



PLANT NEBRASKA

# Fun Facts about Trees

plantnebraska.org

Approximately 50 tree species are native to Nebraska with most of them occurring in the eastern half of the state. Although no one knows for sure, it's estimated that up to 300 distinct species and hybrids can be found growing somewhere within the state, including at arboretums. About 50 are evergreens and another 35 are oaks.

Nebraska was only 3% forested at the time of settlement in the 1800s. However, the state is at a unique crossroads being at the western limit of the eastern hardwood forest and the eastern limit of the Rocky Mountain pinelands. Nebraska is also home to relic boreal species such as birch and aspen brought here with the last ice age over 10,000 years ago. Several tree species meet the limit of their natural range in Nebraska, including limber pine, aspen, paper birch, Rocky mountain maple, white oak, red oak, black oak, chinkapin oak, blackjack oak, butternut, bitternut hickory and shagbark hickory. Climate shifts and human activities have been pushing trees in and out of the state for eons.

About 1,000 distinct species of trees are native to North America. Another 40,000 to 50,000 species are native to tropical forests around the world.

The vascular tissue in a tree that conducts sugars and other organic compounds made during photosynthesis to other parts of the tree is called phloem. The tissue that conducts water from roots to other parts of the tree is called xylem. Both exist in the cambium and make up the tree's annual growth ring. Every year a tree must completely regrow its cambium or it will die.

The tallest tree in the world is a 379' coast redwood (*Sequoia sempervirens*) in California known as "Hyperion." The Nebraska State Capitol is 396' to the top of the sower.

"General Sherman," a giant sequoia growing in California, is 275' tall with a trunk circumference of nearly 100'. It is the largest tree by volume in the world and is estimated to be 2500 years old.

The tallest tree in Nebraska's champion tree registry is a 120' tall silver maple growing at Kamp Kaleo near Burwell. Other tall trees include a 115' silver poplar in Fremont, a 101' black walnut at Arbor Lodge, a 100' pecan in Brownville and a 105' ponderosa pine north of Harrison.

The national champion eastern cottonwood (*Populus deltoides*) grows near Beatrice, Nebraska, and is 88' tall, has a 108' crown spread and a trunk circumference of 37'.

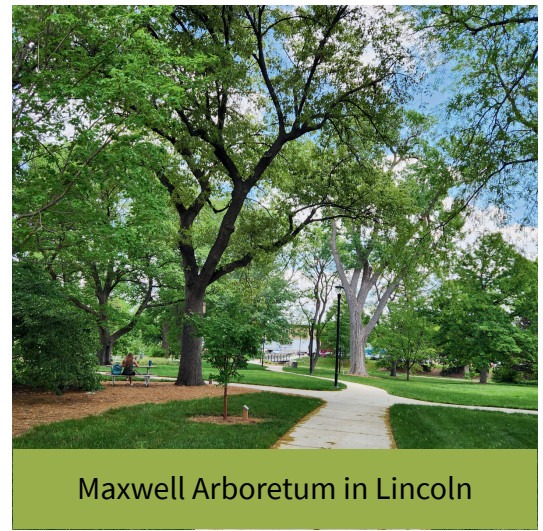
Bees emerging early in the spring gather resins from the sticky buds of cottonwood species. They use these resins to create an antimicrobial glue called propolis to line their hive.



Champion Ponderosa pine near Harrison

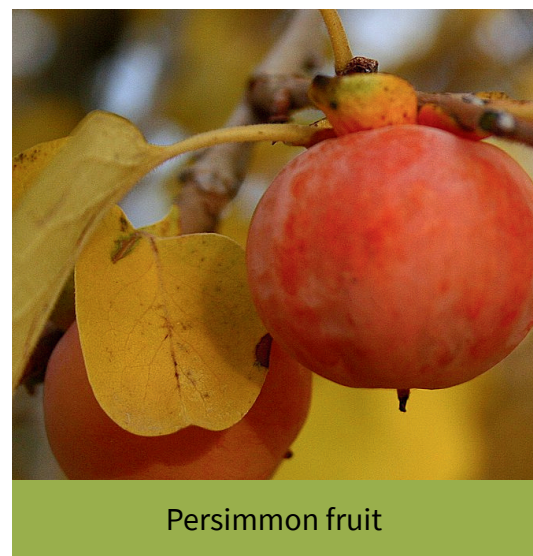
The world's oldest non-clonal tree is a 5,070-year-old bristlecone pine (*Pinus longaeva*) growing in the White Mountains of California. A Norway spruce (*Picea abies*) called Old Tjikko in Sweden is thought to be over 9,500 years old, but it is a clonal species and has regenerated new trunks in its life. The oldest trees in Nebraska are Rocky Mountain junipers growing in the Wildcat Hills near Scottsbluff and estimated to be over 800 years old. Some oaks in Nebraska are thought to be over 400 years old. The Wolf Oak at Ponca State Park sprouted in 1644.

“Pando,” a clonal colony of quaking aspen (*Populus tremuloides*) in Utah, is estimated to be over 80,000 years old, weighs over 6,600 tons, has over 40,000 trunks and covers more than 106 acres, making it the heaviest living organism in the world.



Hackberry (*Celtis occidentalis*) was recently reclassified from the elm family to the cannabis family. Fossilized seeds indicate that a grove in Hackberry Hollow in Cheyenne County is tens of thousands of years old.

Nebraska has seven native oak species: bur oak, red oak, black oak, chinkapin oak, blackjack oak, white oak and dwarf chinkapin oak. At least 30 other oak species can be grown in the state.



Native Nebraska trees that can be tapped for syrup include boxelder maple (*Acer negundo*), silver maple (*Acer saccharinum*) and black walnut (*Juglans nigra*).

Limber pine (*Pinus flexilis*), native to western Kimball County, is named for its extremely “limber” branches that resist heavy snow loads and that can be tied into knots. At least one native tree there has been dated to over 500 years old.

The compound leaf of coffeetree (*Gymnocladus dioica*) is the longest leaf of any native tree, often reaching over 30” long. The genus name *Gymnocladus* means “naked branch” owing to the naked look of the tree when its large compound leaves are shed in the fall. Coffeetree is considered an evolutionary anachronism since the North American mega-fauna that evolved to eat its fruit went extinct long ago, leaving the tree without good seed dispersers since the last ice age. The common name derives from its hard

seeds that were roasted, ground and brewed into a coffee-like drink by early settlers. The flavor is actually quite mild.

Before being wiped out by a blight disease in the early 1900s, the American chestnut (*Castanea dentata*) may have accounted for up to 25% of all eastern US hardwood trees. Scientists are working hard to develop disease-resistant varieties that can be reintroduced into the wild.

The deeply furrowed and blocky bark of the American persimmon (*Diospyros virginiana*) takes on the look of an alligator’s back as it matures. The fruits are tasty when ripe but will cause significant puckering if eaten too early. Persimmon seeds can predict the winter depending on embryo shape: spoon shape for snow, fork shape for light snow, and a knife shape for “cutting” winds.

Native Americans chewed or boiled a tonic from willow (*Salix spp.*) leaves or bark to relieve fever or other aches and pains and often referred to willow as “toothache tree”. It was later discovered that bark from willows contain salicin (salicylic acid), an important ingredient in aspirin. Willow is also important to bees as very early in the spring, when little else is blooming, they provide nectar and protein-rich pollen, which gives the bees a much-needed boost of energy after a depleting winter. Bees also collect plant resins from willows for various purposes, such as defense against pests and pathogens and for nest construction and sealing.

Numerous tree species are able to survive a wildfire. Bur oak does it by growing a very thick and corky bark to withstand the flames. Dwarf chinkapin oak does it by sacrificing its trunks to the fire, and then resprouting from its roots. Numerous conifers like Jack pine and Lodgepole pine actually need a cleansing fire to release seeds from cones and to allow for germination of new seedlings.

American linden (*Tilia americana*) has sweetly fragrant flowers that attract a variety of pollinators and linden honey is highly prized. Another common name “basswood” is derived from “bastwood” in reference to the tough inner bark or phloem called “bast” which was woven to make ropes and mats. Linden is also unique in that it is both fast-growing and long-lived, which is not a typical combination in trees. How is this possible? Suckers around the original single trunk become the new trunks as the original trunk declines.

American hornbeam (*Carpinus caroliniana*) is named for its extremely hard wood that takes a “horn-like” polish and was used by early Americans to make bowls, tool handles and the “beam” of wood that separated ox bows. It’s also known as musclewood due to the sinewy look of its bark.

American elm (*Ulmus americana*) was the most common tree in Nebraska communities until Dutch elm disease nearly wiped it out in the 1960s and 70s. It was then replaced as Nebraska’s state tree by cottonwood.

Red/Slippery Elm (*Ulmus rubra*) uses layering when there is insufficient light in the forest. A layering “colony” can be 15' in diameter and have several waist-high vertical branches. When a canopy opening occurs, one of these vertical branches becomes the tree and the others decline.

Ash is one of the most common trees across Nebraska, including in communities. The Emerald Ash Borer (EAB) has arrived and could kill more than 40 million ash trees across the state in the coming years.

Stern’s Medlar from eastern Arkansas tells an interesting story of how did it get there? The large, multi-stem shrub or small tree is a rare intergeneric hybrid between a native hawthorn (*Crataegus brachyacantha*) and the Old World medlar (*Mespilus germanica*). Hawthorns and medlars are both in the “frisky” rose family.

Sassafras (*Sassafras albidum*) leaves are traditionally used as a spice called filé. Sassafras powder is a mainstay thickener and flavor of Creole cuisine and in particular its use in gumbo. Ground sassafras leaves have a lemonade-like aroma that some people liken to Fruit Loops, but with hints of camphor and old wood. Sassafras roots are also the original source flavor in root beer. Because of its aromatic qualities, sassafras was one of the first trees exported from North America to Europe and commanded premium prices.

Hophornbeam or Ironwood (*Ostrya virginiana*) is a dense, hard wood with a high burning energy. Teas or infusions were made with the bark for aches and pains, including full body baths to treat sore muscles or arthritis, and as a mouthwash for toothache. The catkins contain edible nuts that are an important source of food to birds and small woodland mammals, and a tasty snack for humans. The thin leaves are toilet-tissue soft, yet durable, perfect for an emergency when nature calls you out in the woods.

Pawpaw (*Asimina triloba*) is the largest native fruit in North America, and the species grows no further west or north than its native range in SE Nebraska.

Ginkgo (*Ginkgo biloba*) is considered a living fossil with the genus dating to at least 270 million YA. It is native to eastern China where it has been cultivated for hundreds or perhaps thousands of years. The word Ginkgo is a western misspelling of the Japanese word gin-kyo. The specific epithet biloba refers to the distinctive two-lobed, fern-like leaves, which is also the source of the common name “Maidenhair” tree. The female trees producing soft, fleshy fruits falling in autumn that smell of rancid butter or vomit.

