

Eucalyptus genetic secrets unlocked

July 26 2011



The world's most farmed tree has had its genome read, opening the way to new breeding, biofuel, and conservation opportunities.

The genome of one of Australia's biggest [Eucalyptus](#) trees, the Flooded Gum or *Eucalyptus grandis*, has now been mapped, allowing scientists and conservationists an insight into the secrets of an important piece of Australiana.

Eucalyptus has become the most popular plantation tree in the world – with millions of hectares planted in Africa, America, Europe and Asia.

That's one of the reasons that the global community chose a eucalyptus species to map.

In a joint project by the US Department of Energy Joint Genome Institute (JGI) and the Eucalyptus Genome Network (www.eucagen.org) coordinated by Prof. Zander Myburg from the University of Pretoria in South Africa, the genetic code of a specimen of Flooded Gum from Brazil has been mapped and released to researchers.

An international meeting of scientists will be held in Melbourne today, as part of the XVIII International Botanical Congress, to discuss opportunities for research resulting from this important milestone. Australian tree breeders will also be briefed.

“This is one the biggest boosts to forest research in Australia that we have ever had,” explains Professor Bill Foley from the Research School of Biology at the Australian National University.

“Eucalyptus grandis is only the second forest tree to have its full genome mapped. It is an important tree in forests along the east coast of New South Wales and Queensland and a valuable fibre resource worldwide. It is also being considered for biofuel programs both here and overseas.”

The Flooded Gum is one of biggest flowering plants in the world, growing up to 85 metres tall, yet it has a relatively small genome of about 600 million letters of code – about one fifth the length of the human genome.

“This mapping is the first step to understanding the variety seen in Eucalyptus, allowing us to select the optimum trees for future environments,” Professor Foley said.

“Decoding the [genome](#) of one of Australia's grandest [trees](#) is a gift to

researchers and conservationists. It is fitting that its secrets should be unlocked in the International Year of the Forests.” Professor Foley concluded.

Provided by Science in Public

Citation: Eucalyptus genetic secrets unlocked (2011, July 26) retrieved 23 April 2024 from <https://phys.org/news/2011-07-eucalyptus-genetic-secrets.html>

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