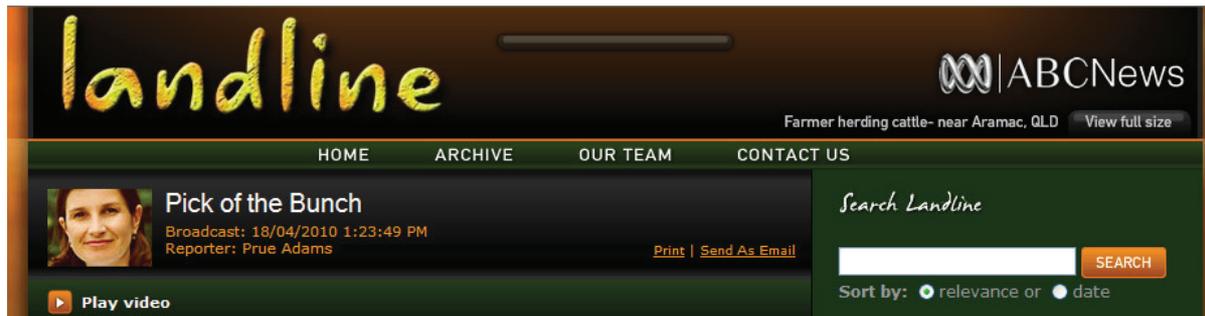




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ANNE KRUGER, PRESENTER: Seven years ago we featured a story about an Adelaide based engineer who'd developed a way of making paper products from banana tree trunks. It was one of those stories that captured people's imagination.

We can now report the world's first factory making paper and veneer from banana trunks is up and running in Far North Queensland and the man who kicked this all off is in the throes of going global.



Pick of the Bunch

ROB WATKINS, BANANA GROWER: Bananas are a fascinating crop. I never once have learned the full capacity of the plant and getting it to a perfectional level.

In this area they thrive through this tablelands plateau.

PRUE ADAMS, REPORTER: You might've gathered Rob Watkins is passionate about bananas. He, father Bruce and the rest of the extended Watkins family run the Mount Uncle Banana Plantation on the Atherton Tablelands.

They take the view the uses for banana are limited only by imagination.

ROB WATKINS: We've always believed in taking a risk, as long as it's not a risk that jeopardises our company.

BRUCE WATKINS, BANANA GROWER: As my dear old dad said: just don't go and play tennis, go and play cricket and football and row at the same time. So I've always been adapted to that situation.

PRUE ADAMS: Each week, they pick and wash and pack an astounding 35 tonnes of Ladyfingers for markets mostly down south. Not in any old packaging mind you. They've developed polyester banana blankies to protect their fruit.

On the same property, they run a cafe, tourist shop and distillery serving out their own special brew of banana liqueur and sugarcane rum.

And they're at the cutting edge of an innovative product that makes use of the banana trunk once the giant bunches of fruit have been removed. Every banana tree produces just one bunch of bananas. Normally the trunk is then chopped down and left to rot. It's a waste, a hassle and a hazard.

BRUCE WATKINS: You can walk through there and you can stumble over and the tractors have got to go over it and fruit's getting bruised and the harvesting machinery the bagging machinery also is very unstable. If it hits a log, it jams up.

You trail out rubbish to the end of the rows. It's quite a headache to be quite honest.

PRUE ADAMS: There is a cure for that headache, though all because the banana trunks are a valuable, untapped source of fibre.

RAMY AZER, POPYRUS: If you take a cross section of the banana tree trunk, in every trunk, there is a core that runs all the way from the ground, all the way to feed the bunch. All these outer layers we use to make chipboard and particle board from, but the core inside here, it's very valuable. If you crack it open, you find the beautiful white silky fibres in there.

PRUE ADAMS: A decade and a half ago, Ramy Azer had barely set foot in a banana plantation. Now, almost every waking moment of this Egyptian born engineer's life is devoted to making use of the waste from the production of bananas.

Landline first met Ramy Azer seven years ago. He'd arrived in Australia in the mid 90s and, after completing his engineering degree at Adelaide University, wanted to set up a plant making the papyrus or paper of his homeland.

But he couldn't get held of the raw product - Nile reeds. So he turned to another source.

RAMY AZER: Of course, banana came up as having a huge amount of fibre. The cycle is very quick. It takes from seven to 12 months from bunch to bunch and therefore, every 12 months you have a whole tree and the trees can range from three metres to six, seven metres. So there is plenty of sustainable continuous supply of fibre and when we investigated the fibre, it just it was white, strong, long, and worked fine with our technology, so it was just a dream come true.

PRUE ADAMS: Paper made from banana fibre was also impressively fireproof and water resistant, as he showed us in 2003.

RAMY AZER, 2003: We all know what flame and paper do together. But the banana paper doesn't really keep a flame on it, which for the building industry, that's an important thing. And for the packaging industry as well. If you had done the same with a normal piece of paper, this would've been just gone by now. So that's one issue which is safety when it comes to fire.

The other one is water properties. Normal paper we all know as well you put it in water and it just disintegrates.

Our paper, even when it's fully wet, it retains its integrity as an engineering product and you can't even poke it.

RAMY AZER: There is a beginning to everything. But the beginning usually is created by certain circumstances. So when we go back and analyse why we're using timber and wood to make paper and wood products, it's because the technology was created in Europe and they only had forests and at that time they thought that the forests were endless. Before that, when the Egyptians invented papyrus, they had no forests in Egypt and therefore they used Nile reeds the Cyprus papyrus to make. So you usually use what you have access to.

PRUE ADAMS: By 2005, Papyrus was listed on the Stock Exchange. Two years later, the company achieved a patent on its banana fibre technology and, late last year, the world's first banana paper factory was up and running at Walkerman in northern Queensland.

RAMY AZER: I remember when I first studied technology commercialisation, books talked about from 10 to 15 years from idea to market and I was young and I thought: well, maybe true for other companies but I will be able to do it in two or three.

But there are reasons why it takes so long. It's very difficult building a new technology from scratch.

PRUE ADAMS: The factory's on the grounds of the Mount Uncle plantation, the property owned by the Watkins family.

BRUCE WATKINS: Initially when we first saw it, it was something to diversify into, make extra income per acre, a return per acre income and the whole idea within the management structure was to basically get rid of the log from the paddock, which is quite a problem for us.

ROB WATKINS: We constantly have this potential now to then take what we used to cut on the ground, this massive trunk, and use it for the good of the environment as well. It's a phenomenal product.

BRUCE WATKINS: Basically we've lost nothing. We've absolutely...over the last 18 months with our trials, it's made no difference to growth rates within the bananas themselves.

Every piece is different, you know.

COLIN WYLLIE, PAPYRUS FACTORY MANAGER: These people are experts at what they do and to have them with the responsibility of supplying the banana trunks for the factory gives me goose bumps. I don't have to go home at night thinking how I'm going to do that next week. They're very, very efficient.

They can tie the activities of this facility in with their activities they have now with banana harvesting. So it's very much the two processes fit very tightly together.

PRUE ADAMS: Colin Wyllie manages the Walkerman factory and says the uses for banana fibre are extensive.

COLIN WYLLIE: It's more than just paper, absolutely.

PRUE ADAMS: Poached from Gunns in Tasmania, where he worked with timber veneers, Colin Wyllie says the banana trees have potential as durable chipboard and high end veneers for furniture, even boats.

COLIN WYLLIE: After being in the decorative veneer industry for nigh on 25 years there has been a lot of...a lot of locking up of the resource available to the industry. I saw this as an opportunity to move on to something different but something that actually crossed over with something that I was already involved in.

RAMY AZER: We stumbled across a technology that is applicable for everything from a cardboard box and an egg carton box to making furniture, top class furniture and buildings and everything else and everything in between. So which market do you start with? Well, logically, whoever pays more, and timber and veneer markets, they actually pay more for their product than the newspaper people.

PRUE ADAMS: And it does appear as if international businesses are lining up to find uses for this newest of fibres.

MARIO CASSIN, TOUT BOIS MONACO: They fall in love with the product, not with Ramy, and I flew about 20,000 kilometres to see how these first batches of product could be adjusted in order to sell it to the market.

PRUE ADAMS: Mario Cassin is Italian but runs a veneers company based in Monaco. He has become Papyrus' European agent and says the Jaguar car company is interested in using the sustainable, non toxic veneer in its dashboards. He claims the Monaco Yacht Show was abuzz with the potential for banana trunk veneers.

MARIO CASSIN: With the normal wood, if you want to obtain this kind of characters, fire retardant, water resistant, you have to add a lot of chemicals into it which are again polluting and so forth and so forth. So I think the whole thing together has a brilliant future, otherwise I wouldn't be here today.

PRUE ADAMS: Mr Cassin bought with him a Belgian colleague involved in the production of new boats.

PIET DE LODDER, FLEXURA BELGIUM: We know a lot of veneers, we have hundreds of veneers, and by the time Mario told me about banana I was laughing. I said, "Mario, don't tell me a joke. You have been drinking, whatever?"

No I'm serious", he said. Mario is a good friend, I believe him and that's why I took the plane 24 hours to get here.

ROB WATKINS: All I have to do now is that one there will come down, OK? By cutting it at about 2.5, 3 feet we then initially get...

PRUE ADAMS: As this European delegation heard, Australia can only claim around 1/1,000th of the world's bananas.

Most are grown in developing countries.

That's where Papyrus sees enormous potential for the technology, giving farmers another source of income while making a product that can replace timber and reducing the annual 2.5 billion tonnes of banana tree waste. That's 2.5 billion tonnes of waste from the world's 10 million hectares of trees. They're big numbers.

RAMY AZER: They're not 10 million hectares that are available just once and you have to wait 20 years like with growing timber trees, this is every year you can harvest those 10 million hectares and obtain the fibre.

PRUE ADAMS: It's been a long journey for Ramy Azer getting this banana paper concept off the ground. It's an example, though, of how a seed of an idea can result in a product with global potential and a product that attracted huge interest when Landline first ran the story almost a decade ago.

RAMY AZER: Even when it was shown in Asia and lots of other places the response was enormous and the amount of inquiries we got from India and Thailand and Indonesia, Malaysia because they watched bits of it, cut down versions of the program and it was repeated a few times and it's amazing how the program went so far and was remembered for so long as well. It didn't just happen the first week after the program. For months, even a year after that, it was two people were telling me about the program and how wonderful the whole story was.

But six years later, the story still grows.