

## Studies on strip cropping of pearl millet + arid legumes in rainfed arid western Rajasthan

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### ABSTRACT

An experiment on legume + pearl millet strip cropping conducted at Bikaner, on a sandy loam soil, during 1990 and 1992 under arid rainfed condition revealed that highest total produce of main crop (P) was obtained in system P+C (4 : 4) whereas strip crops (legumes, C) produced highest total produce and total biological yield in system P+C (4 : 8). Planting system P+C (4 : 4) gave highest yield advantage with LER of 1.03 and 1.59 during 1990 and 1992, respectively.

### INTRODUCTION

Climatic adversities of arid zone are quite intensive and crop failure is a common phenomenon due to occurrence of long dry spells within crop growth period resulting in onset of drought. Therefore, monocropping is very risky. Growing of two or more than two crops together gives an assurance against complete crop failure and an increased production per unit area. In arid zone, strip cropping of legumes with cereals and grasses is well established, which gives many benefits eg. reduction in soil erosion, increase in per unit area production and reduction in the risk of crop failure (Misra, 1971). Strip cropping of legumes with sesame has been reported more profitable over sole cropping (Yadava and Gupta, 1987). Therefore, an experiment was conducted, under these unfavourable climatic conditions to determine a better combination of rows strips of legumes and pearl millet

### MATERIAL AND METHODS

An experiment was conducted at Research Farm of Central Arid Zone Research Institute, Regional Research Station, Bikaner during 1990 and 1992. The soil of experimental site was sandy loam in texture and poor in organic carbon and nitrogen. Two arid legumes (mothbean and clusterbean) were strip cropped with pearl millet under three planting systems *ie.* P+C (4 : 4), (4 : 6) and (4 : 8). All the treatments were tested under randomized block design with 4 replications. The sole crop of legumes and pearl millet were also grown separately. All the cultural operations were followed as recommended for individual crop. The grain yield