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Innovative corn-legume intercropping scheme: A strategy to suppress insect pest occurrence

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Intercropping corn with legumes increase food production per unit of land via better utilization of resources, minimizes the occurrence of insect pests, reduced weed competition and stabilize yield. This experiment was conducted at the College of Agriculture, ISU, Echague, Isabela during 2011 wet cropping season. It was undertaken to determine the significant effects of intercropping corn with legumes in terms of yield and yield component, population density of insect pests and compare the yield of sole corn with intercrop with legumes.

A Randomized Complete Block Design (RCBD) with seven treatments replicated three times was used as follows: Treatment 1 = sole corn, Treatment 2 = corn + peanut, Treatment 3 = corn + bush sitao, Treatment 4 = corn + snap bean, Treatment 5 = sole bush sitao, Treatment 6 – sole peanut, Treatment 7 = sole snap bean. Land Equivalent Ratio was used to determine the productivity and profitability of the intercropping system.

Based on the results, planting of sole corn at 30, 60 and 90 days after planting produced the tallest plant height, exhibited the heaviest biomass yield, obtained wider diameter of corn ear and produced heaviest grain yield. While corn intercrop with peanut obtained the highest number of kernels and heaviest weight of 1000 seeds.

The planting of sole peanut, bush sitao, and snap bean revealed significant variation in terms of shoot length, number of pods and grain yield per hectare. At 20, 30 and 40 days after planting, there was a lower number of insect pests, produced lowest damage of insect pest and higher number of predators/beneficial insects observed at intercrops of corn + peanut (T_2).

In like manner, the damage rating on corn at 35 and 45 days after planting revealed significant differences among treatments.

The grain yield per hectare was heavier in the sole corn, however, when the Land Equivalent Ratio (LER) is considered, it showed higher values and higher productivity advantage of intercropping system over sole corn.

Adoption of intercropping system, corn + peanut should be considered because lesser damage of borer in corn was observed.

Further studies on intercropping should be conducted using the other crops that are compatible to reduce occurrence of insect pests and diseases.

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