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**Plant performance of groundnut (*Arachis hypogaea* L) seeds harvested from plants grown in different levels of cattle manure**

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A field trial was carried out in the Eastern region of Sri Lanka in 2010 - 2011 to study the plant performance of groundnut (*Arachis hypogaea* L) seeds harvested from the organic cultivation with different levels of cattle manure viz. 0, 5, 10, 15 and 20 tons/ha and also from inorganic cultivation followed by the Department of Agriculture. This experiment was laid out in a randomized complete block design with three replications. All other agronomic practices were according to the recommendations of the Department of Agriculture, except for fertilizer application which was not applied to all experimental plots. The results showed that differences in treatments significantly influenced performance of groundnut plants such as the leaf area, number of nodules and dry weight of roots and pods. Among the treatments, plants developed from groundnut seeds collected from 15 tons/ha cattle manure exhibited the highest numbers of leaves, nodules and mature pods and also leaf area. Dry weight of pods recorded at different growing periods (6 -14 weeks after planting) was not statistically different among the treatments except in unfertilized treatment. However, the progeny of groundnut plants from 15 tons/ha cattle manure ranked first in dry weights of root, leaf, stem, nodules and pods. The demand for organically grown products is increasing in the global market. In the present study, the results showed that progeny from organic origin performed better than those with inorganic origins. Cattle manure is locally available in the eastern region and could be used by farmers for better crop production in sandy regosol.