National Fire Plan

Hazardous Fuels Reduction

Wyoming - Funded by the National Fire Plan, the goal of this research project is to develop value-added uses for small-diameter curved trees. During logging or thinning operations of areas containing an accumulation of woody debris, much of this low-value timber is left standing or left on the ground because mills are not equipped to handle it. Researching technologies to find uses for crooked and small trees helps clear the forests of hazardous fuels, thus reducing wildland fire risks, and helping the economic viability of sawmill owners.

This 1.5- by 9-inch Lam Lumber beam will form the web section of an I-Beam. Laminated flanges will be formed and bonded to the top and bottom of the web. Curved lumber will thus be laminated into a straight beam.

In a partnership among the Forest Products Laboratory (Madison, Wis.), Wyoming Sawmill (Sheridan, Wyo.), Genesis Laboratories (Batavia, Ill.), and University of Wyoming (Laramie, Wyo.), several technologies are being combined to determine if small-diameter curved trees can be utilized to produce value-added structural products:

- Logs from Bighorn National Forest and Wyoming State Forest lands will be cut using special sawing equipment that follows the irregular shape of small-diameter curved logs.
- New drying methods will be tested for effective straightening of curved lumber during the drying process
- A new process for utilizing low-grade or curved material will be tested for engineering and economic feasibility. In the Lam Lumber process (developed by Wyoming Sawmill), low-grade stud material is bonded to produce larger billets and then resawn to produce stronger and higher-value laminated structural members.

If such a processing system could be developed, an estimated 8.5 to 17 million board feet per year of additional low-value material could be removed from the forest to supply each mill using the process.

For additional information on the National Fire Plan, visit www.fireplan.gov