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The residual effect of potassium on yield of amaranthus (*Amaranthus tricolor* L.) in sandy regosol

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Economic return from potassium addition to sandy soil is largely determined by the residual benefit. This study was conducted to evaluate the residual effect of potassium on yield of amaranthus (*Amaranthus tricolor* L.) in sandy regosol at Agronomy farm, Eastern University, Sri Lanka. Cowpea was cultivated as the proceeding crop. During proceeding crop cultivation paddy husk ash as a source of potassium was applied to soil at different levels as basal application. Treatments were muriate of potash at the rate of 75 kg/ha (T1), paddy husk ash at the rate of 1500 kg/ha (T2), paddy husk ash at the rate of 2500 kg/ha (T3), paddy husk ash at the rate of 3500 kg/ha (T4) and paddy husk ash at the rate of 4500 kg/ha (T5). Experiment was designed in a Randomized Complete Block Design with four replications. And immediately after cowpea was harvested, amaranthus was cultivated without disturbing soil..

There was significant differences ($P<0.05$) in yield. Each unit of potassium gives a high yield response. Yield of amaranthus was high in T5 (89.09 tons/ha) followed by T4 (85.47 tons/ha). It was low in muriate of potash applied at the rate of 75 kg/ha (77.77 tons/ha). Results suggest that paddy husk ash applied at the rate of 4500 kg/ha (T5) would be the most suitable method to attain high yield in sandy regosol.