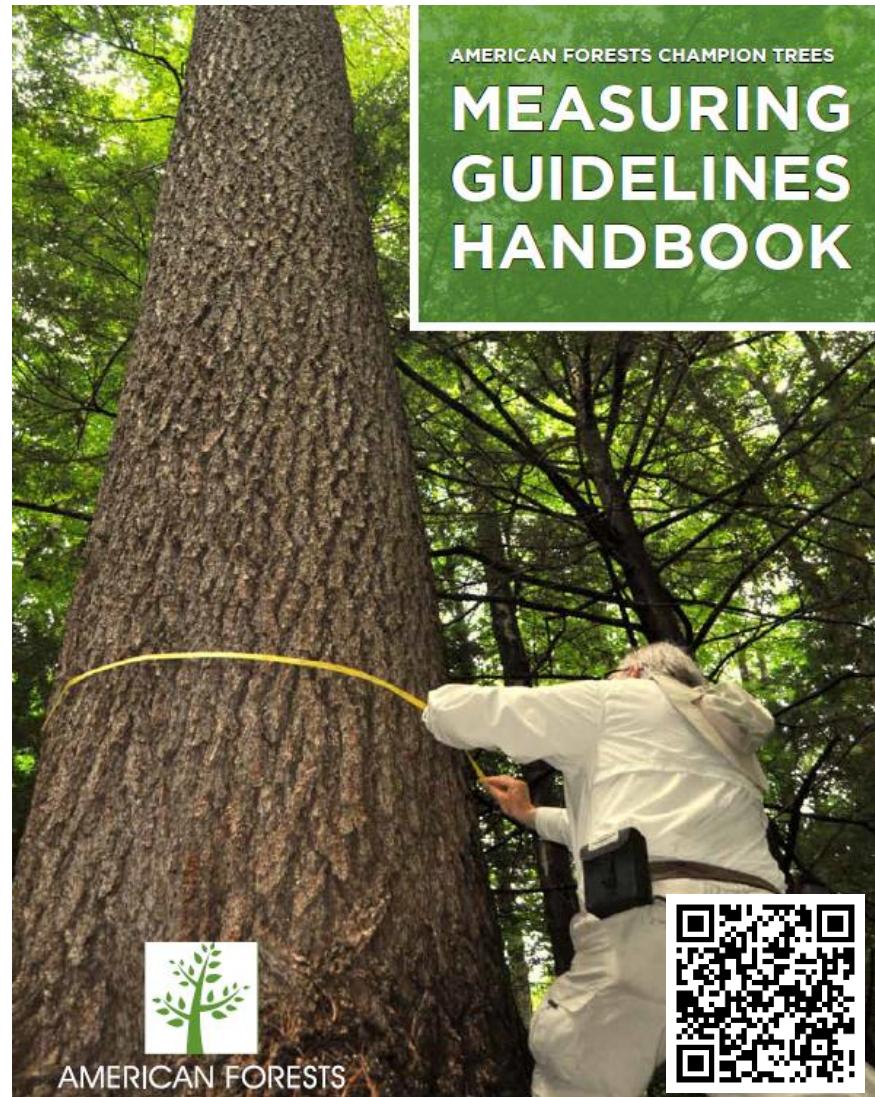


# Big Tree Measurement and Scoring: Virginia Big Tree Program

- The Virginia Big Tree Program uses the big tree measuring guidelines of the National Champion Tree Program
- Tree measurements are used to calculate the big tree score for the Virginia Big Tree Register
- Tree measurements include:
  - Trunk circumference
  - Tree height
  - Crown spread
- The big tree score is calculated as:  
Trunk circumference (inches) +  
Tree height (feet) +  
 $\frac{1}{4}$  Crown spread (feet)
- Presented here are basic measurement techniques. Additional information is available in the Measuring Guidelines Handbook

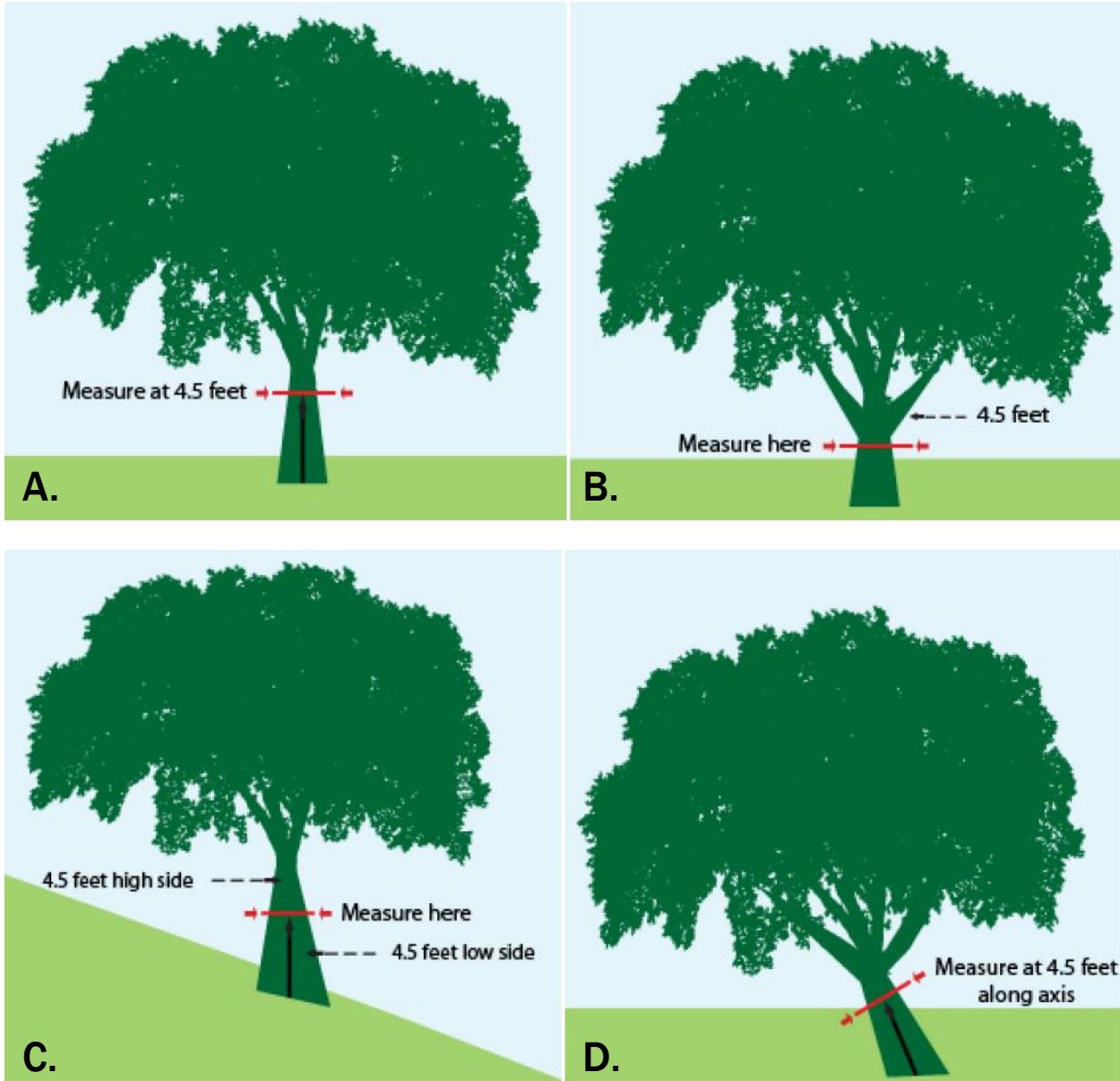


<https://nationalchampiontree.org/tree-measurements>

# Trunk Circumference

1 big tree point is awarded for each inch of trunk circumference

- A. For typical trees on flat ground, measure the trunk circumference at 4.5' above ground line.
- B. For trees with branches at or below 4.5', measure the smallest trunk circumference between branches and ground level.
- C. For a straight tree on a slope, measure the trunk circumference at 4.5' above the mid-point of the trunk on the slope.
- D. For leaning trees, measure the trunk circumference at 4.5' along the main axis of the trunk above ground line.



# Tree Height

1 big tree point is awarded for each foot of tree height

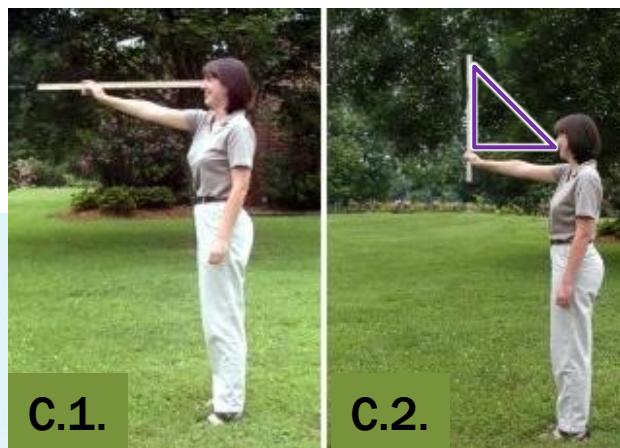
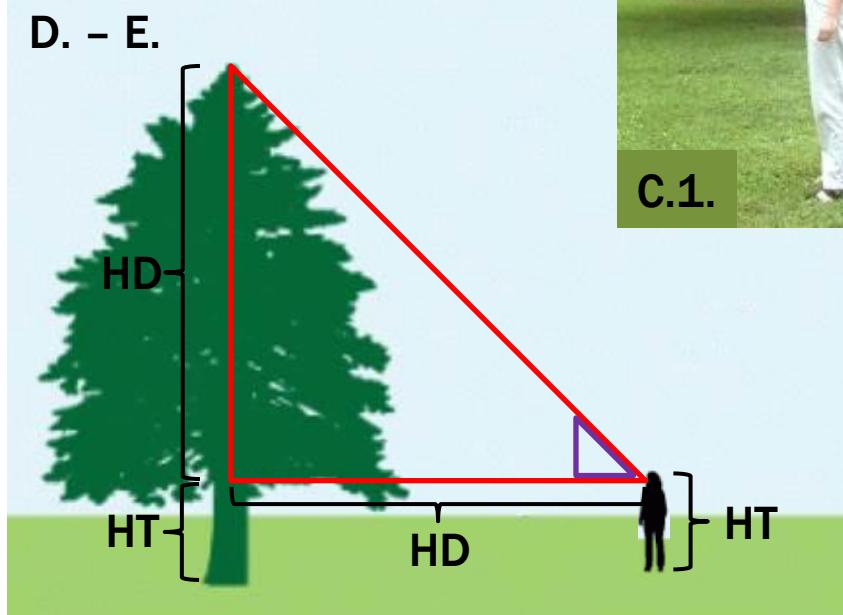
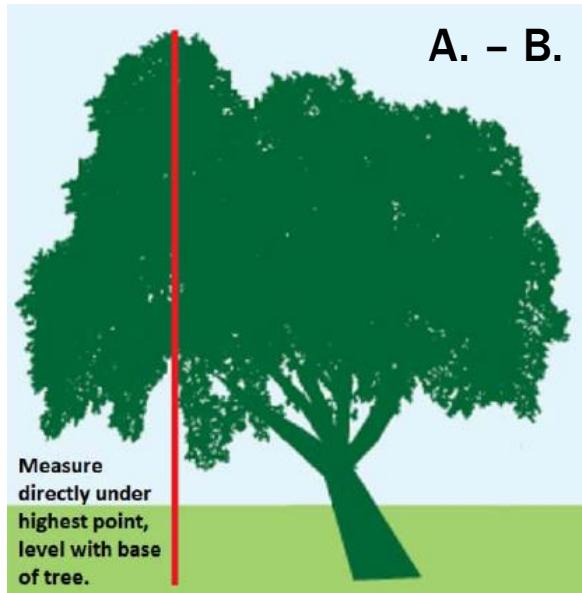
A. Identify the maximum vertical distance between a live branch and a point on the ground directly below it.

B. Standing on the same elevation as the tree, step back until you have a clear view of the crown top and ground point directly below it.

C. Hold a yard stick with your arm fully outstretched (1) and place the tip near your eye. Tilt the stick up vertically while holding your arm level (2).

D. Step forward or backward until the tip of the yard stick aligns with the top of the crown.

E. The tree height equals your horizontal distance (HD) from the tree plus your height (HT).



Note: This technique is most accurate for straight trees on flat ground.

This technique works because the red and purple triangles are similar right triangles.

# Crown Spread

**1/4 big tree point is awarded for each foot of crown spread**

- A. Observe the tree from multiple angles at a distance to identify its maximum crown spread.
- B. Using a plumb bob or a level as a reference, mark the ground directly below the two end points (P1, P2) of the maximum crown spread (E1).
- C. Stretch a measuring tape horizontally between the end points (P1, P2) and record the distance.
- D. Turn 90° to the first maximum crown spread (E1) and mark the ground directly below the two end points (P3, P4) of the second maximum crown spread (E2).
- E. Stretch a measuring tape horizontally between the end points (P3, P4) and record the distance.
- F. Average the measurements for E1 and E2.

Note: Neither crown spread dimension (E1, E2) is required to go through the trunk.

