COMPOST APPLICATION ON FERTILIZER USE EFFICIENCY OF CLUSTER ONION (*Allium cepa* L. Aggregatum group) IN NON CALCIC BROWN SOILS

G.H.C.I. Jayarathne[1], S.H.S.A. De Silva[2], M.R.D.L. Kulatunga[2] and D.M. Jinadasa[1]

[1]*Department of Soil and Water Resources Management, Faculty of Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.*

[2]*Regional Agricultural Research and Development Centre, Aralaganwila, Sri Lanka.*

Humus rich materials, commonly referred as compost is an essential component in organic farming particularly. Use of organic matter for entire crop cultivation requires large quantities. However, reduction of chemical fertilizers through increasing fertilizer efficiency by the incorporation of compost is practicable. A field experiment was carried out on Non Calcic Brown soils at Regional Agricultural Research and Development Center, Aralaganwila in Maha 2008/2009 season to find out the suitable combination of chemical fertilizer and compost for cluster onions. The treatments, Department of Agriculture (DOA) recommendation (NPK + 10 mt/ ha compost), 40 mt/ ha compost, NPK recommended by DOA, ½ NPK (DOA) + 25 mt/ ha compost, ¾ NPK (DOA) + 17.5 mt/ha compost and a control without fertilizer and compost were used. Complete Randomized Block Design with 3 replicates was used for the experiment.

The crop failed in the latter part of the season due to high infection of purple blotch Nevertheless there was no significant difference among treatments on number of set per cluster ($p<0.05$). The highest value was observed with DOA recommendation. There were significant differences in fresh weight and the highest fresh weight was observed in NPK recommended by DOA treatment. It is important to repeat this experiment before arriving at a firm conclusion.

Key words: *Allium cepa*, Cluster onion, Compost, Fresh weight of onion, Non Calcic Brown soils, Number of sets