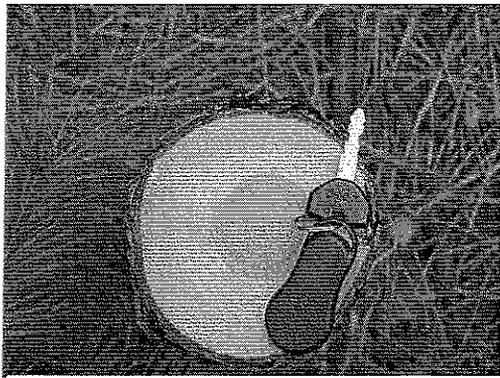


Narrow and wide rings on the same tree (D) could have been caused by intermittent years of drought, insect damage, construction damage or other disturbance. If a tree loses all or most of its leaves because of an insect attack or drought, it is not able to make food and grows very little that year. Root damage from the construction of a house or sidewalk too close to the tree reduces the water and minerals the roots can absorb.

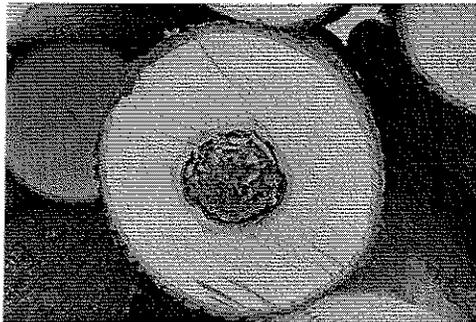
Are big trees older than smaller trees? Just because a tree is large, don't assume that tree is older than a small tree. For example, a 50-year old cottonwood can grow as tall as 100 feet and grow more than 300 inches in circumference, while the same aged red maple tree could rarely match the cottonwood in diameter and height.

Studying tree rings is called **dendrochronology**. When foresters notice the outside rings of a tree beginning to narrow, which could be a sign that the tree's neighbors are crowding it out.

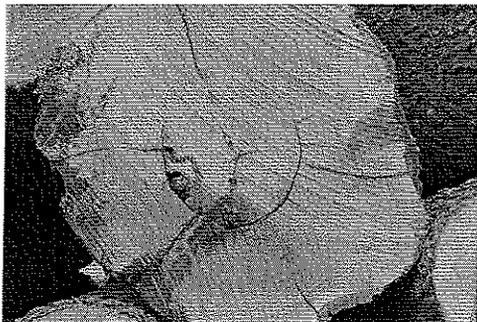
Sometimes, people cut cross-section disks from the trunk of a tree or branch and then sand and varnish them to make the rings more visible. A sample cross-section is often called a tree cookie.



Time to thin this forest. Notice the trees' rings are narrowing toward the outer edges.



Heartrot in American basswood



Fire scar

All photos by Eli Sagor