SPATIAL ARRANGEMENT IN CORN LEGUMES INTERCROPPING

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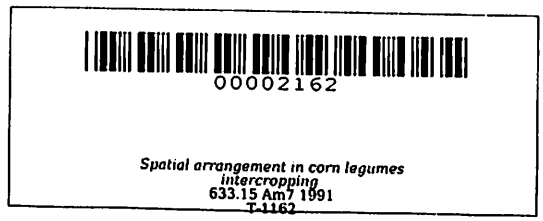

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ABSTRACT

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The study was conducted to determine the effect of the different intercropping treatments and the pattern on the growth and yield of corn plant using single and double row system and to evaluate the economy of production of the different intercropping systems.

IPB IBP variety 1 corn, UPL Pn-4 variety of peanut, UPLBS3' variety of bush sitao, and UPLSY-4 variety of soybean were used in the study.

Split plot in Randomized Complete Block Design was used in the experiment with seven treatments.

Results showed that corn bush sitao intercropping combination in a single row system produced highest corn yield and yield components over the rest of the intercropping treatments. However corn and bush sitao monoculture surpassed, the intercropping treatments in yield in this experiment. Corn-bush sitao intercropping combination in a double row system produced lesser yield when compared to the single row system. This was due to the difference in population density. However yield per plant of corn and bush sitao was greater in a double row system than those in the single system. This was also attributed to the difference in

population density.

Generally, considering the net profit obtained from each intercropping treatment in the study, corn bush sitao intercropping combination in the single row system gave the highest net return. The lowest net profit was obtained from corn soybean intercropping combination.

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INTRODUCTION

One of the several factors that hamper the endeavor is the low productivity of agricultural land because of improper land utilization and unavailability of new improved technologies in farming. Since intercropping system of farming is one of the improved techniques of maximizing the production, there should be a need of introducing such system to the farmers to increase the yield per unit area.

The area of the land under cultivation raises only slowly and the survival of the growing world population will depend on further increase in the yield of these crops. Limited use of these system in the developed world for commercial production is due to its high labor requirement (Crookston, 1976) and the mechanized technology designed for large scale production.

With intercropping, the crop combination is important and regarded as a basic consideration for total productivity (IRRI, 1972). The most common combination, however, is that of a cereal and legumes which frequently gives a significant total yield advantage (Reddy Willey, 1981). In a crop mixture, it is necessary for maximum benefit that the environment's demands of the component crops are not the same (Crookston, 1976). A good crop combination in an inter-cropping system often results from complimentary in terms of overall use of growth reasources compared with the situation