

**EFFECTS OF INORGANIC AND ORGANIC NUTRIENT**

**SOURCES ON GROWTH AND NODULATION OF**

*Glycine max (L.)*



**BY**

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## ABSTRACT

Chemical fertilizers and pesticides are becoming severe problem today because of excessive usage over a long period of time. This leads to adverse toxic effects on the production potential of the land and the ultimate consumers of the agricultural products. Organic nutrient sources are one of good alternative which makes healthy food, healthy soils with ample amount of effective microorganisms, healthy plants and environments a priority along with crop productivity. This experiment was conducted with three different liquid organic nutrient sources with inorganic control to investigate crop growth and nodulation of Soybean (*Glycine max*) and comparison of the performances of different nutrient sources. This experiment was conducted as pot experiment under rain shelter from November to December for five weeks at agro technology park Eastern University, Sri Lanka. Four treatments with ten replicates were arranged in complete randomized design (CRD). The treatment compositions were, T1- application of Jeewamirtha once a week, T2- application of Panchagaveya once a week, T3- application of Amuthakaraisal once a week and T4- inorganic fertilizer application based on the recommendation of Department of Agriculture.

The measured parameters during the research were plant height, numbers of leaves, leaf area, number of flowers, shoot and root biomass, nodules number, number of effective nodules, and nodules weight of the plant. It was found that there were significant differences among the treatment on tested parameter. There was no any significant differences among the treatments on plant height, leaves number at initial stages. It was observed that application of Jeewamirtha giving the highest result on growth parameters and nodulation of *Glycine max* compared to all other treatments. The results obtained from application of Panchagavya, Amuthakaraisal and inorganic

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