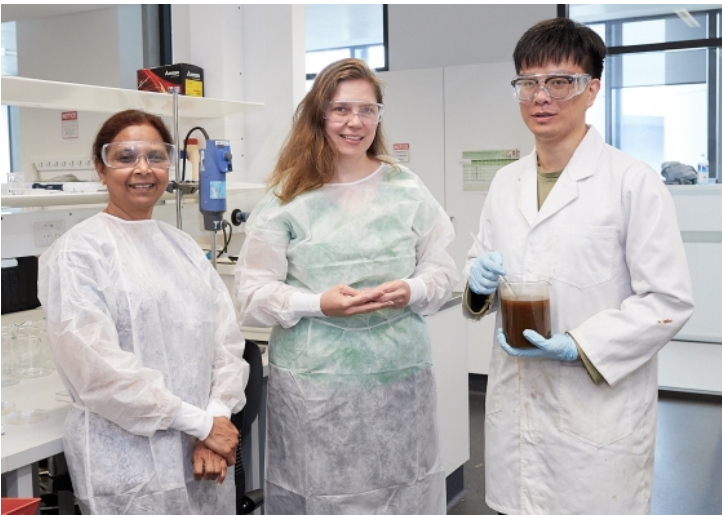


## Researchers in Australia use banana plants for packaging

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### **To turn banana plantation waste into packaging material that is not only biodegradable, but also recyclable**

Researchers at the University of New South Wales (UNSW) Sydney have discovered a novel way to turn banana plantation waste into packaging material that is not only biodegradable, but also recyclable.

Associate Professor Jayashree Arcot and Professor Martina Stenzel were looking for ways to convert agricultural waste into something that could value add to the industry it came from while potentially solving problems for another.

A good contender was the banana growing industry which, according to A/Prof Arcot, produces large amounts of organic waste, with only 12% of the plant being used (the fruit) while the rest is discarded after harvest.

“What makes the banana growing business particularly wasteful compared to other fruit crops is the fact that the plant dies after each harvest,” said A/Prof Arcot, UNSW School of Chemical Engineering.

“We were particularly interested in the pseudostems – basically the layered, fleshy trunk of the plant which is cut down after each harvest and mostly discarded on the field. Some of it is used for textiles, some as compost, but other than that, it’s a huge waste.”

Using a reliable supply of pseudostem material from banana plants grown at the Royal Botanic Garden Sydney, the duo set to work in extracting cellulose to test its suitability as a packaging alternative.

The researchers say that for the banana pseudostem to be a realistic alternative to plastic bags and food packaging, it would make sense for the banana industry to start the processing of the pseudostems into powder which they could then sell to packaging suppliers.