

Banana - A Potential Intercrop in Juvenile Oil Palm Plantations

ABSTRACT

Oil palm (*Elaeis guineensis* Jacq.) is a perennial crop with juvenile phase of three years. During the juvenile phase, the crop occupies only a fraction of the space and gives scope for inter cropping for efficient use of both horizontal and vertical space and much needed revenue to the farmer. Banana is found to be one of the most remunerative inter crops in oil palm. However, both the crops are heavy feeders and compete for water and nutrients. Hence, care should be taken to avoid any competition. Results revealed that there is tremendous potential for banana as an inter crop in oil palm under irrigated conditions.

Oil palm is grown as an irrigated crop in the states of Andhra Pradesh, Karnataka, Tamil Nadu, Goa, Gujarat and Odisha. Chadha Committee (2006) has assessed the potential area for oil palm cultivation in both irrigated and rainfed conditions and arrived at a figure of 10.36 lakh ha. Considering the enthusiasm shown by the farmers in taking up oil palm cultivation in the identified states, it is targeted to cover 6.12 lakh ha by the end of XII Five Year Plan (Chadha, 2006).

Oil palm, a wide spaced perennial crop having a juvenile period of three years, provides ample scope for effective utilization of horizontal and vertical space for growing intercrops, thus providing additional employment opportunities and income for small and marginal farm families during the initial three years of oil palm cultivation. The intercrops provide income ranging from ₹ 7,500 to 50,000 per ha during the initial years, making oil palm a viable crop.

The choice of inter crops is location specific based on the familiarity of the crop to the farmer and marketability of produce. The major intercrops grown in oil palm plantations are tobacco, maize, chillies, vegetables, groundnut, turmeric, pulses etc. Among the fruit crops, banana is grown in an area of 46,817 ha with a production of 10.96 lakh MT in Andhra Pradesh (Anonymous, 2005) and is grown in all oil palm growing districts of Andhra Pradesh, therefore, banana is a popular intercrop in oil palm.

Study conducted on technological gap and constraints in adoption of oil palm production technology revealed the changes in cropping pattern as a result of adoption of oil palm. Majority of the farmers are growing intercrops in oil palm up to three years and some are growing up to fourth year. Majority of the farmers shifted (15 %) from banana cultivation to oil palm (Prasad and Rethinam, 2001). However, keeping in view of the scope to grow banana as intercrop in juvenile oil palm plantations, i.e., the crop is remunerative and non competitive, 19 % of the oil palm growers had taken up banana. Banana ranked second in its adoption as intercrop in oil palm. Among the intercrops grown in oil palm, banana recorded highest average gross income of ₹ 25,000 to 50,000 per ha.

With a view to get more area for growing intercrops, majority of the farmers are either cutting or tying the oil palm leaves, leading to drastic reduction in growth and vigour of palm, ultimately leading to delay in initial yields. Reddy *et al.* (2004) have demonstrated that profitable inter crops can be taken up without hampering the growth of oil palm. Their studies revealed that banana gave the highest net returns of ₹ 81,405 with a benefit-cost ratio of 2.69. All the growth parameters and initial yield of oil palm inter cropped with banana during the juvenile phase were on par with oil palm without inter crops.

Based on these observations, farmers are advised to provide enough space for intercrop as well as oil palm, and not to cut/tie the leaves and plough the basin area of oil palm. Farmers are suggested to grow oil palm and intercrop independently, without any competition among the crops for available resources, to produce highest yields and net profits.

With a potential area of 10.36 lakh ha available for oil palm cultivation in different parts of India (Chadha, 2006), banana as an inter crop has tremendous scope to provide much needed income to the farmers during the juvenile phase of oil palm.

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