

West Virginia Logging Residue Study

Turning Logging Residues into Marketable Wood Products

The Challenge

Over the last decade, several large wood products firms established manufacturing facilities in West Virginia. These facilities use low-grade or small-diameter logs to create engineered wood products, such as oriented strand board, wood pellets, and laminated products. Before the companies located in the State, there was a very limited market for low-quality roundwood. At the same time, timber harvesting increased in the State. Substantial volumes of logging byproducts, in the form of unwanted logs, limbs, and treetops, are left in the woods after timber harvesting because operators have no markets for them. Would the large wood products companies be able and interested in using logging residues in their facilities?

The Solution

Using funds from the EAP-National Fire Plan, the West Virginia University Appalachian Hardwood Center sampled 70 timber harvests in 14 southern West Virginia counties to obtain residue levels. The average diameter measured for all residue was 7.3 inches. The average overall weight of wood residue left after a timber harvest was 10.4 tons/acre. Oak species had the highest residue accumulations followed by mixed hardwoods and maples.

Resulting Benefits

The recovery and utilization of these residues following logging have tremendous economic potential. At the same time, less residue means less fuel in the fire-prone forests of southern West Virginia. Based on usage estimates of 2,000 tons per day, there is enough acceptable residue to run an engineered wood product facility for 167 days. Without an expansion of the procurement area, this is not enough residue to solely attract new industry, but it could supplement existing facilities.

If residue that meets engineered wood product specifications is given an average value of \$20 per ton,

About \$6.7 million worth of logging residue was being left in the woods in the southern West Virginia study area.



About \$6.7 million worth of logging residue is being left in the woods annually in the study area.

approximately \$6.7 million worth of residue was being left in the woods in the study area. The price paid to West Virginia forest landowners for stumpage, at \$2 per ton, represents \$667,000. When all species of logging residue are considered, there is enough logging residue to run an engineered wood products firm for 406 days, assuming the use of 2,000 tons per day. This southern region alone could support an additional engineered wood products facility or a biomass conversion refinery, if they could make use of all the residue species. This is especially true if species such as oak can be used.

Sharing Success

More emphasis needs to be placed on the use of lower-quality, smaller oak in the form of topwood, pulpwood, and unwanted logs. Unwanted oak residue can be used for value-added products such as flooring, furniture components, and cabinet manufacturing. These approaches or new technologies that allow for the co-firing of power plants or bio-refineries that use wood biomass need to be evaluated under current market conditions, especially since recent policies propose decreasing the United States' dependence on foreign fuels.

Converting logging residues into useable products will also create jobs for West Virginians. All opportunities for using these residues should be considered when developing marketing plans.



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