

On-line vision system works fine on dry pine strands

FORESTRY INNOVATION INVESTMENT

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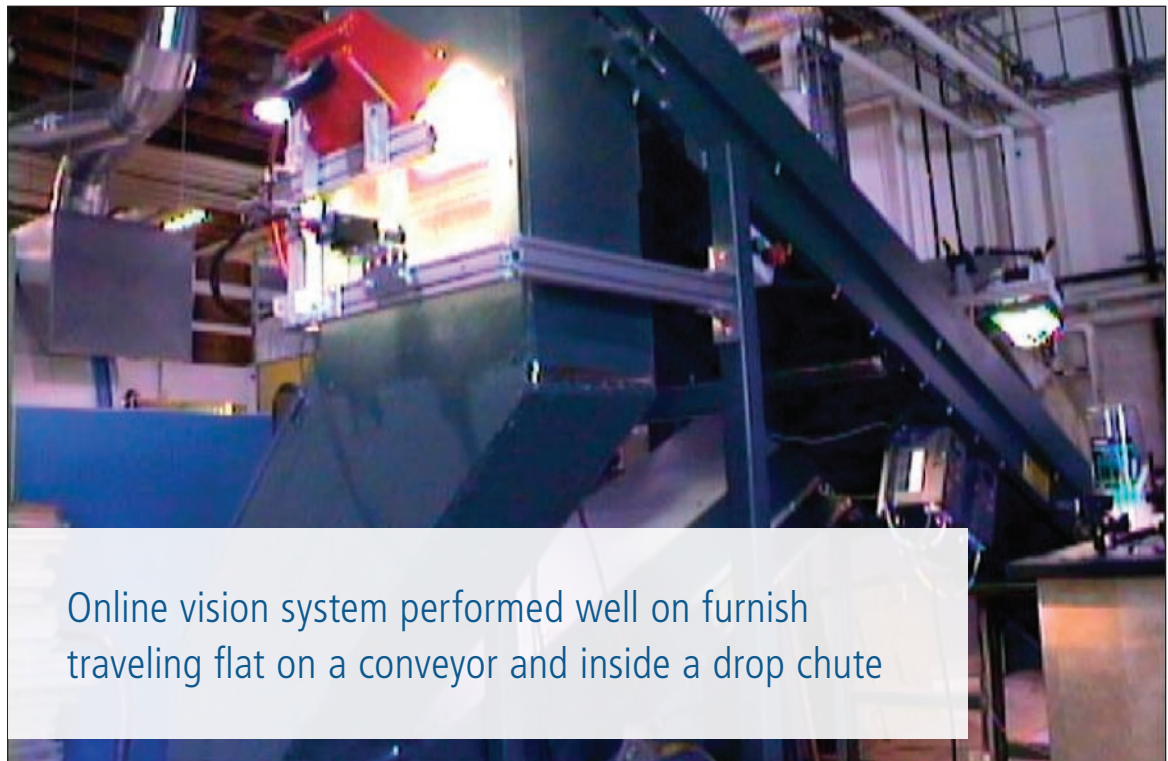
Manufacturers wishing to use mountain pine beetle-killed wood for oriented strandboard (OSB) can save significant dollars by measuring and controlling the proportion of fines.

Fines are the very small wood particles generated at the strander. They are too small to be useful in making OSB, and are more prevalent when the strander is dealing with drier, more brittle, beetle-killed wood.

Researchers at FPInnovations-Forintek say that the drier wood can cause the strander to generate very high levels (up to 50% of the total volume) of fines, significantly cutting into the mill's ability to recover usable strands and, ultimately, profits. For an average-sized Canadian mill, each 1% improvement in wood recovery by

reducing the fines will mean a wood cost saving from \$350,000 to \$400,000 a year. In addition to cutting wood costs, reducing the amount of fines lowers the amount of resin needed to hold the wood together and reduces the weight of the finished panel without impacting its strength. Lower panel weights also lead to lower transportation costs.

A new Forintek study reports on the scale-up and optimization of online fines measurement using an optical scanning system. The vision system consists of a high-speed video camera, lighting, and a computer for real-time processing of images to determine fines level. It performed well on furnish traveling flat on a conveyor, and on free-fall furnish inside a drop chute.



Online vision system performed well on furnish traveling flat on a conveyor and inside a drop chute

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MOUNTAIN PINE BEETLE

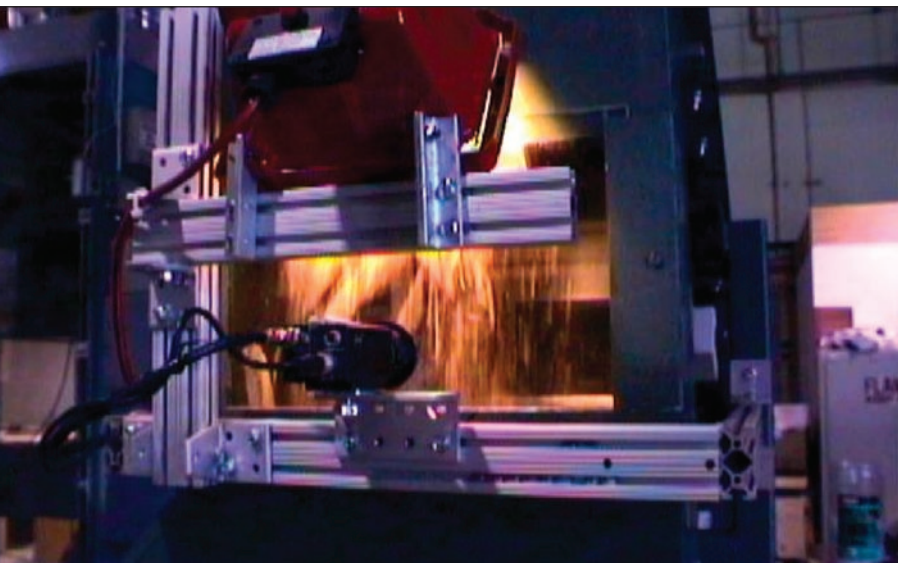
There was a high degree of standard deviation in fines measurement, which the researchers say means the best way to interpret the data is to use a running average. Pilot plant experience showed that averaging the imaged fines levels correlated very well with actual fines production.

FOR THE FULL REPORT GO TO WWW.BCFII.CA/MPB/
AND DOWNLOAD THE REPORT "MPB-07-033:
ONLINE DETECTION OF FINES TO OPTIMIZE
OSB PROCESSING"

The fines measurement technology tested in the Forintek lab has now been successfully installed for permanent operation in at least one OSB mill. Benefits of the system include an enhanced ability to control process variables responsible for fines production, such as moisture content, wood flaking temperature, sharpness of the cutting and scoring knives and log alignment in the strander.

Measurement of fines production provides a prompt for operators to identify any issues that might be causing fines production to increase. Timely resolution of such issues allows the mill to optimize volume and value recovery from its beetle-killed logs.

As a final note, researchers tested not only beetle-killed wood, but also different-coloured wood such as aspen (light) and birch (dark). The imaging system worked equally well in these conditions, suggesting broader possibilities for the concept.



Forestry Innovation Investment is a British Columbia government corporation investing in initiatives to help market BC forest products and promotes our sustainable forest practices to the world. FII's Mountain Pine Beetle Program supports the government's Mountain Pine Beetle Action Plan and its objective to maximize the economic value of mountain pine beetle wood. FII does this through marketing activities and research into new products and manufacturing processes for mountain pine beetle wood.

For more information, go to www.bcfii.ca or contact

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