



## **Singapore partnership develops the world's first Genetically Modified *Jatropha* plants with commercial traits to yield higher quality biodiesel**

SINGAPORE, 14 May 2012-- Temasek Life Sciences Laboratory (TLL) and JOil (S) Pte Ltd (JOil) have successfully developed genetically modified (GM) *Jatropha* plants with high oleic acid content in seeds.

“Oleic acid is the most desirable oil component for the purpose of biofuel, it gives the best balance between cold flow property and oxidation stability. We managed to achieve greater than 75% seed oleic acid content, much higher than the 45% in regular seeds, through specifically down-regulating a *Jatropha* gene in a seed specific manner”, commented Dr. YE Jian, the team leader of the group of scientists who developed this first GM *Jatropha* with a commercial trait.

This work is just published on line by BIOTECHNOLOGY FOR BIOFUELS. Being the exclusive commercial partner, JOil is expected to further develop commercial varieties with this trait for commercialization.

Professor Chua Nam-Hai, chairman of JOil's Scientific Research Steering Committee, said: “For bioenergy plants like *Jatropha curcas*, genetic modification will be important to introduce those desirable traits that are difficult to achieve through traditional breeding. With the availability of various platform technologies and good understanding of genes responsible for various traits, we can introduce many desirable traits into *Jatropha*, such as better drought tolerance and better pathogen/insect tolerance.”

Being a global player in *Jatropha* breeding and commercialization, JOil looks forward to contribution by GM *Jatropha* varieties to its business in the medium to long term. “We are now focusing on traditional breeding to bring up *Jatropha* seed productivity to enable commercial plantation. GM technology will bring more value adding traits to our elite varieties in the future.” says Dr. HONG Yan, Chief Scientific Officer of JOil.

### ***About Temasek Life Sciences Laboratory (TLL)***

TLL is a non-profit organisation established in 2002 to undertake cutting-edge research in molecular biology and genetics utilising a broad range of model organisms. TLL is affiliated to the National University of Singapore and Nanyang Technological University. Our vision is to create an environment which can attract the brightest young minds worldwide, support their research and challenge them to be leaders in their own fields.

### ***About JOil (S) Pte. Ltd.***

Headquartered in Singapore, JOil is a joint venture company incorporated by Temasek Life Sciences Laboratory Limited, Tata Chemicals (through its wholly-owned subsidiary, Tata Chemicals Asia Pacific Pte Ltd), Toyota Tsusho Corporation and other investors in 2008. Its main business activities include the development, propagation and sale of elite *jatropha* seedlings and improved genetically-modified seedlings for commercial cultivation as well as to engage in agronomy research and provision of agronomy advisory. It has operations in India, Indonesia, China, Kenya, Thailand and the Philippines. In 2011, JOil completed the acquisition of PT Monfori Nusantara, a leading tissue culture facility in Indonesia. JOil is an active member of *Jatropha* Working Group of Roundtable for Sustainable Biofuels, and is committed to ensuring sustainability.



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