

The Bradford Pear Tree: Beauty or Beast?



Bradford pears showing weak structure with multiple heavy branches and codominant stems.

Every spring, there is talk in the news media, on blogs, and between neighbors about the “curse of the Bradford pear” (*Pyrus calleryana*). These discussions focus on the Bradford pear tree’s spring blooms—those magnificent spade-shaped crowns with profuse white blossoms we see in yards and along city streets. Depending on the region of Mississippi, flowering occurs in early to mid-March.

Anti-Bradford pear commentators point out that the tree is a nonnative species brought from East Asia (principally southern China and Vietnam) during the 1960s. It matures rapidly for a tree and typically lives for 25 years or less. Since the species has brittle wood, 25 is a very old and dangerous age for a Bradford pear tree.

Although the blossoms are attractive to many, they can have a fairly noxious odor that smells a lot like rotting meat. The smell evolved over thousands of years to attract insects to the blossoms for pollination. In addition, the trees are overplanted and reproduce naturally in sensitive places where they should not be found. Some state governments consider Bradford pear an invasive pest.

The main problem with Bradford pear is it has very weak branch connections to the stem of the tree. It tends to fork into multiple stems, known as “codominant” stems. These stems have equal diameter, which results in a weak structure.

Where such a junction forms in a tree, and the bark becomes incorporated into the joint, this is called an “included bark junction.” Branches with included bark are substantially weaker than normal tree forks. Consequently, when there is ice accumulation or wind, the tree twists (known as torsion), which separates those weakly fused branches from the stems. That’s why we often see Bradford pears with broken limbs.

The Bradford pear was imported to North America before people knew much about these negative characteristics. They just liked the way the tree looked in the spring and didn’t consider how a species can respond to nonnative environments. This unwise practice is still common today.

While the Bradford pear is a poor selection for a tree planting, it is not necessarily an environmental catastrophe. Some commentators have claimed it is worse than Kudzu, but the Bradford pear is much easier to remove. Further, Bradford pear is a mid-story tree with a canopy that provides some ecosystem benefits, such as air-pollution removal, rainfall interception, carbon sequestration, and temperature reduction. In short, we shouldn’t plant new Bradford pears, but we shouldn’t necessarily rush to remove the old ones unless they are a significant risk to health or property.

Some commentators claim pear cultivars are a better alternative. A cultivar is a tree that has been cultivated to express specific desirable characteristics. For decades, plant breeders have attempted to cultivate a strong pear tree that retains the shape and flowering characteristics of the Bradford pear. To some extent, they have been successful. However, the cultivars still tend to have branch unions that separate rather easily during wind and ice storms.

One way to reduce, although not eliminate, risk of tree and branch failure is through structural pruning (Gilman and Eisner). If you start a pruning regimen when the tree is young, structural pruning will help develop a strong branching system. With pruning, you can train the tree through reduction and removal cuts. This will slow growth to a promote production of a single leader with scaffolding limbs proportional to the stem, as well as appropriately sized interior branches.

Perhaps the best solution to problems caused by Bradford pear trees is to simply select a different species for planting. We should consider native trees that have evolved in Mississippi’s climate and soils. There are several native ornamentals with many of the traits that make Bradford pear appealing, such as shape, size, and showy blossoms. Some of these species include red buckeye (*Aesculus pavia*), eastern redbud (*Cercis canadensis*), downy serviceberry (*Amelanchier arborea*), various magnolias (*Magnolia spp.*), and various dogwoods (*Cornus spp.*), depending on region of Mississippi where they will be planted. There are many other good alternatives to the Bradford pear. Tree selectors at Virginia Tech (<http://dendro.cnre.vt.edu/treesselector/index.cfm>) and the Texas A&M Forest Service (<http://texastreeplanting.tamu.edu/>) can assist in selecting the right tree. Tree planters should consult their county Extension agents for more information.

Reference:

Gilman, Edward F., and Nathan J. Eisner. Not Dated. Structural Pruning of Shade Trees. University of Florida, IFAS Extension Fact Sheet ENH 848. Available at <http://hort.ufl.edu/woody/documents/structural.pdf>.

Publication 2954 (POD-05-19)

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Produced by Agricultural Communications.

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Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. GARY B. JACKSON, Director