



## **JOil demonstrates strong trend of improving yields from large scale India field trials**

**SINGAPORE, 17 December 2013** -- JOil (S) Pte. Ltd., a scientific bioenergy crop developer of a new generation of Jatropha, has achieved an average seed yield of 3.53 metric tonnes per hectare in the third year of its large scale India field trials. Unpruned, the yield will be 4.42 metric tonnes per hectare. These results place JOil's elite Jatropha varieties on track to deliver a Year 4 projected yield of more than 4.5 metric tonnes per hectare. This puts JOil seedlings within reach of the target yield of 5 metric tonnes per hectare at which point large-scale commercial viability is achieved.

The trials were conducted on JO S1 and JO S2, two open-pollinated JOil-developed Jatropha varieties shown to have high uniformity and productivity over three generations. JOil trials in India are being conducted across sites located in southern part of Tamil Nadu, India. Three of the sites are spread within 60 km of Coimbatore and one site in Madurai which is 180 km from Coimbatore totalling 35.65 acres. All the sites are located at altitudes ranging from 300 to 400 (metres) Mean Sea Level with annual average rainfall of 350 to 650 mm and average temperatures between 20° to 35°C.

According to JOil's Chief Technology Officer, Dr Srinivasan Ramachandran, the increase in yield of the plants in the third year would have been > 4.2 metric tonnes per hectare with optimized spacing and without pruning. However, in the actual JOil field trials, rigorous pruning was done on the plants uniformly across locations in the third year to maintain the canopy in shape, resulting in a yield of 3.53 metric tonnes per hectare.

"The results of the India field trials take Jatropha closer to commercial viability, which we believe is within two years from now, once a yield of five metric tonnes of seeds per hectare is achieved. Above all, this new progress continues to signal the promise that Jatropha can fulfil under these conditions away from its earlier disappointments," said Dr Srinivasan.

### **Third year yield results**

Dr Srinivasan added, “We are very rigorous in our methodology. Given the history of Jatropha and its unfulfilled promise in the mid-2000s, we have been very conservative in our approach so as to ensure yields are based on realistic growing conditions. JOil aims to be the company that brings Jatropha to the market and we will be disclosing our data, methodology and site management protocols in a peer reviewed publication. This will offer transparency to our results. Jatropha is a sustainable and viable source of first and second generation feed stock, and even commercial biofuels for airlines and motor transport. With strong science, JOil is paving the way for a sustainable and commercially viable energy solution.”

### **Progress of JOil’s Field Trial Programme**

JOil will expand its field trial programme for its elite varieties across sites in Africa and South East Asia. A Memorandum of Understanding with Agritech Faso SA, an alternative energy grower and processor of Jatropha in West Africa, will also kick start the development of 250,000 Ha of Jatropha plantations intercropped with food crops using JOil’s elite, high-yielding Jatropha varieties. JOil also has a pipeline of varieties which are in advanced stages of field trials. These are slated to be available for commercial cultivation in 2014/15.

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### **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**

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 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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