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COTTON+SESAME- A DOUBLE STORY CROP PRODUCTION CASE STUDY

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Abstract: An experiment was conducted at Agronomic Research Area, University of Agriculture, Faisalabad (Pakistan) with the objective of developing new planting patterns and multiple cropping techniques. Cotton was planted in two different patterns i.e. 80-cm spaced single rows (P_1) and 120-cm spaced 2-row strips (40/120 cm) (P_2). Sesame was grown as intercrop in the cotton as well as sole crop (P_3). Sesame intercropped in 120 cm apart double row strips of cotton produced significantly greater number of capsules plant^{-1}, higher economic and biological yields than those produced by sesame intercropped in 80 cm spaced single rows of cotton. However, planting density, plant height, seeds plant^{-1} and 1000-seed weight, were not affected by different planting patterns under study. In intercropping systems, cotton appeared to be dominated as it had lower value for relative crowding coefficient (k) and competitive ratio than the intercrop. Aggressivity value was the minimum for cotton+sesame in both the planting patterns which indicated that sesame was very competitive crop to cotton.

Keywords: Cotton, multiple intercropping techniques, planting patterns, sesame.

INTRODUCTION

Pakistan is a thickly populated country of South Asia lying between 23° & 37′ north latitude and 61° to 76′ east longitude [Oxford Atlas of Pakistan 2000]. Agriculture is main stay of its economy and cotton is the most important cash, fiber and edible oilseed crop. Cropped area is only 29% of the total geographical area of the country. A vast majority of Pakistani farmers (75%) have land holdings < 5 hectares [Govt. of Pakistan 1990]. Though diversity of climate suites to grow all types of crops successfully, to meet the requirements still Pakistan imports edible oil and other food items by spending a huge amount of foreign exchange. Under these circumstances simultaneous increase in the productivity of cotton, edible oilseeds, wheat grain and pulses to fulfill the continuously increasing diversified needs of the ever growing population is essential.

Small landholdings, surplus farm family labor, overlapping of growing seasons of crops, low productivity of most of the crops and practice of subsistence farming invites especial attention to develop new planting patterns and multiple cropping techniques. Inter cropping seems to be a promising strategy for increasing crop productivity particularly at small farms of Pakistan.

This necessitates for work on different cotton-based intercropping systems in order to develop new intercropping systems and to evaluate