

TINY TREE WALK

AMERICAN ELM

In the 19th century, the American elm was a popular tree species to plant in the growing cities. Their branches form a cathedral-like canopy, an ideal means of shade for citizens, and thus, city streets were lined with only elms.



Unfortunately, in the early 1900s a deadly pathogen, Dutch elm disease (DED), was brought over from Europe in a shipment of logs and killed most of the earliest American elms. This silent killer spreads in the underground root system of adjacent American elm trees, which was easy to accomplish since many of the trees planted in the 1900s were near one another. Beetles also can carry the disease and will transmit it by chewing on the bark.

Dutch elm disease restricts the flow of water to the tree, which causes the branches to wilt and die. This means the tree cannot photosynthesize enough food to survive. Disease-resistant strains have been developed, and healthy trees can be treated with injections every three years.

This American elm in Tower Grove Park is a quintessential example of the large canopies that make American elms stand out. Our Forestry team takes careful measures to monitor its health and injects the tree every three years to prevent against Dutch elm disease.

CONNECTION: What similarities are apparent between the way Dutch elm disease affects the American elm tree and how infectious diseases affect our world populations? How do humans prevent the spread of these infectious diseases?

AUSTRIAN PINE



In general, pines, both native and introduced species, are used as landscaping ornamentals, timber, windbreaks, erosion control, and, of course, for Christmas trees. The shortleaf pine is the only type of pine you will find in uninhabited regions of Missouri.

The Austrian pine, also known as the European black pine, is a native of Eurasia. It first came to the United States in 1759. Over

217 million pines were planted as part of the nation's dust bowl shelterbelt project, a project aimed to create windbreaks in the Great Plain states to lessen the amount of dust storms in these areas. The Austrian pine has adapted and prospered in some of the worst soil and climate conditions in America. Sadly, it will easily succumb to a serious needle disease called Diplodia tip blight, which has infected many specimens.

This Austrian pine in Tower Grove Park provides an apparent contrast between needle foliage and broad leaf trees.

CONNECTION: How is the Austrian pine tree able to create more effective windbreaks compared to the American elm? Do you think the American elm would survive well in a windy climate? Justify your answer.

NORTHERN CATALPA

One of the most iconic trees in Tower Grove Park, the northern catalpa captures the attention of all passersby. An observer will notice white, trumpetlike flowers, enormous heart-shaped leaves, long, slender, dangling bean-like seed pods, a twisting trunk and branches, a large hollow at the base, and of course a support for one of the limbs of the tree. It is no mystery why kids and adults alike love to stop here.



In 2019 a large limb on the tree partially broke and was hanging to the ground. Our Forestry team determined this partially broken branch could still function and took the necessary steps to save the branch, thereby saving the tree. If the team were to remove the entire branch, the tree would rapidly decline and die from losing too much material that is producing energy for the tree. Our Forestry team worked to lighten the branch and removed hundreds of pounds from the branch by selectively pruning sections that it could afford to lose. They installed three props to support the branch against gravity.

CONNECTION: How is the branch support like something we see for humans?

NORTHERN RED OAK

The northern red oak in Tower Grove Park is a large oak because of its width, not height. Oak trees are usually typified into two broad groups: the "white oaks" and the "red oaks." The northern red oak is a good tree that is popular in parks and on the street for the shade it provides. Additionally, it tolerates pollution and compacted soil well.



Northern red oaks have been a preference of both lumbermen and landscapers since colonial times. For lumbermen, while it is less desirable than white oak, it is still used for bridge timbers, cross ties, flooring, rough construction lumber, furniture, veneer, interior finishing, and fuel. Landscapers like the northern red oak, as it is fast growing.