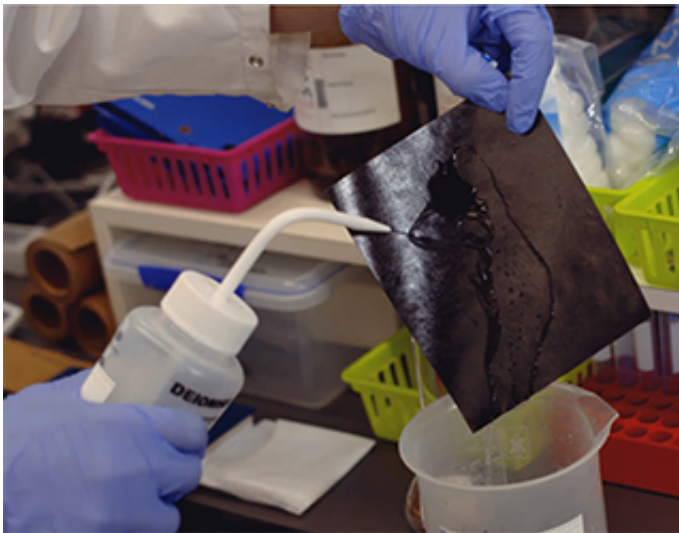


Waterproofing invention ticks all the boxes for sustainability

November 6 2014, by Kate Haggman



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Albert Tietz and Adjunct Associate Professor Les Edye's lignin-based coating is currently being trialled on fruit boxes in North Queensland's banana belt.

If successful, they anticipate the product will be on the market in mid-2015.

Professor Edye said lignin is a naturally occurring by-product from pulped wood and grasses.

"We discovered the potential of lignin as a [waterproof coating](#) while researching ways to add value to bagasse in the sugar industry," Professor Edye said.

"After some investigation and research, we're now using lignin extracted from a commercially-grown and processed grass.

"What's most exciting is that our lignin barrier coating is sustainable - traditional wax coatings are made from petrochemicals and, once it's on the paper or cardboard, that paper or cardboard can no longer be recycled.

"We've proven that our lignin coating is cost-comparable, is 100% recyclable, provides a high level of waterproofing and strengthens the boxes to a higher degree than wax - not bad for a product made from a renewable resource."

Professor Edye said around four hundred thousand tonnes of wax-coated cardboard is added to landfill in Australia every year because it cannot be recycled.

QUT's innovation arm, [qutbluebox](#), has been working closely with the researchers for two years, providing more than \$250,000 in proof-of-concept funding to develop and scale the coating for industry.

qutbluebox CEO Michael Finney said his organisation had secured a further \$200,000 from Black Sheep Capital to optimise the coating's formula and fund industrial-scale trials.

"We've already successfully coated the lignin-based formulation on food packaging and pre-fabricated honeycomb walls used in the construction

industry. We're now trialling it on fruit boxes for the banana industry," Mr Finney said.

"Both Australian and large-scale multinationals have expressed an interest in the coating's development..

"Critically, the Black Sheep investment will help us fast-track the waterproof coating's industrial-scale trialling."

Australian-based Black Sheep Capital is a private equity firm with a diverse portfolio of holdings.

Black Sheep Capital Director Daniel Gavel said the QUT waterproof [coating](#) solution had great potential.

"The solution can be applied across several marketing sectors, from paper and cardboard to building materials and has the potential to displace existing non-recyclable and petrochemical based coatings," said Mr Gavel.

"We're also confident that the combination of strategic direction and expertise provided by qutbluebox, coupled with an innovative and enthusiastic research team, will lead to a product that will deliver a high value solution to the marketplace."

Provided by Queensland University of Technology

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