Oaks for Nebraska

NEBRASKA STATEWIDE
Arboretum

NSA Brown Bag - November 2, 2017


Quercus velutina

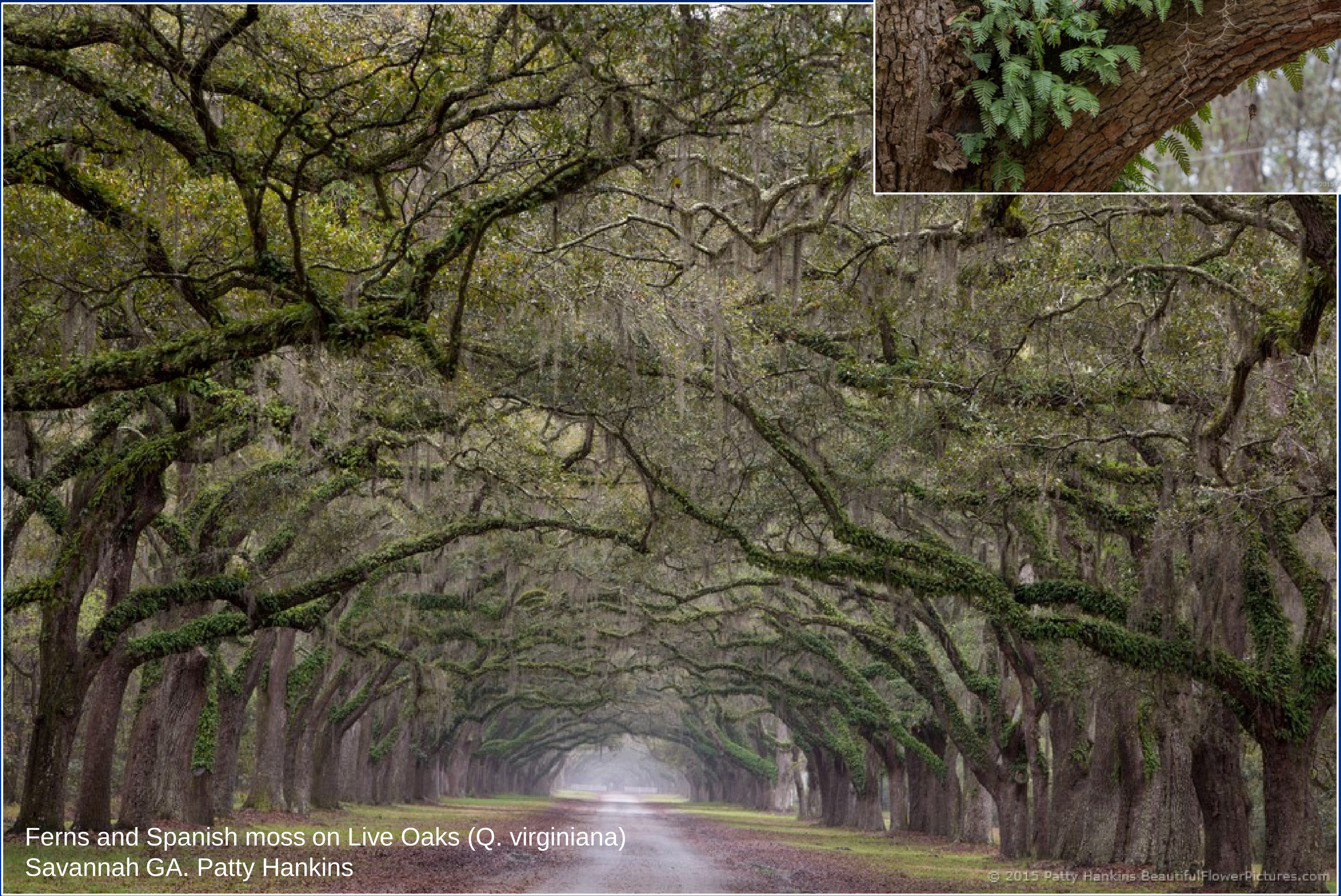

Quercus imbricaria


Quercus alba


Quercus rubra

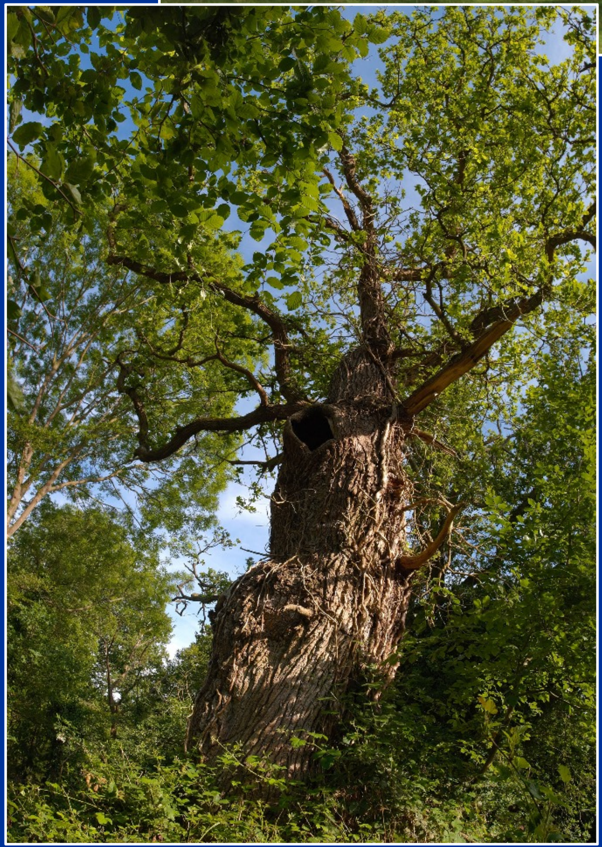

Quercus muehlenbergii

The Amazing Beauty and Diversity of Oaks

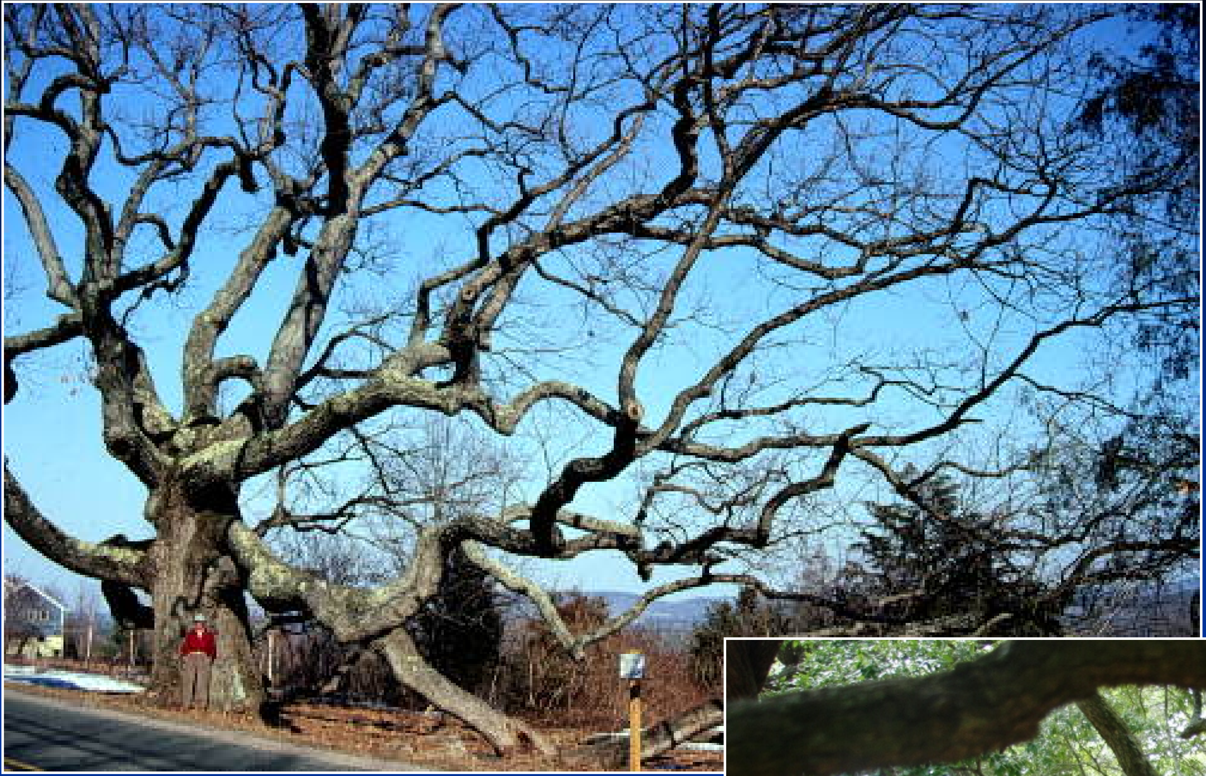


Ferns and Spanish moss on Live Oaks (Q. virginiana)
Savannah GA. Patty Hankins

English Oaks - Quercus robur



Gnarled and Spooky



Q. alba – Maryland – 600 YO

Majestic!

Angel Oak, John's Island SC
Q. virginiana – 1500 y.o.
Image: angeloaktree.org


Josephine Bur Oak
Petersburg, IL

Josephine Bur Oak

Petersburg, IL

Fun Facts About Oaks

- Quercus: Celtic in origin meaning beautiful tree.
- 600 Species worldwide – mostly northern Hemisphere.
- 200 Species in North America – over 90 in US; over 100 in Mexico; 7 in Nebraska
- Oaks are highly variable and promiscuous – many hybrids.

Quercus velutina

Quercus macrocarpa

Quercus muehlenbergii

Quercus alba

Quercus rubra

Quercus prinoides

Quercus marilandica – Blackjack Oak

Oaks Can Grow Big and Old

- Range in size from over 100ft tall to sprawling shrubs. Nat Champ white oak 144’ tall (Virginia); Valley Oak 150’ (California);
- Nat. Champ. bur oak (Indiana): 99’ tall; 128’ spread; 24.5’ circ. – Nebraska champ (Peru): 90’ tall; 94’ spread; 19’ trunk circ.
- Oaks can live for centuries: English oaks 1500-2000 YO in east Europe; Southern Live oaks in US potentially 1500 YO – South Carolina, Louisiana; Wolf Oak at Ponca State Park born 1644 – 375 YO
  Other Nebraska oaks could be 800+ YO

Old Wye Oak – MD – 100’ tall, 120’ wide, 32’ circ.

Angel Oak (Q. virginiana), SC – 1500 y.o.

Other Fun Facts

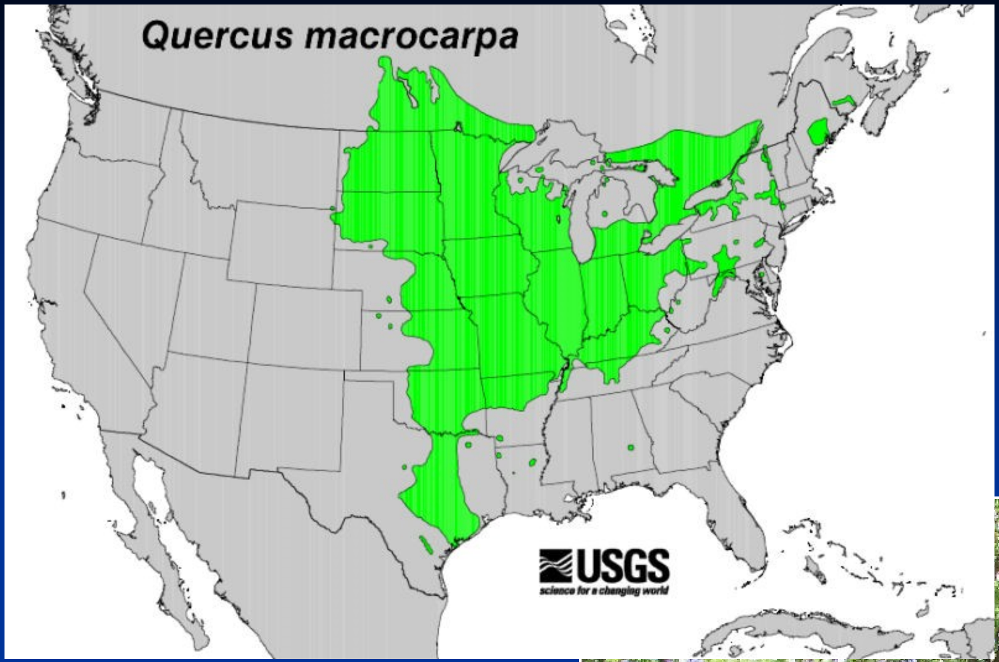
- Several species are evergreen or marcescent.
- Important food to American Indians.
- Lots of genetic adaptability to climate extremes.
- Global warming is speeding up mortality from various diseases and insects.
- Oaks are generally a climax species.
- Oaks are incredibly important ecologically supporting a wide diversity of associated wildlife.

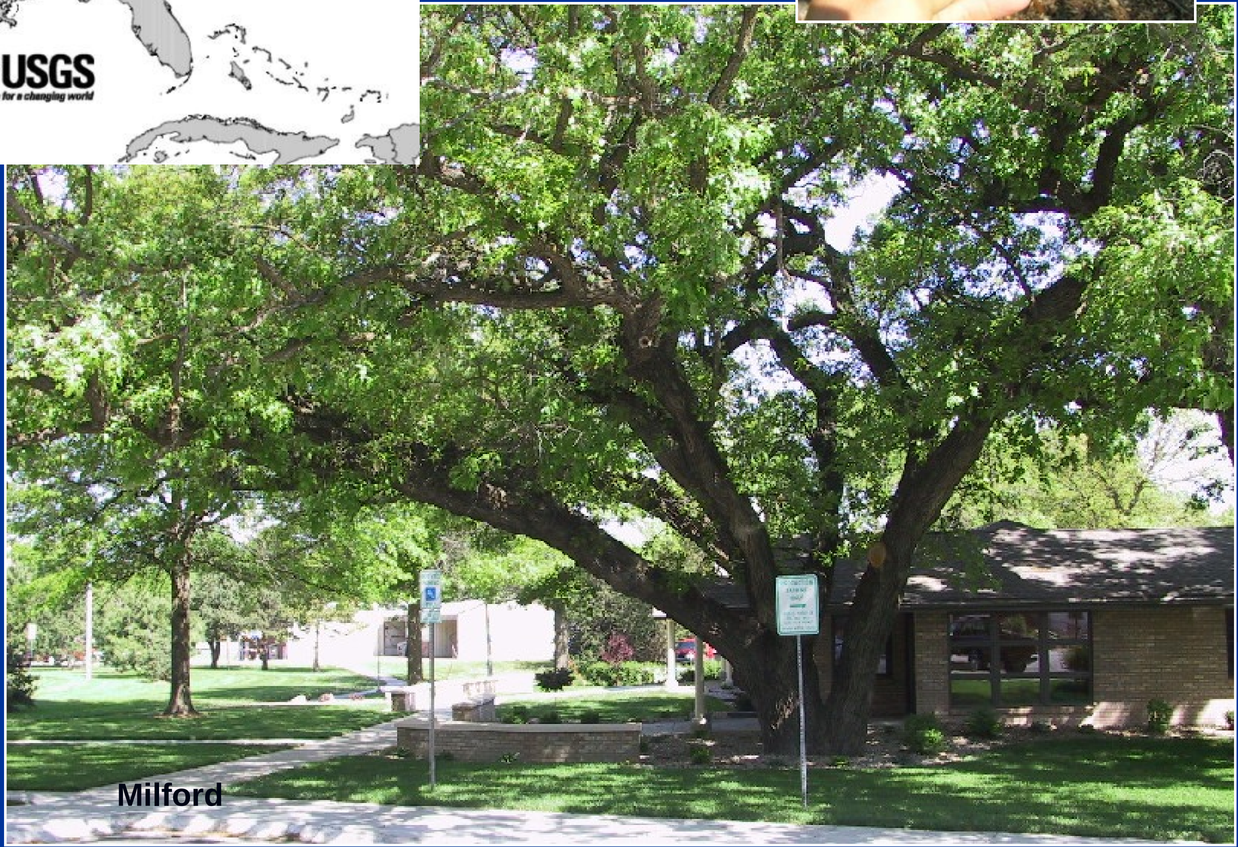
Oaks of Nebraska

Red Oak - Lincoln

Dwarf Chinkapin Oak

Richardson County Bur Oak





My Favorite:
Quercus macrocarpa -
Bur Oak

Wilderness Park, Lincoln

“Wolf Oak” - Ponca State Park – Born 1644

Bur Oak near Bennet, NE

Bemis Park Neighborhood -
Omaha

Brownville

Kearney

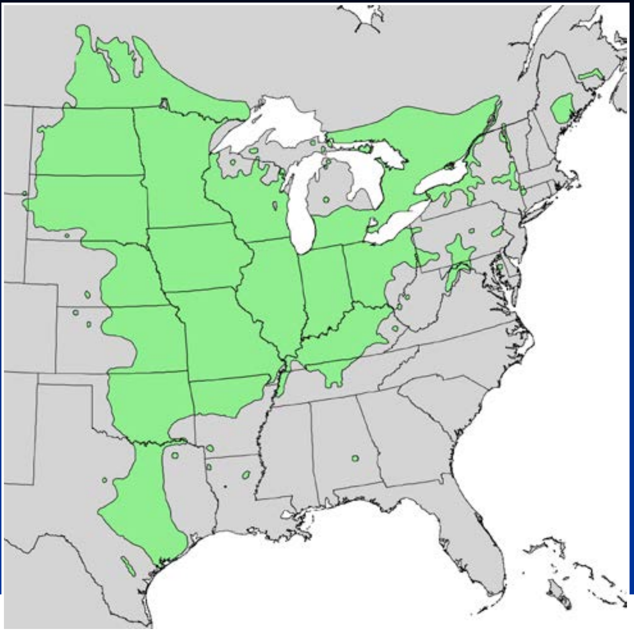
Beatrice Chautauqua Park

UNL East Campus

North Platte

Gering

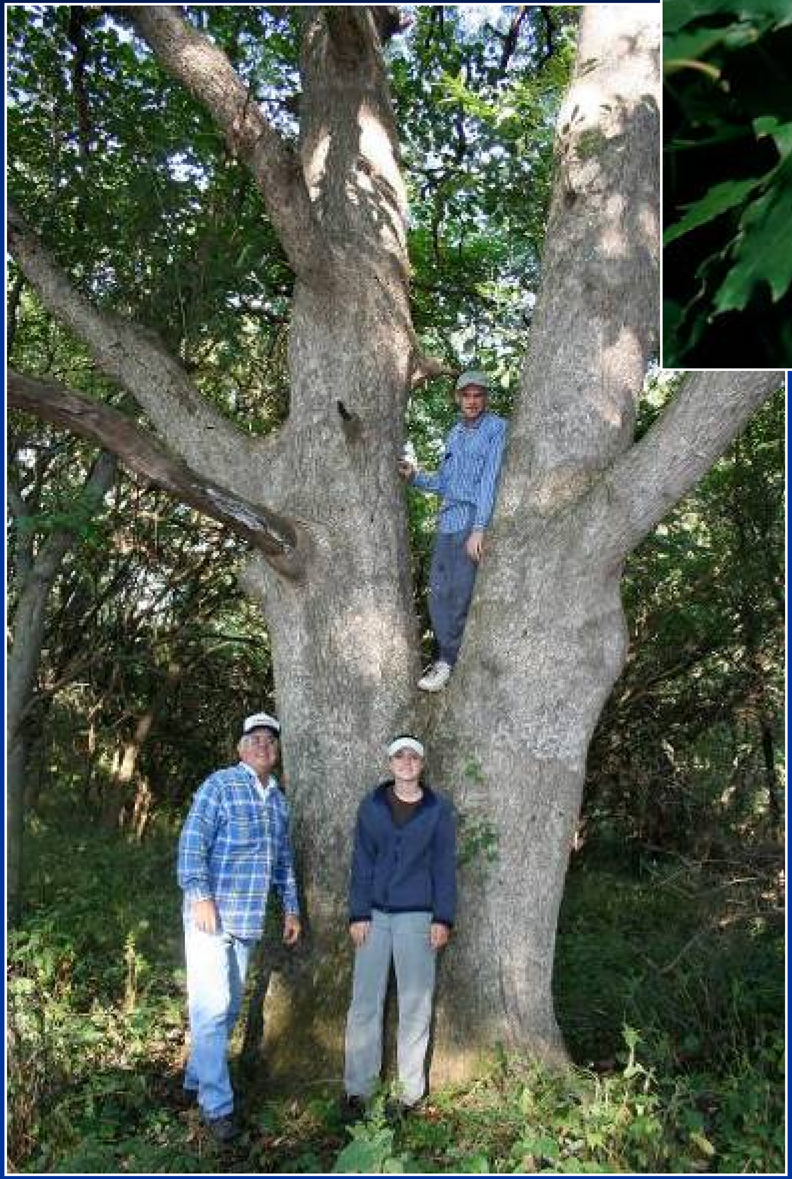
Burr Oak Canyon – SW Nebraska






‘Relict’ oak

Another Favorite



Quercus muehlenbergii – Chinkapin Oak

North American Oaks

- Bur Oak
- White Oak
- Chinkapin Oak
- Dwarf Chinkapin
- Swamp White Oak
- Chestnut Oak
- Post Oak
- Gambel Oak
- Overcup Oak
- Red Oak
- Shumard Oak

- Black Oak
- Blackjack Oak
- Shingle Oak
- Willow Oak
- Cherrybark Oak
- Hills Oak
- Texas Red Oak
- Buckley Oak
- Bear Oak
- Mohr’s Oak
- Various Hybrids

Quercus velutina

Quercus imbricaria

Albuquerque = Duke of Albuquerque - Spain

Quercus alba

Quercus rubra

Quercus muehlenbergii

Non-Native Oaks

Sawtooth Oak (Q. acutissima)
Oriental White Oak (Q. aliena)
Japanese Emperor Oak (Q. dentata)
Hungarian Oak (Q. frainetto)
English Oak (Q. robur)
Downy Oak (Q. pubescens)
Mongolian Oak (Q. mongolica)
Liaotung Oak (Q. liaotungensis)
Various Hybrids


Q. robur


Q. dentata

Q. frainetto


Q. mongolica



Q. acutissima

Red Oaks vs White Oaks

Q. rubra

Q. shumardii

Q. alba

Q. macrocarpa

Leaf Variety – White Oaks

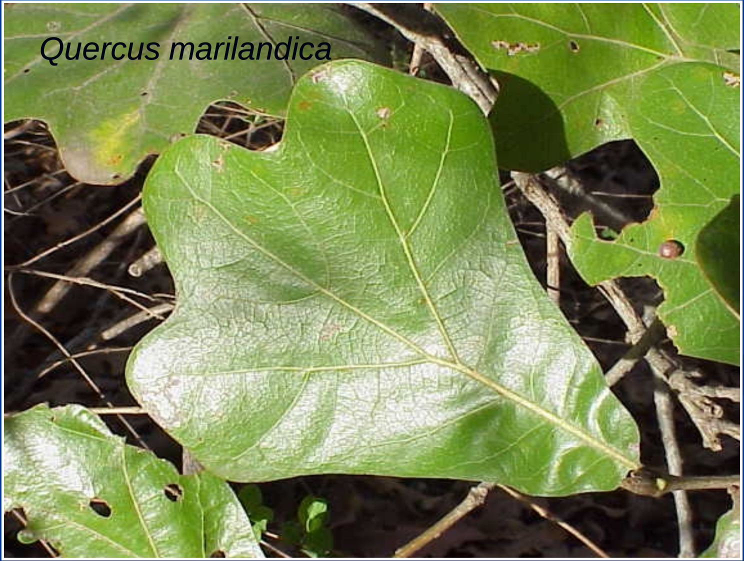
Red Oaks

Quercus nigra

Quercus imbricaria

Quercus rubra

Quercus 'Lefler'



Quercus marilandica

Fall Color – Red Oaks


Quercus rubra – Red Oak


Quercus coccinea – Scarlet Oak


Quercus marilandica – Blackjack Oak

Quercus buckleyi – Texas Red Oak


Quercus shumardii
Shumard Oak


Quercus velutina – Black Oak


Quercus ellipsoidalis – Hills Oak

Fall Color - White Oaks

Quercus alba – White Oak

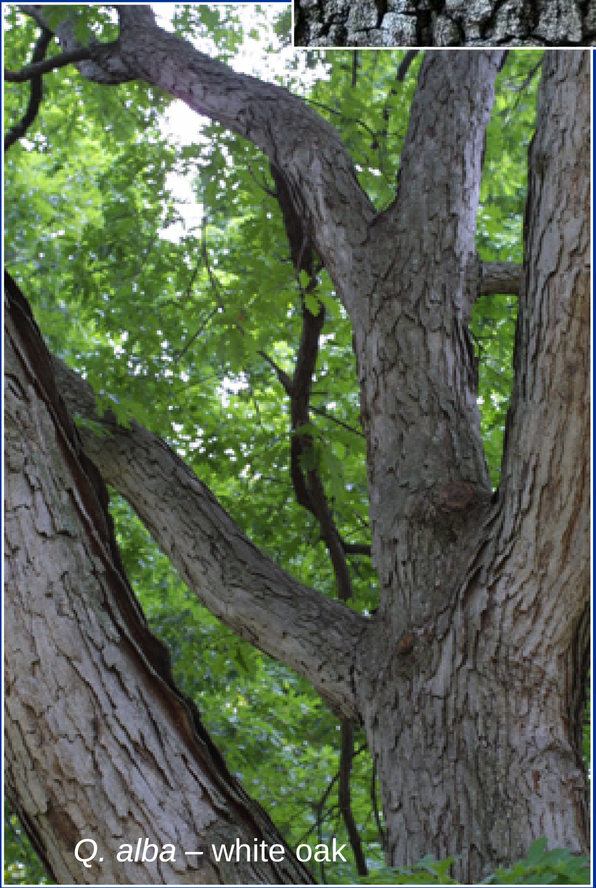
Quercus muehlenbergii – Chinkapin Oak

Quercus bicolor – Swamp White Oak

Bark

Q. velutina – black oak

Q. muehlenbergii – yellow oak



Q. alba – white oak

Q. montana - Image: Wikipedia

Acorns

Q. muehlenbergii

Q. rubra

Q. shumardii

Q. bicolor

Q. prinoides

Q. robur

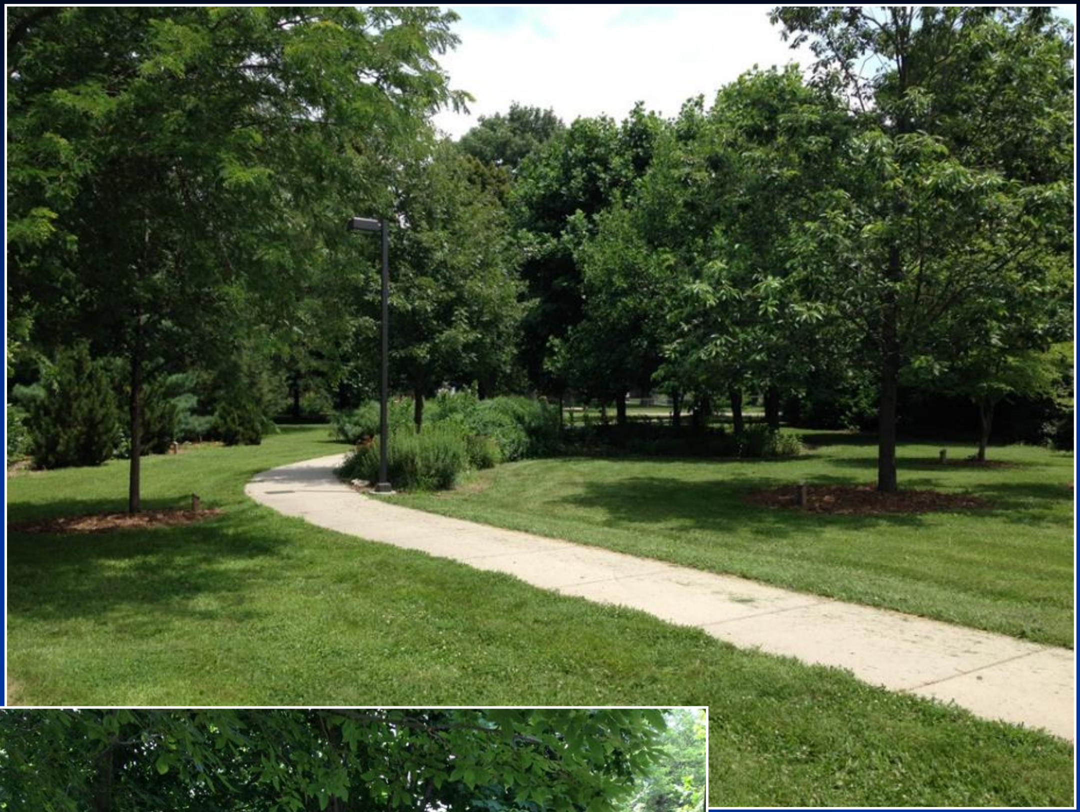
Variability in Bur Oak

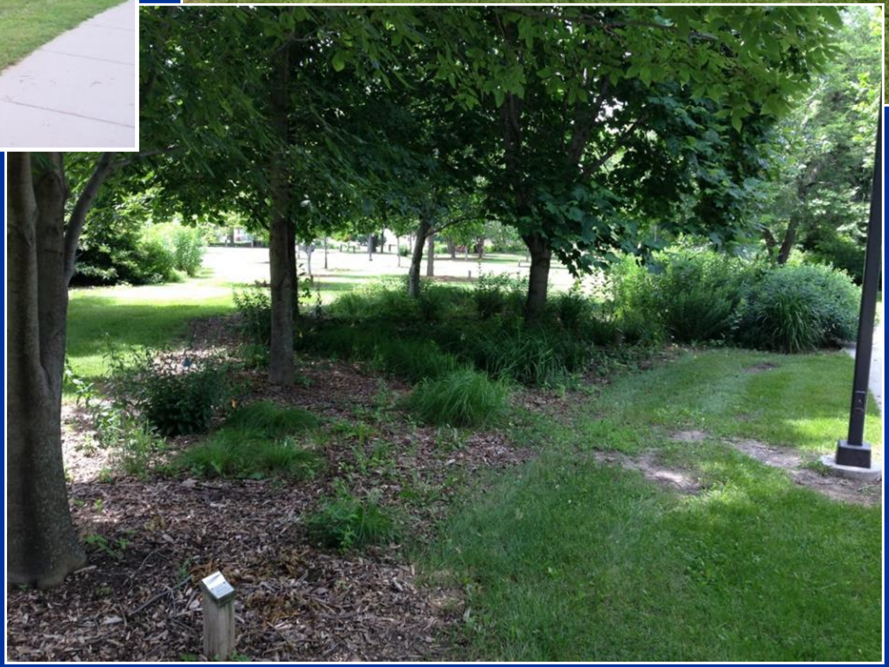
Macrocarpa = big fruit/seed

Planting Acorns

Eating Acorns

Wayne Park & Arboretum
Waverly





White Oaks

Q. macrocarpa


Q. alba

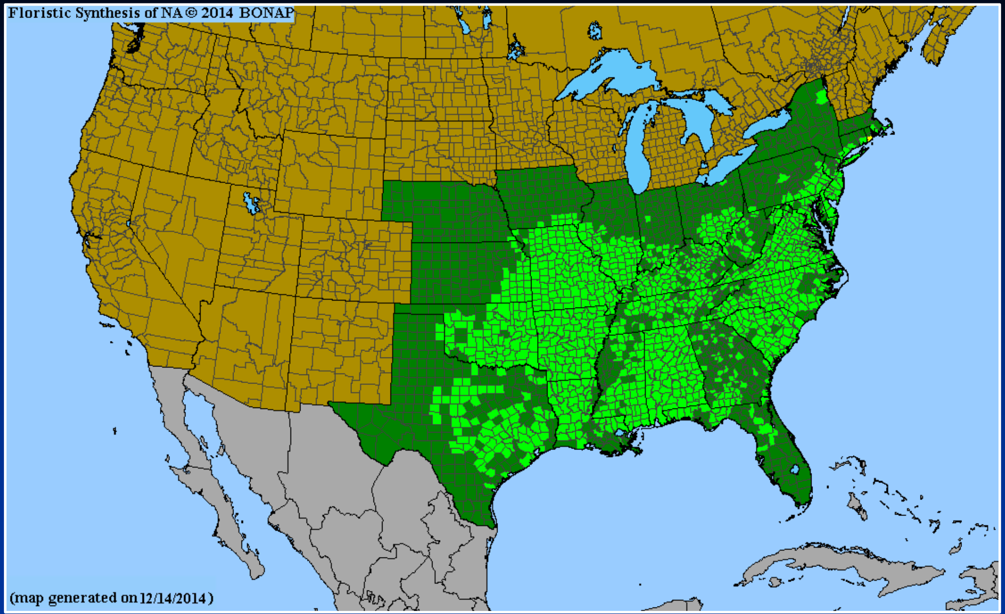
Q. muehlenbergii

Q. montana


Q. bicolor


Image: Vanderbilt Bioimages

Q. lyrata



Q. Stellata – Post Oak

Red Oaks

Q. shumardii

Q. velutina

Q. marilandica

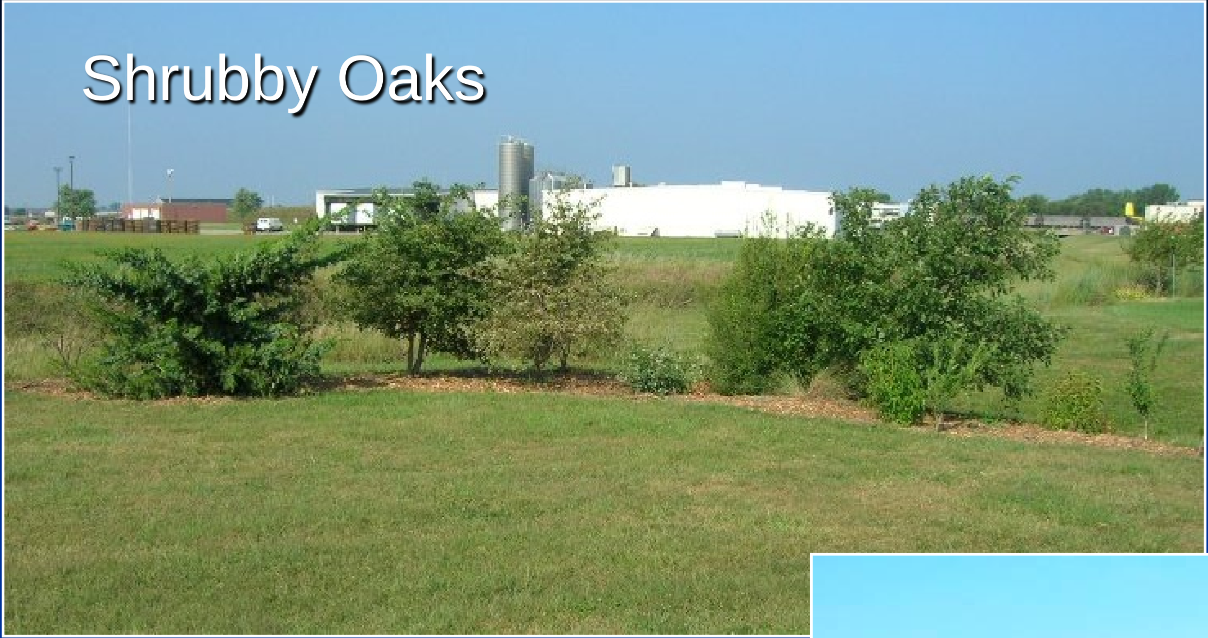
Q. ellipsoidalis

Q. buckleyi (texana)

Q. pagoda

Q. imbricaria

Shrubby Oaks



Q. prinoides

Q. ilicifolia

Q. gambelii

Q. turbinella

Q. undulata

Hybrid Oaks

Q. × macdanielii (macrocarpa x robur)

Q. × schuettei (macrocarpa x bicolor)

Q. × schociana (imbricaria x palustris)

Lefler Oak

Introduced Oaks

Q. robur ‘Salicifolia’

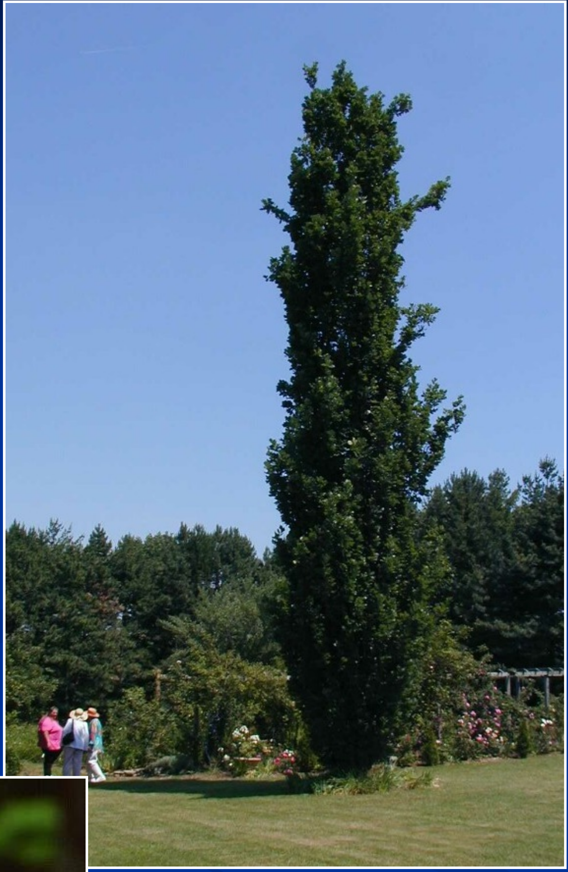


Image: J.S. Peterson, USDA

Q. acutissima


Q. mongolica

Quercus liaotungensis

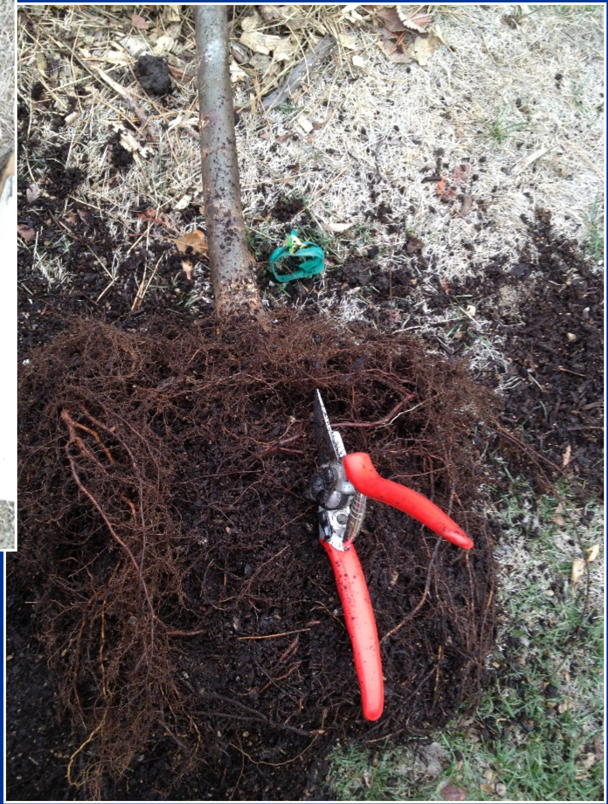

Quercus dentata

Q. frainetto – Hungarian Oak

Q. pubescens (downy oak)

Waverly Bur Oak Growing Study 2011-2017

December 2012 Root Systems



December 2012 Planting Site


December 2012


September 2017

Air Spading

Root Evaluations

October 2017

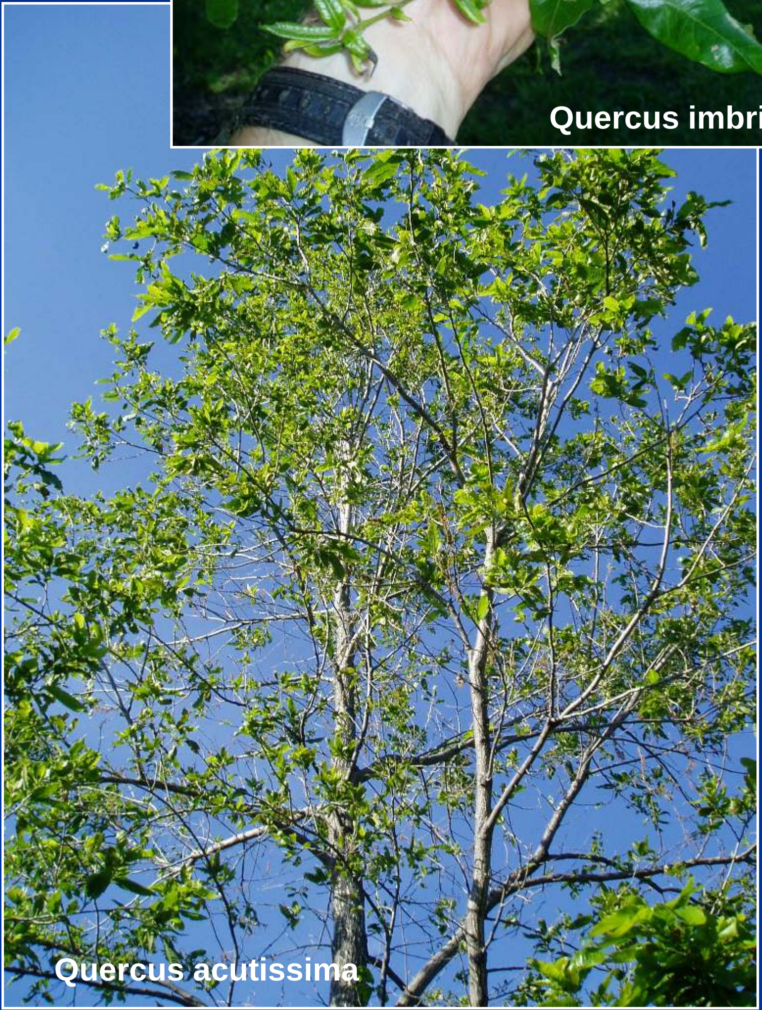
#7 RT Bur Oak – **4 years** after planting in Omaha

Oh how nice our trees would be, if….


Quercus alba


Quercus macrocarpa


Quercus imbricaria


Quercus acutissima


Quercus ellipsoidalis


Quercus rubra


Cercis canadensis
Cladastris kentukea
Fraxinus pennsylvanica
Liriodendron tulipifera



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