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*Research Article*

# Effect of fertilizer management on economics and yield advantages of pigeonpea and sunflower intercropping system

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**ABSTRACT :** A field experiment was conducted at Agricultural College Farm, Raichur during *Kharif* 2008 to find out optimum dose of fertilizer to intercropping system and to assess the economic feasibility and assessment of yield advantages *viz.,* pigeonpea equivalent yield, land equivalent ratio and area time equivalent ratio. The experiment was laid out in Randomized Block Design (RBD) with three replications. There were 11 treatment combinations. Application of 100 per cent recommended dose of fertilizer to both the component crops in pigeonpea + sunflower intercropping system significantly increased the yields of both the crops over unfertilized control and other lower doses of fertilizers. The maximum pigeonpea equivalent yield (25.82 and 26.77 q $ha^{-1}$), land equivalent ratio (1.61 and 1.66),area time equivalent ratio (1.21 and 1.25), gross returns (Rs. 77,448.00 and Rs. 80,302.00 $ha^{-1}$), net returns (Rs. 59,718.00 and Rs. 62,308.00 $ha^{-1}$) and benefit cost ratio (3.37 and 3.46) were recorded when full recommended dose of fertilizer was applied to the both the component crops of the system ($T_2$ and $T_9$, respectively).

**KEY WORDS :** Intercropping, Land equivalent ratio, Pigeonpea equivalent yield, Economics

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## INTRODUCTION

Pulses and oilseeds are considered as second and third major agricultural crops in Indian agrarian economy. Normally pulse and oilseed crops are raised under rainfed conditions with low input and poor management practices leading to lower productivity level. Therefore, the need for introducing new technologies for increasing and sustaining the yields in rainfed areas can hardly be over emphasized. Intercropping system is one such method which offers great scope for sustainability in the overall productivity and profitability under dryland conditions. Many scientists working on intercropping system proved that this practice is remunerative and gives yield advantages over sole crops provided, it is properly planned and crops are not competitive to each other (Tarhalkar and Rao, 1975). Due to energy crisis and poor purchasing power of small and marginal farmers, it is very difficult to meet the demand of plant nutrients through fertilizers. Small farmers cannot offered to invest more on due to high fertilizer cost. Hence, these should be used judiciously, economically and low cost technology should be developed for higher productivity and sustaining soil fertility. Hence, the present study was undertaken to study the economics and yield advantage under intercropping system involving pigeonpea and sunflower.

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