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Useless Weed or Valuable Wood? Tree of Heaven in Virginia

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The Tree of Heaven (*Ailanthus altissima*) is found throughout Virginia and is known as an ornamental shade tree or a difficult weed to eliminate. The tree grows very rapidly, thrives in most soils and climates and resists many insects and diseases. It has become a serious non-native woody species in the state. *Ailanthus* is an Indonesian-Mollucan name "*ailanto*" for *Ailanthus moluccana* - reaching to Heaven. The term *altissima* means tallest, referring to the height of the tree. *Ailanthus* grows rapidly, and can become quite large (up to 90 feet tall and 3-4 feet in diameter).

While the tree is considered a non-native weed species, its does have some value as firewood and for woodworking. The heartwood is pale green to yellow with dark streaks, while the sapwood is wide and cream-colored. The wood resembles ash, is reported to be easily worked with tools and glues, and takes a finish well. The question remains as to how easily such a fast-grown species could be processed into dry lumber and how much would be lost to machining and drying defects.

Charlie Becker of the Virginia Department of Forestry teamed up with assistant professor Dr. Brian Bond in the Department of Wood Science and Forest Products to develop some information about the usefulness of wood from this tree in Virginia. Mr. Becker worked with a local sawmill to produce lumber from 20 year old *Ailanthus* trees. The lumber was then shipped to Blacksburg were it was dried in the Wood Drying Laboratory. The objectives of the project were to determine the proper drying schedule to be used for drying the wood and to determine defects that may occur in the drying process.

Boards sawn from a large *Ailanthus*

Several pieces warped as the lumber was being sawn, indicating a large amount of growth stresses within the trees. The 5/4 inch thick lumber was dried in less than eight days. Significant warp was experienced with many of the pieces that had been sawn close to the heart center. This was expected as rapid grown trees often contain large areas of juvenile wood and reaction wood. However, much of the lumber produced was clear and defect free. Dr. Bond and Mr. Becker are putting together a publication on the wood properties and uses for this species, which should be available in the late spring. For more information on this project, contact Dr. Brian Bond, 540-231-8752 or bbond@vt.edu.

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