OAK RIDGE CEMETERY

- A Spirited Stroll into the Past -
2015 Tree Trivia

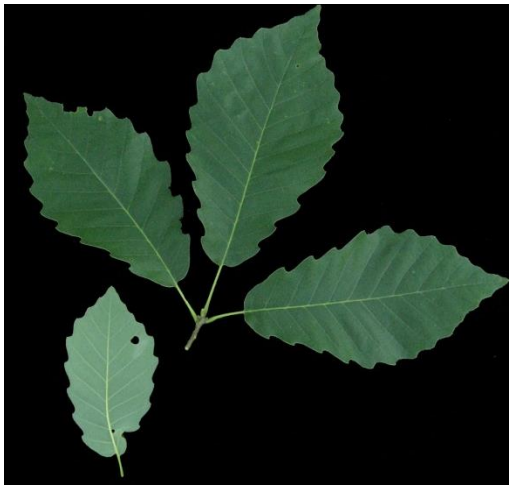
Visit each of the trees, make observations, and talk with the guides to learn the answers to these questions. Find more information at https://oakridgecemeterytrees.wordpress.com.

94-02 Overcup oak (*Quercus lyrata*)
Overcup oak is native to the southeastern United States, often growing on flood plains and swamp lands. Acorns from the overcup oak have a unique adaption. The cup, which floats, covers almost the entire acorn. How does this adaption help the species in its native habitat?

The cup allows the acorn to fall from the tree, into the water, and float to a new site to grow. What would happen if the acorn sank? The acorn would sink to the bottom of the river/stream where it could not sprout and grow.

94-03 Cory hybrid oak (*Quercus bicolor* × *Q. muehlenbergii* F_2) (= *Quercus* × *coryana*)
A hybrid of two oak species can occur when two closely related species cross-pollinate, creating a seed with genes from both parent trees. Just like you might look more like one parent or the other, this oak tree looks more like one of its parents. Which do you think it resembles? (See the examples from the guide!)

swamp white oak, *Quercus bicolor* OR chinkapin oak, *Quercus muehlenbergii*



This hybrid looks more like the swamp white oak parent. Notice the leaf shape (deep lobes), white coloring on the underside of the leaf, and the flaky bark on the trunk and branches that are two identifying features of that species.

95-12 Butternut (*Juglans cinerea*)
Butternut, a close relative of black walnut, was once a common tree in Illinois. The tasty nuts are enjoyed by both humans and wildlife. What caused it to nearly disappear from our forests?

A disease called butternut canker killed most butternut trees. The disease is caused by a fungus that is spread between trees by water, wind, or insects. The fungus infects and kills the wood, eventually causing enough damage to kill the tree. There is no cure. A few old trees are still around because they were in an area the fungus did not reach or perhaps there are a few that are naturally resistant. This tree is only 20 years old, so since there are very few butternuts around to contain the disease, this tree is probably safe.

96-03 European pedunculate oak (*Quercus robur*)
Oak trees have long been a symbol of strength and long life. The European pedunculate oak AKA English oak, ranging across most of Europe, is no exception. It was considered sacred to many of the gods of ancient mythology, its leaves have adorned the crowns of royalty for centuries, and its picture is often featured on crests, currency, and logos, both ancient and modern. Throughout Europe, a number of these ancient English oaks are protected as historic landmarks. How old do you think the oldest oaks might be?

Well over 1500 years old! Exact age cannot be determined because these ancient trees are hollow and have been for hundreds of years, so no exact count of tree rings can be done.

The title of oldest tree in existence goes to a Bristlecone Pine in California, dated to over 5000 years! A small core, the diameter of a drinking straw can be extracted so the rings can be counted without major damage to the tree.

96-14 Bebb hybrid oak, (*Quercus macrocarpa* × Q*uercus alba*) (= *Quercus* ×*bebbiana*)
The Bebb oak is one of the more common oak hybrids found in Illinois because the parents – white oak and bur oak – are two of the most common oak species. Red oak (*Quercus rubra*) often grows alongside bur oak and white oak, but you will never see a hybrid of the Northern red oak with either of the other two. Why not?

They are not closely related enough to hybridize. The 20 native Illinois oaks are divided into two groups: "red oaks" and "white oaks". Hybrids can only form between species in the same group. As a general rule, the white oaks like bur oak and white oak will have rounded lobes. Red oaks like the Northern red oak and black oak have pointed lobes.

0-013 Canadian Hemlock (*Tsuga canadensis*)
This tree, native to the Northeastern US and Canada, through the northern Appalachian Mountains, is one of only evergreens to have very flexible branches and a "nodding" top. What advantage does that give it in the wild?

They are not likely to break when covered in ice and snow. They tend to droop under the added weight which allows snow cover to slide off.

0-014 Ohio buckeye (*Aesculus glabra*)
Most people will recognize the familiar seed of the buckeye tree: the smooth, brown nut said to bring good luck to its holder. When the fruit is not present, could you recognize this tree by its leaf? The leaf is "palmate," meaning all the leaflets that make up the leaf come from a single point. Draw a buckeye leaf here:

0-015 Wild black cherry (*Prunus serotina*)
The wild black cherry is a very common tree in the eastern United States. It is a valuable food source for a variety of animals that rely on its fruit, leaves, and flowers. Can you think of an animal that might use each of these parts of the tree?

The small, tart cherry is eaten by many birds and small mammals, and can be used in jams and pies! The leaves are toxic to humans and other mammals, but the larval stage of many species of butterflies rely on cherry foliage as a primary food source. The flowers are very valuable to many pollinators, including a wide variety of bees.

0-016 Ginkgo (*Ginkgo biloba*)
Why is the Ginkgo called a "living fossil"?

Fossils show the ginkgo species has changed very little in the past 200 million years! These trees, very closely related to the ginkgo you see here, would have fed the dinosaurs. It is believed that the smelly fruit was particularly attractive to some animals that lived at that time.

0-017 Post oak (*Quercus stellata*)
Where post oaks are found in their native habitats on bluffs, savannas, and sandy flatwoods, they grow very slowly and are often rather small and "scrubby", even when they are very old. Besides genetics, what could cause of the tree's slow growth rate and small size?

These sites tend to be extremely dry and the sandy or rocky soil is very nutrient-poor. Growing in these tough conditions, the tree grows very slowly, developing deep roots and very dense wood. To see the slow growth, see the dense tree rings of the post oak sample (bottom) compared to a fast-growing chinkapin oak (top).

0-018 Eastern redcedar (*Juniperus virginiana*)
The Eastern redcedar is the only evergreen that is truly native to central Illinois. It is not hard to find, as it is a pioneer species, coming in to disturbed sites or dry, exposed areas where other trees might struggle to grow. How does the tree "travel" to these new sites?

The tiny blue fruits (technically cones) are a very popular food source for many, many birds, including the Cedar Waxwing, which was named for its use of the tree. The seeds pass unharmed through their digestive systems to be deposited to grow in a new site.

0-019 Sassafras (*Sassafras albidum*)
Sassafras trees have very unique leaves that come in three basic shapes. Can you draw them here?

Photo: http://www2.sluh.org/bioweb/nh/leaf.php?id=37

0-020 American arborvitae (*Thuja occidentalis*)
Evergreen trees are frequently planted in cemeteries as a symbolic representation of eternal life. This species is especially appropriate because of its name's Latin meaning. What does *arborvitae* translate as?

"Arbor" = tree, "Vitae"= life
The name "tree of life" comes from the fact that its bark, twigs, and sap were historically used for medicinal uses.

0-003 Cucumber magnolia (*Magnolia acuminata*)
The cucumber magnolia is the largest and hardiest of the magnolias native to the United States, found growing primarily throughout Appalachia reaching into far southern Illinois. From what part of the plant does this tree earn its unusual name?

The name comes from the fruit – a long, slender seed cone that starts out green, turning to red as it grows and ripens. Many small, red seeds are inside each cone.
Photo: www.wildflower.org

0-004 bur oak (*Quercus macrocarpa*)
Of all the oaks native to Illinois, the bur oak tends to have the thickest bark. How did this adaption help it survive life on the prairie?

The thick bark protected it from prairie fires. Thinner barked trees would be badly damaged or killed, not allowing the woodlands to creep out into the wide open prairie landscape.

0-005 white pine (*Pinus strobus*)
One way to identify different pine species is by counting the number of needles held together in bundles along the branch. How many needles are in each bundle on white pine?

5

0-006 Osage-orange (*Maclura pomifera*)
The Osage-orange or hedge tree is maybe best known for its "hedge apples," the large, green fruits that drop each fall, but not every tree produces fruit. Why is this?

With Osage-orange trees, some are male and some are female. Only the females produce fruits. Other examples of trees that have male/female trees (aka dioecious trees): ash, ginkgo, mulberry, Kentucky coffee tree, holly, persimmon.

When planting any of these trees, why would it be important to know if which gender you are planting? If in an urban area, maybe the male trees are preferred so there is no fruit dropped. If planting for the fruit, it is important to know you have both genders so there is pollination.

Before the introduction of barbed wire, hedge trees were once the most commonly planted tree in North America. The tough trees were planted in rows, then hedged to make a dense, thorny fence to corral livestock.