

## Effect of different rabi intercrops on growth and productivity of senna (*Cassia angustifolia*) in northern dry zone of Karnataka

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### ABSTRACT

A field experiment was conducted at Regional Agricultural Research Station, Bijapur on medium deep black soil during rabi seasons of 2004 and 2005 to study the influence of different rabi intercrops on growth and productivity of senna. The treatment consists of five rabi crops (chickpea, safflower, linseed, mustard and wheat) and senna in sole stand as well as intercropping system and safflower + chickpea (2:4) intercropping system as a check. The sole crop of senna recorded significantly better growth and growth parameters as compared to intercropped senna. The leaf and pod yield of senna also followed the same trend as that of growth and growth parameters with different rabi intercrops. Growing of senna with safflower adversely reduced the growth and growth parameters, leaf and pod yield as compared to chickpea, linseed, mustard and wheat.

**Key words:** Growth parameters, intercropping, leaf and pod yield, senna.

### INTRODUCTION

The productivity of rainfed agro-ecosystem is very low, mainly because of low and erratic rainfall, poor soil fertility and improper choice of crops and cropping systems. To achieve sustainability in rainfed agriculture, diversification by identification and commercialization

of new crops adapted to low water requirement is essential. So the thrust should be given to increase the productivity per unit area which is possible by including medicinal crop like senna which is more suited to the prevailing climatic condition of the region, apart from its economic value due to leaves and pods. Intercropping of prevailing crops of the region with senna appears to be a choice to ensure higher production under such a situation. Medicinal crops need to be integrated with existing food crops as crop intensification either in space (intercropping) or in time (sequential cropping) or both. The information on mediculture based system under rainfed condition for northern dry zone of Karnataka region is meager. Therefore, the present study was undertaken to find out most remunerative food and mediculture based system under rainfed conditions.

### MATERIALS AND METHODS

A field experiment was carried out at Regional Agricultural Research Station, Bijapur, University of Agricultural Sciences, Dharwad (Karnataka), during rabi seasons of 2004 and 2005 to assess the performance of senna in different rabi crops and cropping systems. There were 11 treatment combinations comprising of senna, chickpea, safflower, linseed, mustard and wheat in sole stands and in intercropping systems at 1:1 row proportions and safflower + chickpea (2:4) intercropping system as a check. The varieties of different crops used were: senna-Tinvelly senna, chickpea-A1, safflower-A1, Linseed-local, mustard-SEJ-2, wheat- DWR-162. The

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