



Woodland Owner Notes

Estimating the Volume of a Standing Tree Using a Scale (Biltmore) Stick

The volume of wood in a tree and the type of product made from the wood are based primarily on the tree's height and diameter. One of the basic tools for estimating the height and diameter of standing trees is a calibrated 25-inch scale stick, often referred to as a Biltmore stick or a cruiser's stick. With practice, this instrument can be used to provide a reliable estimate of tree height and diameter, which then can be used to determine tree volume. This publication is for those interested in learning how to estimate tree volume and the type of product the tree may provide. For instructions on how to make your own scale stick, see page 3.

If you want to estimate tree volume in order to sell timber, it is highly recommended

that you consult a forester for advice. Volume alone does not determine value or the products that could be produced; tree quality is also very important. Forestry consultants can advise you on the types of wood products that could come from your timber as well as the quality of your timber. They also can provide you with estimates of the volume and value of the timber. In most cases the consulting forester's experience with timber sales and knowledge of current markets can increase your revenues far in excess of the forester's fees. For more information on consulting foresters, visit a county Cooperative Extension Center or North Carolina Division of Forest Resources county office.

Table 1. Minimum tree size characteristics, volume units, and relative value by timber product.

Product	Minimum Tree Size Characteristics		Volume Unit	Relative Value
	Pine	Hardwood		
Pulpwood	≥ 6" DBH to a minimum 3" top diameter	≥ 6" DBH to a minimum 3" top diameter	cord	very low
Chip-n-saw	9-14" DBH to a minimum 6" top diameter	not applicable	cord	low
Sawtimber	≥ 14" DBH to a minimum 8" top diameter	≥ 16" DBH to a minimum 10" top diameter	board foot	high
Veneer log	≥ 16" DBH, clear/straight first log	≥ 18" DBH, clear/straight first log	board foot	high
Pilings	various specifications based on local markets	not applicable	board foot	high

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