EFFECT OF FOLIAR APPLICATION WITH UREA AND NAPHTHALENE ACETIC ACID ON GROWTH AND YIELD OF MUNG BEAN

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The foliar application of plant growth regulators and nutrients has been practiced in mung bean (*Vigna radiata* L.) for enhancement of growth and yield. However, the effectiveness of foliar sprays on mung bean is not yet studied under Sri Lankan conditions. Hence, a field experiment was conducted at the Field Crop Research and Development Institute, *Mahailluppallama* during November-April (2018/2019 *Maha* cropping season) to investigate the effect of urea and Naphthalene Acetic Acid (NAA) as a foliar application on growth and yield of mung bean. The experiment was arranged in randomized complete block design with eight treatments and three replicates. Foliar sprays; 1% urea [30, 45 days after sowing (DAS) and 20, 30, 40 DAS)], 1% urea [(30, 45 DAS) and (20, 30, 40 DAS) with 40 mgL^{-1} NAA], 40 mg/l NAA alone and spraying of water were tested combined with the recommended N, P, K fertilizers for mung bean. Treatments with NAA were applied at pre-flowering stage and 15 days thereafter. A treatment with zero fertilizers was used as the control. Plant height, canopy width, root length, number of nodules, percentage of dead and live nodules, number of leaves, leaf area, total dry weight, number of pods and seeds per pod were not significant ($p>0.05$) among treatments. Although the SPAD readings were not significantly different among treatments until pod formation, it was significantly higher in treatments with NAA alone and 1% urea (20, 30, 40 DAS and 20, 30, 40 DAS with NAA) at 75 and 85 days after sowing. Highest and the lowest seed yield recorded were 1.93 and 1.25 tha^{-1} respectively, while the seed yield among treatments were remained insignificant ($p>0.05$). In conclusion, the application of urea and NAA as foliar application is not an effective method for improving the mung bean yield under the tested field conditions.

Keywords: Foliar application, Mung bean, Naphthalene acidic acid, Urea