ISSN 1800-1114

Pandit G. P. Wickramarachchi Memorial International Research Symposium 2012

"Recent Advances in Ayurveda and Natural Medicines for Human Wellbeing"

ABSTRACT

Research and Publication Division
Gampaha Wickramarachchi Ayurveda Institute
University of Kelaniya
Yakkala, Sri Lanka
Tel: 0094 33 2222748 Fax: 0094 33 2222739
e-mial: ayurgmp@sltnet.lk

Quantitative effect of groundnut (*Arachis hypogaea* L.) progeny from plants as affected by cattle manure and EM on vegetative plant growth

Suthamathy N[1*] and Thayamini HS[1]

An experiment was conducted at the Eastern region of Sri Lanka to study the quantitative influence of seed stocks obtained from different fertilizer regimes on vegetative growth of groundnut (*Arachis hypogaea* L.). The experiment was laid out in a Complete Randomized Design (CRD) with four treatments and five replications. Treatments included seeds collected from plant grown in cattle manure (15t/ha) with (T_4) or without EM (T_3), chemical fertilizer (T_2) and also without any fertilizer (T_1) application. Ground nut (*cv. Indi*) seeds were planted and other agronomic practices were followed according to recommendation except fertilizer application. In this experiment, any kind of fertilizers was not applied to the experimental plots. Leaf area and dry weights of plant parts were recorded at two weeks interval. Plant growth indices ie leaf weight ratio (LWR), stem weight ratio (SWR), root weight ratio (RWR), specific leaf area (SLA), leaf area ratio (LAR), net assimilation rate (NAR) and relative growth rate (RGR) were calculated and drawn graphically against age of crop. The results indicated that seed sources influenced the growth and dry matter partition of groundnut. LWR and RWR decreased with age of crop while SWR fluctuated with time after planting. SLA and LAR were high during the early stage of crop. RGR and NAR fluctuated and attained its peak during the flowing stage. Plants that established from seeds as influenced by cattle manure and EM, exhibited high net assimilation and better vegetative growth in groundnut.

Key words: Cattle manure, Growth analysis, Groundnut, Seed source

1. Department of Crop Science, Faculty of Agriculture, Eastern University, Chenkalady, Sri Lanka. e-mail: *nsuthamathy@yahoo.com* and *thayaseran@yahoo.com*