Development of selected field machinery for Jatropha Curcas Sustainable farming

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Abstract Preview

The objective of this paper is to presents the development on Jatropha Curcas based green energy emphasized on energy saving and zero waste integrated farming. Input energy in on-farm activities will be in the form of fuel for machine operation and material for crop protections. The concept of "energy saving" in self supported energy farming system will only be focused on the substitution of fuel used by machinery and material recycling in the farm. The system is considered new jatropha farming system which is to integrate the energy crops production with legume crop using "tumpangsari" system which has been successfully adopted by agro-forestry system. Substitution of 20% fossil fuel with Jatropha diesel fuel, significant decrease on energy and cost were the result of this research. The crop residue and jatropha waste was used as fertilizer. By this system, there will be a nutrient cycle in the farm.

Keywords: field machinery, Jatropha curuas, sustainable farming