age. Lustrous, leathery leaves that turn yellow-brown to reddish fall color. Smooth gray-brown bark develops shallow ridges with age. A medium to fast growth rate. Noted for its drought tolerance and ability to adapt to various soils and sites. 40-50' high. Zone 5.

**Quercus acutissima**, sawtooth oak
The shiny leaf is similar to chestnut oak with bristly, saw-toothed teeth along the leaf margin, turning red in fall. Dense symmetrical crown and fast growing. Best in well-drained soils and avoid poorly alkaline soils. Native to China, Korea. Hardy to zone 5.

**Quercus aliena**, Oriental white oak
Rare in cultivation, this fine 40-60' oak is noted for its large 4-8” leaves which are very glossy, green and exceptionally ribbed. Similar to chestnut oak. Fast growing and drought tolerant. Height to 60’. Hardy to zone 5.

**Quercus cerris**, Turkey oak
A handsome Eurasian oak with triangular teeth on the leaves. Fast growing to a broadly pyramidal habit and grows well in clay. Handsome greyish-black bark in checkered plates. Little fall color and holds leaves late. Northern strains fully hardy to zone 5.

**Quercus dentata**, Japanese Emperor Oak
Huge leaves (up to 1’ long and 6-7” wide) make this rare angular tree remarkable. Relativley fast growing with deeply furrowed bark and produces fringed acorns as young as age 45. 50-60’ high. 40’ wide. Hardy to zone 5.

**Quercus laurifolia**, Liuotong oak
Native to Manchuria, Mongolia and China. Develops into a dense full crowned tree. The acorns are green, toothed and ribbered for the treatment of arthritis. Moderate growth rate. Leaves hang on almost all winter. Excellent northern white oak type. Avoid wet soils. Height to 35’.

**Quercus robur**, English oak
A spreading tree of picturesque habit and dark green leaves with rounded lobes. Has a vast natural range making northern seed strains more adaptable; pH and soil adaptable, drought tolerant; no fall color; Grows to 60’ high. Hardy Oaks from Abroad

**Quercus acutissima**, sawtooth oak
The distinct shape of our oak leaf (Quercus macrocarpa) in autumn.

**Quercus bicolor**, swamp white oak
The thick, leathery leaves of blackjack oak (Quercus marilandica).

**Quercus velutina**, black oak
The handsome, lustrous foliage of black oak (Quercus velutina).

**Quercus bicolor**, swamp white oak
The glossy, chestnut-like leaves of sawtooth oak (Quercus acutissima).

**Quercus palustris**, pin oak
The glossy, chestnut-like leaves of black oak (Quercus velutina).

Scrub Oaks for Small Landscapes

**Quercus gambelii**, gambel oak
Native Rocky Mountain oak with a shrubby growth habit but also grows as a small tree to 30’. Glossy, leathery, deeply lobed leaves turn bronze to yellow in fall. Tolerates drought and high pH soils. 15-30’ high, 12-20’ wide. Zone 3.

**Quercus ilicifolia**, bear oak
The scrub oak of New England and the Middle States often forming thickets. Dark green, deeply lobed leaves emerge with pink flush. Grows to 15’ tall. Hardy to zone 5.

**Quercus stellata**, post oak

**Quercus turbinella**, desert scrub oak
A tough, little scrubby oak from southern Colorado with interesting holly-like leaves. Turbinella means “little top”, and refers to the tiny cap of the acorn. A slow growing shrub with leaves that persist in winter. 10’ high, 10’ wide. Zone 5.

**Quercus undulata**, wavyleaf oak
A rare small tree or large shrub, native to the southern Rocky Mountains. Thick, leathery leaves are blue to green in color and have wavy margins. Tolerates dry soils. In a very protected site may be semi-evergreen. Full sun. 10-20’ high. Zone 4.

**Quercus pungens var. varsyanus**, vasye oak or chin oak
A premier tree for landscaping in dry areas. It can be a large shrub or small tree. Its leaves are glossy green and semi-evergreen. Bark is silvery and scaley. Extremely drought tolerant tree from the West. 40’ high, 40’ wide. Zone 5(6).
Hybrid Oaks: Fast Growing Natural Hybrids

Oak trees are social plants. You could even call them promiscuous, often cross-pollinating with other similar species in the oak family. This tendency creates hybrids. Like many families, the oaks are made up of many individuals some of which is difficult to tell who their parents are. As the offspring mature, it usually becomes apparent who they parent tree was. Often these hybrids are found in nature where two species overlap and the socializing begins. You can call it nature’s breeding program, where hybrids share the best traits and variations of their parents.

Some hybrids exhibit two to three times the growth rate of their parents. Trees often start bearing at a younger age than pure species. It can take 15-25 years for many species oaks to shed one acorn. Many hybrids begin bearing in 4-8 years from seedling. Hybrid oaks can have a wider range of adaptability to soil types and cold hardiness and exhibit greater vigor if the conditions are not optimum compared to the pure species. Being hybrid anything doesn’t mean you’re better, just unique. The oak family has yielded a number of distinct and unique types of hybrid trees, with some even showing up in nurseries and garden centers.

All of the following natural hybrids are adapted to the rigors of the Midwest and are hardy to -30 degrees. All are available through select mail order nurseries or contact the NSA office for source information.

Bebbs Oak, *Quercus x bebbiana* (macrocarpa x alba)

This hybrid between bur oak and white oak is one of the best for growth rate and acorn production. Highly adaptable to soil types with deeply cut leaves and bur oak-like acorns without the fringe. Excellent branching habit and oval crown. Height and width to 60’.

Bimundos Oak, *Quercus x bimundorum* (alba x robar)

The English and our native white oak are very compatible. Hybrids develop a nice dense crown, vigorous growth and mildew resistant foliage. Easy to transplant and tolerates a wide variety of soil, but best in a well-drained site. Heavy acorn production. ‘Crimson Spire’ is a narrow selection of this outstanding tree. 45’ high and 15’ wide.

Burenglish Oak, *Quercus robar x macrocarpa*

One of the best hybrids with excellent growth rate coupled with its ability to grow in a wide variety of soil types. It is resistant to mildew, transplants easily, and has nice symmetrical crown and straight growth habit. It has glossy dark green, tatter and mildew resistant foliage. The cultivar name is ‘Heritage’ oak. Height to 70’.

Burgambel Oak, *Quercus gambelli x macrocarpa*

This hybrid develops a compact rather bushy crown to 40’ or more. Handsome deeply cut foliage and bur oak-like acorns without the fringe. One of the earliest and the best for acorn production. Best in dry, well-drained sites.

Procera Oak, *Quercus bicolor x robar*

Procera is latin for tall. This hybrid between swamp white oak and English oak is fast growing with a strong central leader and good acorn crops every season. It is mildew resistant and side branches tend to grow more upright. It is tolerant of a wide range of soil types, wet or dry. ‘Regal Prince’ is the cultivar name of this oak specifically selected for its fast growth rate. Height 60-80’.

Sargert Oak, *Quercus robar x prinus*

An excellent hybrid between English and chestnut oak with a broad almost flat-topped canopy with a wide branching habit. Resists mildew. Height to 50’.

Sauls Oak, *Quercus alba x prinus*

A hybrid between white and chestnut oak with red and yellow fall color. Sauls oak grows fast like chestnut oak and has a wider pH tolerance than white oak. Grows more upright and transplants easier than typical white oak. 50-60’ h.

Oaks for the Future continued from front centuries. A similar selection from a related hybrid is *Quercus bimundorum* ‘Crimson Spire’. All of these resist the mildew problems associated with one of their progenitors, the fastigate European *Quercus robur*, and are much superior for North American planting.

Watch in the future also for selections from native hybrids like *Q. x hebhana* ‘Taco’ and *Q. x deamii* ‘Champion’. They are being grown already by some progressive nurseries in Europe, and they will be coming back home to America someday as their attributes become better known. ‘Taco’ is an extremely tough and vigorous tree with outstanding form. ‘Champion’—a large, strong-growing tree propagated form the national champion of its kind—is the first seedless oak cultivar ever produced, for areas where seed litter cannot be tolerated.

Many other oaks will do nicely in the average Midwest landscape situation if given a head start. Some of them are bottomland species like overcup oak (*Q. lyrata*), swamp chestnut oak (*Q. michauxii*) and swamp white oak (*Q. bicolor*) which are very tolerant of compacted urban soils. Others are obscure species known from only a few locations in the wild, like Stone Mountain oak (*Q. georgiana*) and maple-leaved oak (*Q. acerifolia*). Both of these trees will fit a small yard and provide brilliant scarlet autumn color.

All of these are fully winter hardy in Zone 5 (southeastern Nebraska) or colder. Once established, they are just as dependable as our local native oaks. You will have to search for them, and some of them are not even available at American nurseries yet, but patience has its rewards.

So if you have a beautiful native oak on your land, preserve it as part of your heritage. Pass it along in healthy condition to your grandchildren. Plant a few of its acorns to perpetuate the local genotype. But then consider the diversity that you can add to your neighborhood without venturing past the boundaries of the genus *Quercus*.

NOTE: Guy Sternberg and James W. Wilson are the authors of *Native Trees for North American Landscapes* published in January 2004 (available from Timber Press at arboretum.unl.edu/booksandgifts).

For information on how to become an Arboretum member, call 402/472-2971, email cpaxton1@unl.edu or visit arboretum.unl.edu.
Justin Evertson, Nebraska Statewide Arboretum

One of the inspiring things about oak trees is their ability to live a long, long time. Incredibly, some oaks in the United State are thought to be over 1,000 years old! Even in Nebraska, several oaks are known to be over 250 years old. Most of Nebraska’s best native oaks were harvested for lumber after the state was settled in the late 1800s. Because oaks can regenerate new trunks, it is thought that some trees may actually have root systems that are significantly older than their trunks. Thus some Nebraska oaks could possibly be between 500 and 1,000 years old as well!

The trunk of one old bur oak tree that grows in Ponca State Park in northeast Nebraska has been core dated to be more than 360 years old. It is thought that the tree sprang to life from an acorn no later than around 1640. Imagine the stories such a tree could tell if it could keep a diary. A few of its entries might read as follows:

**October 7, 1640.** I fell as an acorn from the boughs of my mom’s big branches the other day. I rolled several feet down the hill and came to rest against a rotting log. A squirrel came and carried me away. Thankfully, he didn’t eat me like he did several of my friends. Yikes! She put me in the ground in this nice sunny spot.

**May 15, 1641.** The squirrel has not been back! The ground is getting warmer every day and I now have a taproot 12” into this loose, rich soil. I think I will try to start reaching for the sun so I can make some food with my first new leaves. With any luck I’ll have a good trunk started in no time.

**June 27, 1647:** My trunk has been chewed on by animals every spring and winter since I sprouted. My roots stretch for quite a ways but my fourth attempt at a trunk is only about 5’ tall so far. Yikes! Here comes another deer!

**October 12, 1655:** Things are looking up. My trunk is now 2” in diameter and I am nearly 10’ tall. A deer nibbled on me yesterday but the damage doesn’t feel too bad.

**June 3, 1672:** I’m growing fast now. My trunk is at least 6” across and I am nearly 20’ tall. A group of smelly bison stomped through the area today. One of them scratched his hide on my bark. For a while I thought he might snap me in two.

**July 20, 1678:** I finally feel like a tree. I must be 25’ tall and my trunk is about 12” across. It also looks like I’ll have my first good crop of acorns this year.

**September 3, 1692:** It never seems to rain anymore and it is always hot. The ground is very dry and my roots are struggling to find water.

**March 23, 1693:** A terrible fire swept through the area overnight. Many young trees that had managed to hang on through the last several dry years were burned up.

**May 14, 1694:** It snowed all winter and now it seems to never stop raining. I have seen the sun only once in the last several days. My roots are hoping for drier weather so they can breathe again.

**October 15, 1727:** I’m now over 40’ tall and I can nearly reach the big old bear of an oak that has stood nearby since I first sprouted. I’m not as big as I was though since I lost a large branch last night in a terrible ice storm when a tree nearby broke apart and fell on me.

**August 3, 1740:** It’s great to be 100 years old!

**September 7, 1804:** I have seen a young man wander through the area now for the second time in three days. He keeps calling for a Captain Lewis and Lieutenant Clark. He appears to be lost and nearly starving. I’d hate to be his horse!

**September 10, 1804:** A large party of people in boats floated up the river today. They have set up camp less than a mile upstream. Several of them have walked nearby shouting for a Private Shannon.

**November 14, 1836:** The last many years have been good. The rains come regularly and I seem to be growing well. I am now over 60’ tall and nearly as wide.

**July 15, 1882:** People are very common in the area now and some have even built cabins nearby.

**August 12, 1894:** The weather has turned very dry again and it seems like weeks since it last rained. The old bear of an oak that has been my companion for over 150 years was chopped down two days ago.

**May 15, 1940:** There has been a lot of activity in the forest in recent years. Many people have been busy building roads and shelters. I have heard them say that we are now part of something called Ponca State Park. I am 300 years old now, but I feel great!

**August 22, 1946:** Someone drilled a long probe into my trunk today. I heard them say that they thought I might be the oldest tree around now.

**May 14, 2005:** A big ceremony took place today. Many people gathered nearby and I heard them proclaim me as a “National Historic Tree.” With any luck I’ll live another 360 years!