

Tree Selection: Avoid Monocultures

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At a recent lecture, a landowner asked me “What tree species do you recommend to replace the ash trees on my property?” He was a little annoyed with me when I refused to name a specific tree. But here’s my reasoning: monocultures.

A monoculture is the agricultural practice of growing a single crop or plant in a field or farming system. In urban forestry, it means the practice of planting large numbers of the same species of trees in a city or neighborhood.

Why are monocultures a problem? Because insect pests and disease organisms tend to be very particular about what they can attack. What attacks an oak can’t attack a maple. But when every tree in a neighborhood is the same, this pest can wipe out a huge percentage of the community’s trees.

This happened to our stately elm trees with Dutch elm disease. Our native chestnut trees were practically wiped out by chestnut blight. We are currently losing our nation’s ash trees from emerald ash borer. And southern Indiana nearly lost our pin oaks due to horned oak gall in 2014. Asian longhorned beetle, which is currently found in several places in our country, loves to attack maples.

The best way to protect our community’s urban forest is to practice diversity. We must break away from buying the same common trees that everyone knows the name of. We need to select, not only new species, but whole new families of trees, in order to protect our communities from losing all of their shade due to an epidemic of a new pest.

Some specialists recommend the 10-20-30 rule, where the urban forest contains:

1. No more than 10% of any single tree species.
2. No more than 20% of species in any single tree genus.
3. No more than 30% of species in any single tree family.

A study commissioned by the Indiana Department of Natural Resources in 2008 shows that the top five street in Evansville are: Callery pear (9.3%), sugar maple (8.5%); silver maple (7.5%); ash species (7.0%); and red maple (6.8%). This survey only accounts for the trees planted along our streets; it does not count trees in the front or back yards of our properties.

As you can see, our street trees appear to follow part of the rule: none of the street tree species exceed 10%. But the species that make up the maple genus add up to nearly 23%: slightly over the recommended 20% recommendation. If you include the species on the rest of the yard, we probably exceed the 10-20-30 rule throughout the city.

Homeowners need to purchase more of the excellent, but underused, tree species. And the best way to do this is if local garden centers and nurseries, as well as the “big box” stores, offer a greater selection. Together, we need to teach customers that if they want shade, there’s more choices than maple and pin oak; if they want an ornamental, there’s more than crabapple and dogwood.

For more information on finding the right plant for your site, without overusing the same old trees, please contact the Purdue Extension Service in Vanderburgh County at (812) 435-5287.