

Potential of Intercropping Corn and Cowpea to Ratooned Sugarcane for Food and Forage

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Abstract : Intercropping farming system and biofertilizer application are sustainable agricultural practices that increase farm productivity by improving the yield performance of the components involved in the production system. Thus, this on-farm trial determined the yield and forage quality of corn and cowpea with and without biofertilizer application when intercropped with ratooned sugarcane. Intercropping corn and cowpea without biofertilizer application had no negative effect on the vegetative growth of sugarcane. However, application of biofertilizer on intercrops decreased tiller production at 117 days after stubble shaving (DASS), consequently reducing the estimated tonnage yield of sugarcane. The yield of intercrops and forage production of Cp3 cowpea variety increased when intercropped to ratooned sugarcane. In contrast, intercropping PSB 97-92 corn variety to ratooned sugarcane reduced its forage production, but when biofertilizer was applied to intercropped Cp5 cowpea variety, the forage production increased. Profitability (income equivalent ratio) of intercropping for both corn and cowpea are higher than monocropping and are thus suitable intercrops to ratooned sugarcane. Unaffected tiller count (a determinant of sugarcane tonnage yield) when biofertilizer was not applied to intercrops and a reduced tiller count with biofertilizer application to intercrops implies the need to develop a nutrient management practices specific for intercropping systems.

Keywords : biofertilizer, corn, cowpea, intercropping system, ratooned sugarcane

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