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PERFORMANCE OF MASHBEAN INTERCROPPED IN COTTON PLANTED IN DIFFERENT PLANTING PATTERNS

Muhammad Bismillah Khan[1], Abdul Khaliq[2] and Shakeel Ahmad[1]
[1]Department of Agronomy, Bahauddin Zakariya University, Multan-60800, Pakistan. [2]Department of Agronomy, University of Agriculture, Faisalabad 38040, Pakistan.

Abstract: Performance of mashbean as intercrop in cotton was studied at the Agronomic Research Area University of Agriculture, Faisalabad (Pakistan) during the years 1996-97 and 1997-98. Cotton variety NIAB 78 was planted in 80-cm apart single rows and 120-cm spaced double row strips. Experiment was laid out in a RCBD with four replications. Net plot size was 7 m x 4.8 m. Mashbean was sown as intercrop in the space between 80-cm apart single rows as well as 120-cm spaced double row strips. Mashbean was also sown as a sole crop (P_3). The intercrops produced substantially smaller yields when grown in association with cotton in either planting pattern compared to the sole crop yields. However, additional produce obtained from intercrop compensated the losses in cotton production. Intercropping of mashbean, in 120-cm apart double row strips of cotton proved to be feasible as well as convenient for farm operations.

Keywords: Cotton, cultivar, double row strip, intercropping, mashbean, planting pattern, small farmers.

INTRODUCTION

Mashbean is protein rich source of diet and ranks third among the major pulse crops of Pakistan. It is being grown on an area of 58.3 thousand hectares with total production of 34 thousand tones. However, Pakistan is still deficient in pulses. Thus domestic demand is partially met by importing this food item. In 2002 Pakistan spent Rs. 6.48 billion on the import of this single commodity [Govt. of Pakistan 2003a]. In the light of these facts there is dire need to enhance local production of pulse crops, however, main growing season of mashbean overlaps with that of cotton. Cotton is the most important cash crop of Pakistan. It accounts for about 58.70 % of the total export earning and over 57.43 % of the domestic edible oil production [Govt. of Pakistan 2003b]. Under these circumstances we cannot increase the area under mashbean at the cost of cotton. Such situation demands a simultaneous increase in the productivity of cotton and pulses to fulfill the increasing diversified needs of the ever growing population.

In the presence of increasing small landholdings, surplus farm family labour, overlapping of growing seasons of crops, inter/relay cropping seems to be a promising strategy for increasing crop productivity particularly at small farms of Pakistan.

Although intercrops reduce seed cotton yield of the associated cotton by 8-31 per cent [Mohamed and Salwau 1994], total crop productivity and net return per unit area [Saeed *et al.* 1999] as well as land equivalent ratio are higher in intercropping than sole cropping. But magnitude of