



Forestry Note:

CHAMPION TREES OF OKLAHOMA

- How to Measure a Champion Tree

Measuring a Champion:

The size of a champion tree is calculated using a point system developed by the American Forestry Association. A Champion's total point is a composition of its circumference, total height, and ¼ of its average crown spread. To maintain "Champion" status, the tree must be re-measured every 10 years.

$$\text{TOTAL Points} = \text{Circumference (inches)} + \text{Height (feet)} + (\text{Average Crown Spread (feet)} / 4)$$

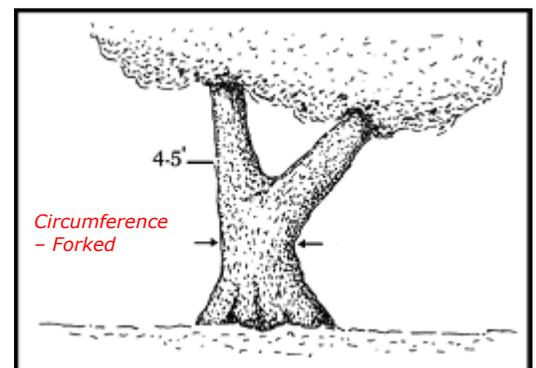
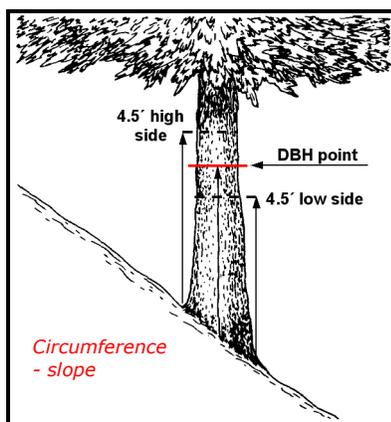
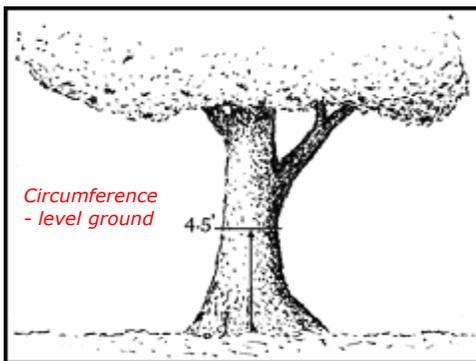
Measuring Circumference:

Circumference is a measure of the distance, in inches, around the tree using an ordinary tape measure. On level ground, this measurement is taken at 4.5 feet above the ground. Trees with an obstruction at 4.5 feet, such as a knot, should be measured above and below the obstruction and the smallest measurement recorded along with the height of this measurement.

Tree on a Slope: On a slope, the measurement is taken at both the high and low sides and averaged. The same goes for a tree that is growing at an angle.

Forked Tree: Take the measurement at the smallest point, below the lowest fork, between 4.5 ft and the ground, excluding dead branches and epicormic sprouts; also record the height at which the measurement was taken.

One Tree vs. Multiple Trees: Trunks that have clear separation at or near the ground should be considered separate trees and measured accordingly. Also if the circumference measurement below the lowest fork places the measurement at the ground, it should be considered separate trees.



Measuring Height:

There are many tools that can be used to estimate the height of a tree including something as simple as a stick, but if at all possible height measurements should be confirmed by an expert such as a local arborist or forester. The vertical height of a tree is measured in feet. It can be measured using an Abney hand level, a hypsometer, a transit, a clinometer, a relascope, a laser or other instrument designed for that purpose.

Alternatively, you can use the stick method: Hold the stick at its base vertically, making certain that the length of the stick above your hand equals the distance from your hand to your eye. Staying on ground level (or on the same contour as the base of the tree), move away from the tree while sighting the trunk base above your hand. Stop when the top of the stick is level with the top of the tree. You should be looking over your hand at the base of the tree and, moving only your eyes, looking over the top of your stick at the top of your tree. Measure how far you are from the tree and that measurement - in feet - is the tree's height.

Measuring Average Crown Spread:

Two measurements of the crown spread are taken and recorded (in feet), at right angles to one another. The first is the widest crown spread, which is the greatest distance between any two points along the drip line of the tree. (The drip line is the outline on the ground of the outermost leaves of the crown.) Once the widest spread has been found, turn the axis of measurement 90 degrees and find the crown spread. The two crown spreads are averaged together.

Other Information Sources:

American Forests' National Register of Big Trees – www.americanforests.org

www.forestry.ok.gov

Your Number One Source for Forestry Information in Oklahoma



Forestry Services Division

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