



Research Article

Evaluation of different intercropping row proportions of chickpea with various *Rabi* oilseed crops under rainfed condition

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ABSTRACT : A study was carried out at Annigeri to compare the performance of various row proportions of *Rabi* oilseed crops with chickpea on growth, yield and economics under rainfed situation. Sole crop of chickpea, wheat, safflower and mustard recorded higher growth, yield and yield components as compared to intercropping systems. Among the various intercropping systems, chickpea + safflower 4:2 row ratio (1301 kg/ha) resulted with the highest equivalent yield of chickpea and also same treatment revealed higher LER values (1.70), net returns (Rs.33025 ha⁻¹) and benefit: cost ratio (4.62).

KEY WORDS : Cropping system, Chickpea, Wheat, Safflower, Mustard, Rainfed

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INTRODUCTION

Chickpea, wheat and safflower are usually grown as sole crop as well as intercropping systems on residual moisture or under protection irrigated condition in northern dry zone of Karnataka. Productivity and economics of these crops can greatly to be enhanced by growing it in intercropping systems in optimum row proportions. Safflower is important oilseed crop of this region. However, its cultivation is decreased year by year because of difficulties in harvest due to spines. Hence, there is need for substitute for this crop from any other oilseed

crop. The very objective of the present investigation is to introduce mustard as one of oilseed crop in *Rabi* for substitute safflower under rainfed conditions.

EXPERIMENTAL METHODS

A field trail was laid out at Zonal Agricultural Research Station, Annigeri, in a randomized block design with three replications during *Rabi* season of 2007-08 under rainfed condition. There were twelve treatments consisted of sole chickpea, sole wheat, sole mustard and sole safflower and intercropping of mustard and safflower with chickpea in 3:1 and 4:2 row proportions and with wheat in 3:1 and 5:1 row proportion. The soil was medium black having pH of 7.65. The organic carbon, P and K content of the soil was 0.45 per cent, 28 kg ha⁻¹ and 314 kg ha⁻¹, respectively. All sole crops were fertilized with recommended dose of fertilizers and in case of intercropping, fertilizer dose was adjusted for the proportionate area of the crops. The seeds of chickpea were treated with *Rhizobium*, wheat seeds with Bavistin and safflower and mustard were treated with Captan, respectively. The seeds of wheat and mustard were sown continuously on the line only

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