



University of Tennessee, Knoxville
**TRACE: Tennessee Research and Creative
Exchange**

Forestry, Trees, and Timber

UT Extension Publications

7-1998

SP512 Trees to Reconsider Before Planting

The University of Tennessee Agricultural Extension Service

Follow this and additional works at: https://trace.tennessee.edu/utk_agexfores



Part of the [Plant Sciences Commons](#)

Recommended Citation

"SP512 Trees to Reconsider Before Planting," The University of Tennessee Agricultural Extension Service, SP 512-15M-7/98 R12-4910-11-001-99, https://trace.tennessee.edu/utk_agexfores/47

The publications in this collection represent the historical publishing record of the UT Agricultural Experiment Station and do not necessarily reflect current scientific knowledge or recommendations. Current information about UT Ag Research can be found at the [UT Ag Research website](#).

This Trees for Tennessee Landscapes - Choosing the Right Tree is brought to you for free and open access by the UT Extension Publications at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Forestry, Trees, and Timber by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.



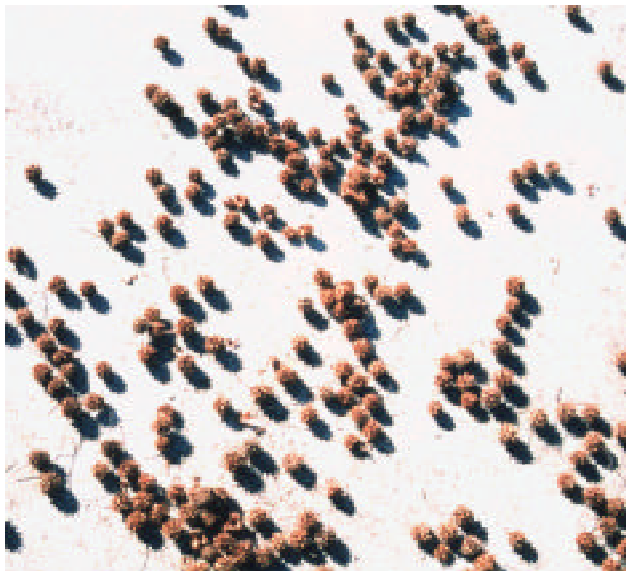
Trees to Reconsider Before Planting

Wayne K. Clatterbuck
Assistant Professor
Forestry, Wildlife
& Fisheries

Donna C. Fare
Assistant Professor
Ornamental Horticulture
& Landscape Design

All trees have their good and bad characteristics. Rarely does a tree throughout its lifetime satisfy or even maintain the objectives for which it was planted. Trees become larger over time, often outgrowing their original growing space both above and below ground. Some trees also produce fruits or seeds that may be troublesome to the homeowner. An example of a tree planted to fulfill a need, but later pre-

cellent screen, its fast growth and large size often exceed the growing space provided. Removal of large trees is expensive. Tennessee is the southern extremity of the range for white pine. Generally, its habitat is at the cooler, higher elevations. Because of its wide genetic diversity, the planting range has been extended to Middle Tennessee. However, some trees are not able to tolerate the warmer and



Wayne Clatterbuck

Seed capsules of sweetgum littering the ground.

senting problems is silver maple, which grows and provides shade quickly. However, it is a short-lived tree with brittle wood prone to limb breakage during wind and ice storms. Another example is sweetgum, which is a handsome tree with attractive foliage, but its root sprouts and the seed capsules (sweetgum balls) can create a nuisance. Outlined below are a few trees with their associated problems that homeowners should consider before planting.

Eastern White Pine (*Pinus strobus*)

White pine is frequently planted as borders and screens along property boundaries. Although the tree forms an ex-



Wayne Clatterbuck

Variation in color, form and size of eastern white pine along a highway in Middle Tennessee.

drier environments. The results are heat and moisture stress which makes them susceptible to common pests such as aphids, sooty mold and pine bark adelgid. The white pine weevil also attacks young trees, killing the terminal leader and causing trees to become stunted and lose apical dominance.

One should expect that some white pines will succumb when planted beyond their natural range. Those trees can easily be replaced with another white pine or another species such as Yoshino Japanese-Cedar, Foster Holly or Burford Holly. The large size of white pine often precludes planting it in urban areas.

Hackberry (*Celtis occidentalis*)

Trees are susceptible to ice damage with their brittle wood, wide branching pattern and weak branch crotches. The thin bark is susceptible to injuries or wounds that can lead to extensive decay. Surface roots can raise sidewalks and interfere with lawn mowing. The fruits are messy and birds spread the seed widely. However, hackberry seeds are a major source of food for birds in the winter.

The best use of hackberry is along the margins of woods or in open lawn areas, but not near pavement or utility lines.

Chinaberry (*Melia azadarach*)

Chinese Tallowtree (*Sapium sebiferum*)

Both trees are exotics that naturalize in uninhabited landscapes and become weed trees. Abundant seeds create many unwanted seedlings. Both species are also prolific root sprouters, causing poor tree form. The fruit, twigs and leaves cause significant litter. Weak wood and drooping branches are susceptible to breakage. Surface roots are a nuisance for lawns.

Other trees provide many more benefits to urban landscapes than these.

Tree-of-Heaven (*Ailanthus altissima*)

Tree-of-heaven is a non-native, rapidly growing tree that has a pinnately compound leaf resembling black walnut. A rancid smell is produced when limbs are broken. The weak wood is susceptible to limb breakage. Tree-of-heaven is considered a weed tree, spreading prolifically by seed and root suckers. Roots will uplift sidewalks. This species has little leaf color in the fall. Due to its rapid growth, tree size can become a problem. Tree heights of more than 80 feet and diameters more than 3 feet are common.

Tree-of-heaven is an invasive tree with few benefits for urban landscapes, and should not be planted.

Ginkgo (*Ginkgo biloba*)

Only male ginkgos should be planted, as the female produces a messy, foul-smelling fruit in late summer. The only way to select a male plant is to purchase a cultivar from the nursery, because no reliable method exists to distinguish a female plant until it fruits (often 15 to 30 years). Reliable male cultivars are *Autumn Gold*, *Princeton Sentry* and *Saratoga*. The large size of ginkgo often outgrows the original planting site.

Virginia Pine (*Pinus virginiana*)

Virginia pine is a scrub tree that retains its lower branches and forms irregular crowns. The shallow roots of Virginia pine make it susceptible to windthrow. Branch breakage from ice is common. This tree also produces many prickly pine cones.

Virginia pine should be avoided except for the poorest sites where other trees will not survive. Shortleaf pine is recommended for planting in urban areas instead of Virginia pine.

Black Willow (*Salix nigra*)

Weeping Willow (*Salix* spp.)

The willows are fast growing trees that often expand beyond their original growing space. Roots affect underground water, sewer and septic lines. The willow's brittle wood is susceptible to ice and wind damage. Trees are short-lived, from 20 to 30 years. Willows are very tolerant of wet and poorly-drained sites.

Willow is not a good tree for residential settings because of its large, lateral size. If a weeping form is desired, select from weeping cherries, mulberry or birch.

Black Locust (*Robinia pseudoacacia*)

Black locust is not recommended for urban plantings. Birds widely disperse the seed, causing a lawn problem. The root system has the propensity to sprout. Branches and twigs also have thorns. Black locusts are highly susceptible to locust borers that often cause premature death of the tree. Locust leaf miner is prevalent late during the growing season, creating unsightly brown foliage. However, black locust is a legume that is excellent for steep banks and harsh sites.

Thornless honeylocust varieties are suggested as an alternative to black locust for urban landscapes.

Siberian Elm (*Ulmus pumila*)

The wood is brittle and major limbs split from crotches, causing damage during wind and ice storms. Fruits and twigs cause significant lawn litter. Branches droop and require pruning. Surface roots lift sidewalks and pavement. An elm leaf beetle often defoliates Siberian elm.

Other elm species such as lacebark elm (*Ulmus parvifolia*) should be planted rather than Siberian elm.

Mimosa (*Albizia julibrissin*)

Mimosa is a fast-growing, short-lived (10-20 years) tree with many seed pods that litter the tree and the ground. The seeds often germinate and resprout, causing a weed problem in lawns. The wood is extremely light and brittle. The spreading branches and multiple stems of mimosa are prone to breakage. Insects (webworms), vascular wilt disease and stem breakage contribute to its limited lifespan.

Planting mimosa should be avoided. Crapemyrtles and smoke tree are desirable substitutes.

Leyland Cypress (*x Cupressocyparis leylandii*)

The dense, evergreen foliage and oval to pyramidal form of Leyland cypress are frequently used as a screen, hedge or windbreak. This rapidly-growing tree quickly outgrows its space in small landscapes and is too big for most residential landscapes unless it is regularly trimmed. Leyland cypress is relatively short-lived (25 to 50 years) and is not native to the United States. Three known canker diseases have been documented in Tennessee that affect Leyland cypress. Bagworms are also a serious insect pest that can defoliate the tree.

Considering the high maintenance associated with Leyland cypress and its sensitivity to insects and disease, this tree should be saved for large-scale landscapes where it can be allowed to develop into its natural shape without the maintenance required in residential settings.

Cottonwood (*Populus deltoides*)

Hybrid Poplar (*Populus spp.*)

Cottonwood has weak wood, shallow roots and is easily damaged in storms. This species is generally short-lived, and because of its fast growth and large size, having it removed is expensive. Leaves often drop from the tree beginning with the first dry period of summer and continue dropping through the fall. Cottonwood becomes a large tree quickly and is not recommended for residential settings.

Hybrid poplars are frequently promoted for rapid growth as potential shade trees. These trees are not recommended as shade trees because they are short-lived and have brittle wood. Most hybrid poplars are used as windbreaks in the Midwest where droughty soils and low rainfall limit their rapid growth or in short-rotation fiber farms for pulp and paper production.

Paper Birch (*Betula papyrifera*)

Tennessee is the extreme southern range for this species. Paper birch is vulnerable to stresses from drought and hot temperatures that make it highly susceptible to secondary attacks of several insects (leaf miners, skeletonizers and borers) and disease infections by fungi-causing cankers. The lifespan of paper birch in Tennessee is generally less than 25 years.

Paper birch should only be planted on moist, well-drained soils where regular watering and fertilization can take place.

Norway Maple (*Acer platanoides*)

The shallow, fibrous root system combined with the dense shade canopy make it virtually impossible to grow grass below Norway maple. These trees are susceptible to girdling roots. The roots wrap themselves around the base of the tree, restricting growth and eventually choking the trunk and killing the tree. Norway maples may create an insect problem with aphids and the resulting honeydew. Norway maple will crack sidewalks. The tree is not heat tolerant in Middle and West Tennessee.

The best management of Norway maple is to avoid planting too many in one location, give each plenty of room to grow, keep trees away from pavement and inspect for girdling roots.

Silver Maple (*Acer saccharinum*)

Boxelder (*Acer negundo*)

Both trees are considered soft maples with shallow, dense roots that often clog sewer lines and septic tank drain fields and lift pavements. The wood of both trees is extremely weak and vulnerable to wind and ice damage. Fall leaf color is minimal. These trees produce a large seed crop and are short-lived (25 to 40 years). Branches droop as the trees grow, requiring pruning. Silver maple and boxelder are highly susceptible to an assortment of mites, aphids and scale.

The primary advantage of both trees is their fast growth for shade, but problems outweigh advantages.

Pin Oak (*Quercus palustris*)

Pin oak becomes a very large tree and should only be planted in areas greater than 600 square feet. The primary difficulty in East and Middle Tennessee is iron chlorosis of leaves on alkaline and limestone soils, causing leaves to turn yellow. Trees with chlorosis will decline in vigor and possibly die. Lower branches also droop and brown leaves persist on the tree during the winter. Pin oak produces many acorns.

Pin oak is a wonderful urban tree where adequate space is available for full development and where soils are in the acid range (lower pH).



Fall color and large size of pin oak.

Lombardy Poplar (*Populus nigra*)

Lombardy poplar is a short-lived tree planted primarily for its upright columnar form in windbreaks and screens. Although it grows fast, the tree is highly susceptible to stem canker disease that usually infects the tree at 10 to 15 years. The lifespan of the Lombardy poplar rarely exceeds 20 years.

Choices of other trees to plant with this crown form include the 'fastigate varieties' of hornbeam, alder or oak.



Lombardy poplar in decline.

As they mature, many trees produce seeds and fruits that may be a nuisance to homeowners. Nuts from hickories and walnut, acorns from oaks, sweetgum and sycamore balls are a few of the antagonists. Fleshy fruits from trees such as cherry and crabapple can also be messy and bothersome.

Plan accordingly when selecting a tree for planting. Make sure the species is well suited to the site, has ample room to grow, and also consider the seed and fruit that the mature tree will produce. Wise planning today during tree selection will alleviate many future tree problems.

Appreciation is expressed to Robin Young for design of this publication.

SP 512-15M-7/98

R12-4910-11-001-99



A State Partner in the Cooperative Extension System, The Agricultural Extension Service offers its programs to all eligible persons regardless of race, color, age, national origin, sex or disability and is an Equal Opportunity Employer. COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, The University of Tennessee Institute of Agriculture, U.S. Department of Agriculture, and county governments cooperating in furtherance of Acts of May 8 and June 30, 1914. Agricultural Extension Service, Billy G. Hicks, Dean

Printing for this publication was funded by the USDA Forest Service through a grant with the Tennessee Department of Agriculture, Division of Forestry. The *Trees for Tennessee Landscapes* series is sponsored by the Tennessee Urban Forestry Council.

