



News Release

JOil announces elite Jatropha varieties returns repeatable yields of over 2 tons of seeds per hectare in first year of India Field Trials

- *Tamil Nadu sites achieve first-year flowering in three months and first harvest in five months*
- *Field trials now being conducted in India, Indonesia, the Philippines and Cambodia*

SINGAPORE, 12 March 2012 -- **JOil (S) Pte. Ltd.**, a scientific bioenergy crop developer of a new generation of Jatropha, has achieved first-year yields in its India field trials of more than 2 tons of seeds per hectare. The results from marginal land plots in the Indian state of Tamil Nadu are a significant advancement compared to current Jatropha plants that typically do not flower or fruit within the first year.

Dr Hong Yan, Chief Scientific Officer of JOil, said "Our [JO S1 and JO S2 varieties] seedlings started flowering three months after planting and in five months yielded their first harvest of fruit. Most current Jatropha plants have no fruiting in the first year after planting and any first-year yields are negligible.

Dr Hong added, "We put the JO S1 and S2 seed into trials in multiple locations around the world for local climate adaptation and field performance evaluation. After 12 months, we achieved the first-year harvest on two plots of marginal land more than 200 km apart in Tamil Nadu, South India. Given that Jatropha matures and reaches peak yield in three to four years, this shows that the JOil open pollinated varieties have the potential to reach mature yields of more than five tons of seeds per hectare at which point the production of Jatropha seed reaches a level that allows it to be a sustainable feed stock for large-scale commercial production of bio diesel for airlines and motor transport fleet operations."

In the recent trials, JOil obtained 2.4 tons of seeds per hectare at a plantation near the city of Coimbatore. The other trial in the city of Madurai produced 2.15 tons of seeds per hectare.

The two elite Jatropha varieties tested have demonstrated better uniformity, improved self-branching and early flowering compared to existing commercial varieties and wild types of jatropha planted in similar conditions. All these traits have contributed to early establishment and good productivity for the first year.

Plans for Expanded Field Trial Programme

The JO S1 and JO S2 seedlings, along with the other JOil varieties are undergoing field trials at a number of places across Asia. Plans are in place for an expanded programme that will include African locations.

Presently tests are carried out by JOil in two states of India and in West Java. JOil's partner Toyota Tsusho is conducting trials in the Philippines and Cambodia.



Dr Srinivasan Ramachandran, Chief Technology Officer of JOil said, “In all these trials, JOil’s open pollinated seedlings have shown excellent growth, uniformity, early flowering and fruiting. We are embarking on an expanded field trial programme that will see our elite *Jatropha* grown in Kenya, Tanzania, Egypt, China, Malaysia and Vietnam.”

He added, “Multi-location trials help us evaluate the performance of our elite varieties and help identify which ones work best in different agro-climatic environments.”

JOil is committed to continuously improve *Jatropha* through breeding, tissue culture and genetic modification to achieve higher oil yield and quality. At the INSULA/RSB Conference in December last year, Dr Hong Yan, announced that JOil’s efforts on *Jatropha* improvement through application of biotechnology will lead to tripling productivity over the next seven to eight years to a target yield of >3 tons of seeds per hectare.

About *Jatropha*

Jatropha curcas, also called physic nut, is a drought-resistant plant which has been used for years as a hedge plant to protect food crops from animals. Its seeds, when crushed, result in *Jatropha* oil which can be processed to produce a high-quality biodiesel to be used to fuel airplanes, diesel cars, and stationery machines like generators. Since *Jatropha* can be grown on poor land and as a hedge for existing gardens and fields, it does not compete with land used for food crops, unlike edible oil and feedstock like soybean and palm oil. The *Jatropha* plant is native to Africa, North America and the Caribbean.

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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