Vermont Big Tree Program
Measuring Guidelines

The Vermont Big Tree Program uses American Forests' formula to determine whether a tree is a champion. Three measurements are used: **circumference, height, and crown spread**. Use this guide to help calculate your tree's measurements. Below are the basic steps to measuring big trees in some circumstances. For more in depth guidelines for site specific trees, check out the **American Forests' Measuring Guidelines Handbook**.

Please confirm your tree species identification. If you are uncertain of the identification, collect a sample leaf, twig, fruit, nut, and/or cones. Then follow the steps below for measuring.

Big Tree Points Formula

Circumference (inches) + **Height** (feet) + 1/4 **Crown Spread** (feet)
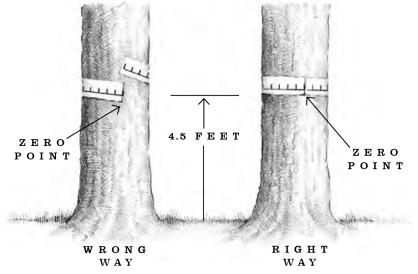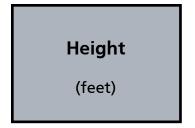
Circumference
(inches)

The circumference (in inches) is taken at 4.5 feet above the ground. It is recommended to use a measuring tape that will not stretch.

Root swell or very low branches may require adjustment to the measurement location.

When trees are growing on a slope or uneven ground, measure 4.5 feet from both the uphill and downhill sides, find a point halfway between the two (this is the mid-point), and measure circumference there.

The Vermont Big Tree Program only considers single stem trees for champion eligibility. If it is determined that two or more trees are present, the measurement of the largest single trunk should be taken.
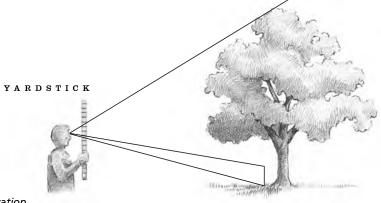

ZERO POINT

4.5 FEET

ZERO POINT

WRONG WAY

RIGHT WAY

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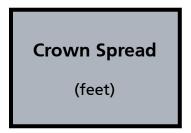
(OVER)

Height
(feet)

Height is the vertical distance, in feet, between the ground (level with the base of the trunk) and the top-most branch of the tree.

Height is accurately measured by correctly using using a clinometer, laser hypsometer, or other specialized tools. If these tools are not available, height can be estimated using the "stick method."

Stick Method

An estimation of height can be made using a yardstick (on level ground). Measure and stand at a distance of 100 feet from the base of the tree. Next, hold the yardstick vertically 25 inches, roughly an extended arm's length, from the eye. Align the zero inch mark on the yardstick at the base of the tree and note the inch mark that aligns with the top of the tree. Calculate the height, in feet, of the tree by multiplying the inches noted by 4.

YARDSTICK

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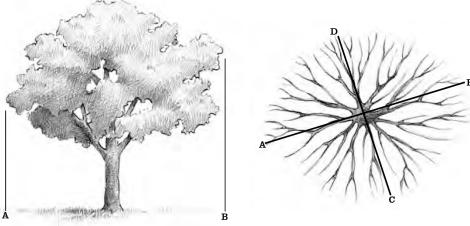| Crown Spread |
|:------------:|
| **(feet)** |

Crown Spread is measured, in feet, by extending the outer crown edge or dripline of the canopy, down to the ground and measuring widest and shortest spread.

First, set a stake directly under the outside edge of the crown farthest from the trunk (A) and another directly opposite it at the outer edge of the crown (B) on a line passing through the center of the tree.

Next, set stakes marking the shortest diameter of the crown passing through the center of the tree (C and D). Measure both distances to the nearest foot with a tape measure.

Add the two measurements together and divide the sum by two to obtain the average crown spread.

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