



Welcome to our October edition of the R&D Works newsletter.

This month our stories include a new wood fibre-based insulation material and sprayable foam as replacement products for plastic and mineral wool insulation; a time-of-day productivity study in an off-forest processing yard; research that links high-tech paper packaging for electronic media, a useful approach to building community awareness of fire risk in rural-urban areas; and reference to the “Timber due diligence” website that provides guidance tools in relation to the Illegal Logging Prohibition Amendment Regulation that comes into force 30 November.

I hope you enjoy reading about these research projects and the potential benefits they can bring to our industry.

Ric Sinclair
Managing Director
FWPA

MAIN NEWS

Demonstrating legal timber – Industry benchmarking and due diligence tool: PNA252-1112

On 30th November 2014 the Illegal Logging Prohibition Amendment Regulation comes into force. The Regulation and its associated Act prohibits the import into Australia of illegally harvested timber as well as the



processing of illegally harvested raw logs, and is similar to legislation operating in Europe and the United States.

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Building community awareness of fire risks



Scion's Rural Fire Research Team has recently developed a range of new tools and technologies, including the Guide to New Zealand's Fuels, smartphone apps for fire behaviour, mapping the risk of wildfire in rural-urban areas and recommendations on community communication.

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New study confirms CO2 advantages with wood



A new study published in the Journal of Sustainable Forestry, confirms that building with wood really does reduce carbon dioxide emissions. And while we talk about how wood sequesters carbon for the life of the building, that is really the smallest part of it.

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Wood preservatives report explores directions and possibilities

Efforts to protect wood from biological degradation by fungi and insects has been ongoing since industry research began. Over this time wood protection has undergone some dynamic changes. This new report highlights a range of findings and key recommendations from the US based Wood Protection Research Council



(WPRC).

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FOREST GROWING

New NASA probe will study earth's forests in 3D



A laser-based instrument being developed for the International Space Station will provide a unique 3D view of Earth's forests, helping to fill in missing information about their role in the carbon cycle.

Called the Global Ecosystem Dynamics Investigation Lidar (GEDI), the instrument will be the first to systematically probe the depths of the forests from space. The system is one of two instrument proposals recently selected for NASA's Earth Venture Instrument program and is being led by the University of Maryland, College Park.

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NEW PRODUCT INNOVATIONS

Print innovation could lead to high-tech paper packaging

One day our print newspapers might contain a live ticker feed for breaking news and our cereal boxes might provide



a screen to entertain us while we're eating breakfast—if an electronic company's innovation is any indication of what's to come.

Austria-based Prelonic has developed a way to cheaply print electronic displays on paper and paperboard. While the company is in the early stages of developing this technology, its implications are intriguing.

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Wood fibre replacing plastic and mineral wool in insulation



New wood fibre-based insulation materials and sprayable insulation foams will replace products made of non-renewable or poorly recyclable raw materials. These mass producible materials lower energy consumption at the production stage, and reduce the products' carbon footprint.

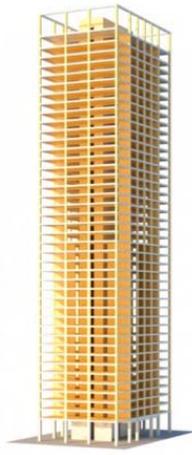
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TIMBER CONSTRUCTION AND DESIGN

Comprehensive guide for the design of tall wood buildings

FPIinnovations has released the first edition of the 'Technical Guide for the Design and Construction of Tall Wood Buildings in Canada'. The purpose of this guide is to support the design and construction of tall wood buildings and to provide information to industry and Government on alternative solutions in building codes.

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WOOD PROCESSING AND MANUFACTURING

Time of day study on machine productivity

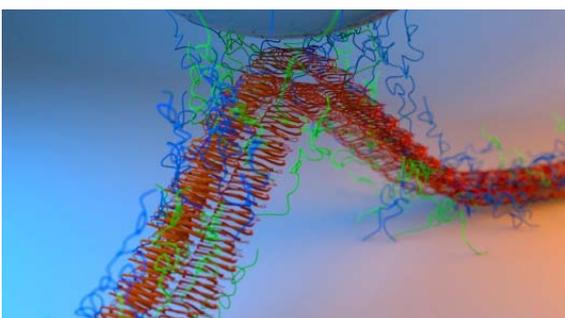


With human capital being a large part of most forestry operations, it is important to better understand how employees work and design schedules to better maximise overall productivity. The aim of this New Zealand study was to determine if time of day impacts machine productivity and value recovery in an off-forest central processing yard.

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OTHER INFORMATION

Shellfish proteins inspire waterproof wonderglue

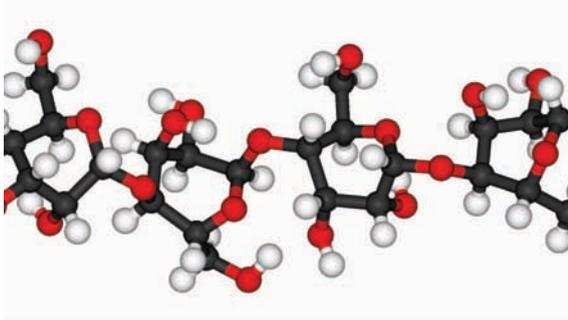


Clingy barnacles might be something of a nuisance for seafarers, but these stubborn shellfish and their relatives could hold the key to a new breed of sticky materials. Engineers from the Massachusetts Institute of Technology (MIT) have created waterproof adhesives based on the proteins that give these creatures such qualities, a development that could one

day be used anywhere from ship repairs to medical applications.

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Researchers uncover structure of enzyme that makes cellulose



Purdue researchers have discovered the structure of the enzyme that makes cellulose, a finding that could lead to easier ways of breaking down plant materials to make biofuels and other products and materials.

The research also provides the most detailed glimpse to date of the complicated process by which cellulose - the foundation of the plant cell wall and the most abundant organic compound on the planet - is produced.

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Insect infestations halved with adoption of international standard



International science collaboration shows insect infestations of trees are halved with the adoption of an international invasive species standard, preventing billions of dollars in future damages.

Scientists from Crown research institutes Scion and AgResearch and several organisations in the USA have found an international standard has been effective at reducing infestations of bark and wood-boring insects. This is very good news for countries that value forest and amenity trees.

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Robots ResQu rainforest from purple plague

Australia's rare and precious rainforests, like the iconic Daintree region of Australia,



could have an unexpected aerial ally in the battle against weeds - autonomous helicopters.

Two Project ResQu helicopters developed by CSIRO completed trial flights near Cairns, locating weeds like the dreaded 'purple plague', *Miconia calvenscens*, faster and more reliably than ever.

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