

Organic Food, Fiber, and Fuel

Ratter, S.G.¹

Abstract

*The objective of the poster is to evince the potentials and challenges for improving the living conditions of the rural population in cotton growing areas by the integration of oil crops like *Jatropha curcas* for biofuel production. With the growing global demand for biofuels, the integration of oil plants offers new opportunities to generate cash income. Additionally, soil erosion can be reduced and agricultural production can become more profitable and sustainable.*

*The oil of *J. curcas* is a high quality biofuel that can be used locally in plant oil stoves or in generators for electricity supply. The oil can also be sold to customers in other parts of the country or abroad who might use it as biofuel or for the production of soap or natural insecticides.*

*Organic cotton is often grown by smallholders in marginalized areas on poor soil and without irrigation. Crop rotation with food crops on one side reduces the risks of pests and diseases and on the other side, it improves soil fertility as well as food security. The availability of organic fertilizer is often a limiting factor for better yields. The additional integration of *J. curcas* can generate additional income by selling the seeds and improve the soil fertility by preventing soil erosion and providing organic fertilizer.*

*The main challenge for the introduction of a new crop like *J. curcas* in a smallholder production scheme is the development of the required infrastructure. An existing organic smallholder project offers several advantages for implementation. There is already an extension service, an input distribution, and a crop collection system in place. It is much easier and cost effective to extend this existing system to another product compared to putting in place a new system. The poster shows a scenario that describes the potential of a smallholder organic cotton project in East Africa.*

*It can be concluded that the rising petrol prices improve the economic potential for biofuels from plant oils. The non-edible oil of *J. curcas* is a high quality biofuel. However, the cultivation should be organized in an ecological and socially sound way, and not on large-scale monocultures and in competition to food crops.*

*The integration of *J. curcas* in an organic farming system offers multiple benefits, including the reduction of soil erosion, additional cash income and source of organic fertilizer. An economical production requires good planting material and appropriate production methods. The oil extraction requires a suitable technology.*

*The infrastructure of an existing organic cotton projects can facilitate the integration of *J. curcas* in the agricultural production system. The productivity of the whole system will be improved so that apart from biofuel production, the organic food and fiber production increases.*

¹ bioSim e.K., Zugspitzstr. 17, 82396 Pähl, Germany, e-mail: biosim@online.ms, Internet www.biosim-online.de