

EFFECT OF INTERCROPPING AND PLANTING GEOMETRY ON THE YIELD AND YIELD RELATED TRAITS OF SORGHUM

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ABSTRACT

An experiment to evaluate the effect of intercropping and planting geometry on the yield and yield related traits of sorghum was conducted at the Farm of Faculty of Agriculture, Gomal University, Dera Ismail Khan, during the year 1989. The experiment was laid out in a split plot design, with four replications having a plot size of 3.6 m x 5 m (18 m sq). Grain yield and all the yield parameters were positively increased over monoculture of the component crops except sorghum plant height. Intercropping and planting patterns substantially boosted grain yield of sorghum (2.2 t/ha) as compared to sole crop of sorghum (1.6 t/ha). 1000-grain weight and grain/panicle were also increased as compared to sole crop of sorghum.

INTRODUCTION

Sorghum (*Sorghum bicolor* L.) is one of the most important Kharif crops cultivated for both grain and fodder purposes. It is also use for starch, alcohol, sugar, wax, edible oil, silage and making shelter, mats and baskets.

Punjab and Sindh are the major Sorghum producing provinces of Pakistan and contribute 54 and 26 percent, respectively to the national acreage. The area under sorghum crop in N.W.F.P. during 1989-90 was 28800 hectares with a production of 21500 tones and the average yield of 747 Kg/ha. Anonymous, 1990.

In Pakistan sorghum is generally sown mixed with guara, mung, moth etc. in the summer rainy (Kharif) season. These traditional mixtures were primarily developed as an insurance against total crop failure due to adverse weather conditions. Steiner (1982) worked on importance of mixed cropping and reported that sorghum intercropped with cowpeas reduced insect pest population and diseases, moreover weeds were also controlled by increasing crop cover. In these traditional mixtures, either the seed of the component crops are mixed and then sown or some definite proportions of rows of component crops are adopted. Ghatol (1971) compared mixed sowing and in-rows sowing of hybrid jowar