

Effect of spacing on seed production and oil percentage of *Jatropha curcas* L.

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SUMMARY

Jatropha curcas can help to increase rural incomes, from plantations and agro-industries. *Jatropha curcas* is a valuable multi-purpose crop to alleviate soil degradation and afforestation, which can be used for bio-energy to replace petro-diesel, for soap production and climatic protection, and hence deserves specific attention. In the present study, different spacing treatments were applied to see the effects on the yield and oil contents of seeds. The spacing treatment of 170cm x 150cm gave maximum seed yield per acre with maximum oil content while spacing treatment of 100cm x 100cm gave minimum seed yield and oil contents.

Key Words : *Jatropha curcas* L., Oil percentage, Seed production, Spacing treatment

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Abundance and availability of energy resources largely determine the economic wellbeing of a country. Energy independence has to be our first and foremost priority (A.P.J. Abdul Kalam, 2005). One of the main crops currently being promoted for biodiesel production in several countries, globally, is *Jatropha curcas*. There have been substantial political and social pressures to promote the growing of such crops (in particular *Jatropha curcas*) in India, as a means of economic empowerment, social upliftment and poverty alleviation within marginalized communities.

Jatropha curcas L is a multi purpose plant belonging to the family Euphorbiaceae with several attributes and considerable potential and has evoked interest all over the topics as a potential biofuel crop (Beet *et al.*, 2002). It is an all purpose, zero waste drought resistant photo insensitive perennial plant. The species grows in areas with extreme climates and soil conditions that could not be inhabited by most of the agriculturally important plant species (Chandhari *et al.*, 1999).

Jatropha curcas is a valuable multi-purpose crop to

alleviate soil degradation and afforestation, which can be used for bio-energy to replace petro-diesel, for soap production and climatic protection, and hence deserves specific attention. *Jatropha curcas* can help to increase rural incomes, self-sustainability and poverty for women, elderly children and men, tribal communities, small farmers. It can as well help to increase income from plantations and agro-industries.

All parts of *Jatropha curcas* used in traditional medicine (Dilara and Nath, 2000). Leaves and tender stems are used as a folk dye by tribal people (Srivastava *et al.*, 2008). In the present study, different spacing treatments were applied to see the effects on the yield and oil contents of seeds. *Jatropha curcas* L. is one of the prospective biodiesel yielding crops (Datta and Pandey, 1993) which belongs to family Euphorbiaceae. It is a multipurpose tree of significant economic importance.

MATERIALS AND METHODS

The field experiments was conducted during 2005-06 and 2006-07 at research field of Biotech lab training and demonstration centre and various locations of Surguja (Chhattisgarh) districts viz., Pratappur, Kalyanpur and Sitapur site. Different spacing treatments were laid out in randomized

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