EFFECT OF LEVELS AND FREQUENCY OF NITROGEN APPLICATION ON THE GROWTH AND YIELD OF GROUNDNUT (*Arachis hypogaea* L) IN REGOSOLS.

BY

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There was no significant effect of levels of nitrogen or number of application on shelling percentage except that on shelling percentage at 60 kg/ha applied in two split doses,this may be due to the effect of higher levels of nitrogen (60 kg/ha)in two split doses increased protein and other nitrogenous substances .The hundred kernel weight in plots which received nitrogen was significantly higher than that in plot which received no nitrogen(control).

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ABSTRACT

This investigation was conducted in order to study the effect of levels and frequency of nitrogen application on the growth and yield of groundnut in the regosols.The experiment was conducted during January to April 1995 in a field plot near the laboratory at the Eastern University,Sri Lanka,Vantharumoolai.

The experiment tested five levels of nitrogen (0,15,30,45 and 60 kg/ha).A uniform application of 15 kg N/ha,45 kg k_2o/ha and 60 kg P_2O_5/ha was made as basal dressing.Topdressing at the rate of 15,30 and 45 kg N/ha was done either as a single application or in two split doses.

Increasing levels of nitrogen from 0-60 kg/ha increased dry matter accumulation in vegetative parts(stem and leaves) at all stages of growth,specially when the topdressing was done in two split doses.This was applicable to roots as well.

Leaf area increased as nitrogen level increased and more so when applied in split doses.The effect of nitrogen applied appeared to be more pronounced during the early stage of growth (60 DAP) than that in the later stage of growth (90 DAP).

There was a significant increase in nodulation at lower level of nitrogen upto ie 30 kg/ha,thus emphasizing that a minimal amount of applied nitrogen is necessary for nodulation.There was also an indication that at the highest level of nitrogen tested there was a reduction in nodulation.

Effect of levels of nitrogen or of splitting the topdressing in two applications on pod dry weight,pod number and fresh pod yield was not consistent.But increase in level of nitrogen upto 45 kg/ha increased pod yield,pod dry ewight and pod number.