

Growth and Yield Responses of Cowpea (*Vigna unguiculata* L. Walp.) for Foliar Application of Banana Pseudostem Sap

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Abstract

Banana is the most important fruit crop widely cultivating in Sri Lanka mainly for fruit purpose. After the fruit harvest huge quantity of pseudostem is generated as a waste. Pseudostem sap contains essential macro and micro nutrients and growth promoting substances and it can be used as an organic nutritive supplier to the crops for increase their crop growth and yield. A field experiment was conducted to study the effect of foliar application of banana pseudostem sap on growth and yield of cowpea variety *Waruni* at the crop farm, Eastern University, Sri Lanka. The experiment was laid out in randomized complete block design with five treatments having four replicates. Treatments were; recommended dose of Urea, Triple super phosphate (TSP), Muriate of potash (MOP) as basal (T1), recommended dose of Urea, TSP, ½ MOP as basal with foliar spray of 1% Pseudostem sap solution (T2), 3% Pseudostem sap solution (T3), 5% Pseudostem sap solution (T4) and 7% Pseudostem sap solution (T5) at 3rd, 5th, 7th and 9th week after planting (WAP). Recommended urea was applied as topdressing in all treatment at onset of flowering. The results revealed that application of banana pseudostem sap showed significant differences ($P < 0.05$) on plant height, leaf area, chlorophyll content, fresh weights of leaves, root and stem. Maximum values were noted in T2 while minimum in T1. Further significant difference ($P < 0.05$) was noted on pod yield at each harvesting. Seed yield in T2 was approximately four times greater than the yield from cowpea in T1. Application of banana pseudostem sap leads to improve the growth and yield of cowpea compared to recommended inorganic fertilizer. Therefore, among the tested treatments, recommended dosage of Urea, TSP and ½ MOP as basal and recommended urea as topdressing with 1% banana pseudostem sap would be the most suitable combination among the tested treatments to get better growth and higher yield of cowpea.

Keywords: Cowpea, Growth, Peudostem sap, Recommended inorganic fertilizer, Yield

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