

WVU Appalachian Hardwood Center

Logs to Lumber

The Challenge

The hardwood lumber industry is extremely competitive. Many small- to medium-sized sawmills lack the resources to develop and improve specific aspects of their operations in order to remain competitive. Sawmills generally focus profitability efforts on high-quality logs rather than on each log that enters a mill. A Web-based log and lumber evaluation system has been developed to help Appalachian sawmills better evaluate the profitability of both low- and high-quality logs. This system was defined, developed, and tested using funds provided by the West Virginia University Appalachian Hardwood Center (AHC), and the Forest Service and Cooperative State Research, Education, and Extension Service of the U.S. Department of Agriculture.

The Solution

The “profitability” approach used for this project was to treat each log entering a mill as a product that can yield a potential profit (or loss). Each participating sawmill works with the AHC to collect data on individual logs before they are processed and the lumber products that result after processing. The data are then added to a Web-based application designed to help sawmills analyze their log and lumber yields.

The application contains information about log processing attributes such as lumber scale and grade, pricing of logs, and lumber and sawing cost. The application can easily be adapted to any set of grading rules. The system allows users to sort logs using a variety of variables, including species, number of clear faces, diameter, length, position in the tree (butt or upper), and the type of headrig (and resaw) used to process logs. Based on individual criteria, users can predict lumber yields from the database of logs being developed. The database is being developed by incorporating log data from a variety of sawmills.

The West Virginia University “Logs to Lumber” Web application helps participating sawmills increase profitability margins.



New software application helps Appalachian sawmills analyze logs for improved profitability.

Resulting Benefits

- Participating mills can evaluate their own lumber grade yields for internal purposes as well as for comparison with other sawmills
- Improved quality and efficient use of Appalachian hardwoods
- Improved use and development of value-added products from residues, poor-quality resources, and underutilized hardwood species
- Increased domestic and global competitiveness of the U.S. wood products industry

Sharing Success

- A Web-based software package with a built-in database allows participating companies to access and analyze their own mill's data and compare it to the data of others in the Appalachian region. It is available at <http://lumberyields.tnctechnologies.com/>.
- Onsite training sessions are available.



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