B-126 Substitution levels of P and K with poultry manure in vegetable cultivation

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Use of poultry manure is a common practice in the upcountry. In addition, farmers apply more P and K than recommended. This involves additional cost. However, poultry manure contains appreciable quantities of P and K.

Hence, application of poultry manure may supply additional P and K. Therefore, an experiment was conducted to find out the substitution levels of P and K using poultry manure for vegetable cultivation. Four levels of P (0, 25%, 50% and 100% of the recommended P) and 4 levels of K (0, 25%, 50% and 100% of the recommended K) for each crop in each season, were factorially combined and tested in a Randomized Complete Block Design experiment. Poultry manure was applied at the rate of 10 t/ha to all the plots. Cabbage, tomato and pole bean were grown in a sequence.

First crop cabbage showed response upto 25% of the recommended level of P application when poultry manure was used at the rate of 10 t/ha. However, the application of K was not beneficial for cabbage when poultry manure was used at the rate of 10 t/ha. Second tomato crop showed a response upto 25% P and 50% of K of recommended levels in the presence of 10 t/ha poultry manure. In addition, third crop pole bean showed a response upto 50% of recommended levels of P and K application when 10 t/ha poultry manure was used.

These results suggest that the application of P and K could be reduced by appreciable amounts if 10 t/ha poultry manure was applied. In general, results of this study indicate that application of P and K could be reduced by 50% of the recommended level in the presence of 10 t/ha poultry manure. This will result in an economical benefit to the farmers in this region.