S’pore scores world first, develops CSI-style test to track illegal logging

Is my furniture legal?

DNA test will tell if wood is from illegal loggers

1. Timber samples are taken from each tree in a legally managed forest when the trees are cut.

2. These are sent for lab analysis so that each log will have a unique DNA code.

3. If the code matches that of samples taken along the supply chain, such as the sawmill, the timber is DNA-certified.

4. Certification meets demand of eco-conscious consumers who want to be sure they are buying legal timber.

Illegal logging leads to deforestation, one of the major causes of global warming, species extinction and loss of livelihood among forest communities. It is also linked to environmental problems that have plagued South-east Asia for years, such as landslides, floods, and the haze.

In the past, it was impossible to verify where a piece of wood came from. Timber from illegal sources could be passed off as coming from legal forest concessions.

That’s why Certisource spent more than five years working with NUS Professor Chew Fook Tim and his team, to develop a technology to track a tree to its roots.

Dr Chew, 37, has won numerous awards, including the 2004 Singapore Youth Award for science and technology.

Certisource chief executive officer and co-founder Kevin Hill, who has been a Singapore permanent resident for 15 years, explained that it took his team many years to build up trust with industry players in this region.

“For example, we had to slowly gain the trust of forest owners and managers before they would allow our rangers to go in and do field work,” he said.

The Certisource method involves using special sampling techniques in a process that’s similar to the DNA paternity tests used in court to settle custody cases. The cost of implementing DNA verification is less than 3 per cent of the cost of the timber.

With such verification, the legality of each piece of wood can be proved “beyond any doubt”, said Certisource managing director and co-founder Andrew Young.

The technology has implications for Singapore as it is 14th in the world in terms of volume of timber traded, he added.

More than 1 million cubic metres of timber goes through Singapore to more than 80 countries.

“DNA verification can help make Singapore a hub for legal timber trading and increase its share in the global timber trade,” said Mr Young, also a Singapore permanent resident who is trained in environmental science.

This is because countries like the US are considering legislation to allow only timber imports that can be verified as legal.

Currently, very little information is available to verify the source and legality of 90 per cent of the world’s timber supply.

This means that illegal logs and timber do find their way into the supply chain. WWF’s Keep It Legal guide states that 50 to 80 per cent of wood going through Malaysia, China, and other Asian countries, could be illegal.

Simmonds Lumber CEO Paul Elsemore said: “Consumers are becoming aware of the snowballing effect illegal logging has on the environment.

“Today, more than ever, there is more consumer pressure to show that our wood is from legal sources. Now (with DNA verification) we are able to deliver this.”

LOCAL enterprise and NUS scientists have developed the world’s first DNA testing for timber, which will help fight illegal logging.

The technology was launched today in Australia, by Certisource, a Singapore-based timber verification company, and Simmonds Lumber - one of Australia’s largest timber importers.

WWF, the global conservation organisation, has called Certisource’s proprietary DNA-verification method a "world-first".

“It offers a practical means of ensuring that timber can be traced back to a legal source,” said WWF Australia’s Forest and Trade Network Coordinator Jana Flair.

She added: “This technology enables timber traders and importers to take a tangible step towards eradicating the problem of illegal logging.”

By Teh Jen Lee
jleen@nus.edu.sg