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Bachelor/Master Thesis Opportunity

General information

Jatropha curcas L. (JCL) is an important energy plant which has received great attention in recent years for its utilization in biodiesel production (Ceasar and Ignacimuthu, 2011). JCL is a small tree or large shrub, which belongs to the Euphorbiaceae family and has a life expectancy of up to 50 years (Divakara et al. 2010). The plant has a high potential for greening and rehabilitation of wastelands and the grains have a high oil concentration with excellent quality for conversion into biodiesel (Francis et al., 2005). Although various efforts have been made to develop JCL as an industrial crop (Fairless 2007, Sanderson 2009), the absence of improved cultivars and lack of agronomic knowledge represent the main bottleneck that limits the full exploitation of this plant's potential (King et al. 2009).

References:

1. Ceasar, S.A., Ignacimuthu, S., 2011. Applications of biotechnology and biochemical engineering for the development of jatropha and biodiesel: A review. Renew. Sust. Energy Rev. 15,5176-5185.
2. Divakara, B.N., Upadhyaya, H.D., Wani, S.P., Laxmipathi Gowda, C.L., 2010. Biology and genetic improvement of jatropha curcas L.: A review. Appl. Energy 87, 732-742.
3. Fairless, D., 2007. The little shrub that could – maybe. Nature 449:652-655.
4. Francis, G., Edinger, R., Becker, K., 2005. A concept for simultaneous wasteland reclamation, fuel production, and socio-economic development in degraded areas in India. Need, potential and perspectives of Jatropha plantations. Natural Resources Forum 29:12-24.
5. King, A.J., He, W., Cuevas, J.A., Freundenberger, M., Ramiaramanana, D., Graham, I.A., 2009. Potential of Jatropha curcas as source of renewable oil and animal feed. Journal of Experimental Botany 60:2897-2905.
6. Sanderson, K., 2009. Wonder weed plans fail to flourish. Nature 461:328-329.

The opportunity

We are looking for a bachelor/master student to work on plant health research.
The maximum timeframe of this thesis is six months and it will cover the following tasks:

- Search and revision of literature
- Perform plant pathogens detection and identification assays
- Elaborate diseases' control strategies

Contact

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