# Foliar Application of Seaweed Liquid Extracts on Growth Performance of *Glycine max* (L.)

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Seaweeds are found in coastal areas of Sri Lanka. Usage of synthetic fertilizer and pesticide cause vast array of health hazards and environmental problems. Seaweed extracts are one of the alternatives to these problems. In this regard, the first experiment was conducted to find out the seaweeds availability in the coastal Pasikudah area. Six different species were identified and their physio-chemical properties were investigated. Those were *Sargassum crassifoliuin, Turbinaria turbinata, Halimeda opuntia, Salvinia nwlesta, Oldenlandia corymbosa*. Among six species two most abundantly available species of *Sargassum crassifolium* and *Turbinaria turbinata* were selected for second experiment using soybean varieties namely Pb-1 and MISB 01. Pot experiment was conducted in the Crop Farm, Eastern University to find out the effect of seaweed extracts on growth performance of two soybean varieties. The experiment was arranged in a Factorial Complete Randomized Design with six treatments and eight replicates. Seaweed extract 20% was applied to soybean varieties at weekly interval until harvest and their performance were recorded. Both foliar seaweed extract applications had significant ($p<0.05$) effect on tested parameters of two soybean varieties. Foliar application of *S. erassifolium* and *T. turbinata* extracts increased chlorophyll content (10.29, 10.55 SPAD Units), number of flowers (133.89%, 87.08%), effective nodules (165.2%, 65.2%) and shoot biomass (107.7%, 50.9%), respectively in MISB 01. Also in Pb-1 increased chlorophyll content (18.2, 17.49 SPAD Units), number of flowers (104.25%, 29.78%), effective nodules (115.54%, 42.01%), shoot biomass (93.52%, 59.11%). Among two seaweed varieties, *S. crassifoliwn* provided highest performance on number of flowers, effective nodules and biomass of both soybean varieties. It could be concluded in this experiment that *S. crassifoliwn* seaweed liquid extract can be used to increase the growth performance of both soybean varieties.

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