

Sidebar: Tree Diversity

A street lined with trees of the same species and age is more vulnerable to pests and pathogens. Image cutesy of Portland Urban Forestry.

Overabundance of any one species of tree can lead to increased vulnerability in urban forest. This became increasingly evident as Dutch elm disease dramatically impacted canopy cover in cities across the American Midwest and East Coast.

Many diseases and pests tend to choose trees by family or genus. For example, the European elm bark beetle, which carries Dutch elm disease, has the potential to attack several species from the elm genus (*ulmus*). This means if elms make up 25 percent of a city's urban forest, the city stands to lose up to one quarter of their tree canopy to the disease.

Increasing diversity of tree type at the genus and family levels can help increase resilience. ((City of Portland. Citywide Tree Inventory Report, 2017. <https://www.portlandoregon.gov/parks/article/638773>)) Urban foresters generally use the 10-20-30 rule of thumb which says that a forest population should not consist of more than 10 percent of one species, 20 percent of one genus, or 30 percent of one family. However, more progressive forestry programs are now limiting this to 5-10-20.