

## 14. What's My Tree Worth?

*By Peter Smallidge and Gary Goff*

Many woodlot owners wonder about the value of one or more of their woodland trees. While the actual fair market value is what someone will pay based on a competitive bid process, you can easily learn what factors log buyers consider. The simple answer for the highest tree value is to concentrate growth on your best trees by cutting smaller and deformed trees, grow your best trees as large as possible, and work with a qualified professional forester and competent logger. Always check references on foresters and loggers.

The value of a tree in a woodlot depends on the volume and quality of the tree, but also on other factors related to accessibility and marketability. In managed woodlots, bigger trees usually have higher quality and thus much greater value. Firewood cutting or improvement thinning should remove the smaller and less well-formed trees.

It's energy well spent to carefully thin around your best trees to concentrate growth on them.

Foresters and log buyers consider both tree diameter and merchantable height when estimating tree volume. Diameter is typically

measured in inches at four and one-half feet about ground and merchantable height (height to the first major defect like a large branch or fork) in feet or numbers of logs. These measures are used to calculate the tree volume in number of board feet by one of a couple mathematical formulas. A common formula is for the International Quarter Inch equation which estimates tree volume in board feet =  $[(0.16 \times D \times D \times H) + (Q \times D)]$  for trees between 15 and 19.9 inches in diameter with Q, the scaling factor equal to 1.5; D, the diameter, as inches; and H, the height, as the number of eight foot sections. So, a 17 inch tree with two 8-foot sections would have an estimated volume of about 118 board feet. For trees smaller than 15 inches in diameter Q equals 1.0 and for trees having diameters of 20 inches and larger Q equals 2.0.



One large, high quality tree is worth more than two small, low quality trees.

Tree quality, or tree grade, depends on the number of defects in a tree that limit the types of products the tree could produce. A tree of low quality might have several knots, limb scars, wounds, splits and be only useful for firewood or making pallets. A higher quality tree would have few if any of these defects, and the highest quality trees may reach veneer quality. Judging tree grade is a complicated process best done by a log buyer who's bidding on your sale. They know what their mill is capable of sawing and thus adjust their bid to reflect mill capacity and their markets. One large tree of high quality is worth more than

two smaller trees of low quality, so again, keep growing those large diameter high quality trees.

Accessibility and marketability also influence the value of a tree. You can imagine a higher tree value in a woodlot having 60 versus 10 trees per acre. This higher volume per acre increases logging efficiency and thus reduces costs. Other factors that influence logging efficiency are terrain, woodlot distance to public road, local market demand for the species, and landowner requirements for logging quality and tolerance to damage of remaining trees. The logging costs associated with accessibility and marketability are difficult to pin down, but should be factored into the bid you received from your logger.

Many state forestry agencies prepare a stumpage price report or a timber marketing report that lists reported prices paid to landowners for standing timber. These reports usually give prices per thousand board feet (MBF). From our example above with a tree having 118 board feet, if the tree was black cheery growing in east-central NY

with an average price of \$930 per MBF (\$0.93 per board foot) the tree has an estimated standing value of \$110. If the same sized tree was sugar maple with an average price of \$430 per MBF (\$0.43 per board foot) the estimated standing value would be \$50. If the tree was 22 inches in diameter, it's estimated value increases to \$175 for black cherry and \$81 for sugar maple. A modest increase in size often results in a large increase in tree value.

From a woodlot owner's perspective, understanding tree value requires some time and effort, but can help you make informed decisions. Large diameter trees of high quality will always be worth more than smaller trees, and advise to prematurely cut a woodlot or to cut only the largest trees usually means the woodlot owner is losing money in both the short-run and the long-run. It's always best to start with a written management plan that describes your woodlot objectives and goals and then work with your forester to select a trained logger.



Foresters and forest owners can use a scale stick to estimate the size and then value of a tree.

