

## B-27 Effect of levels of phosphorus and potassium on yield and quality of peanut (*Arachis hypogaea* L.) in regosols

Paramsothy Jeyakumar, S Sandanam  
(Eastern Univ. Chenkalady)

A field experiment was conducted during March - July 1992 at the Eastern University farm, Vantharumoolai, to study the effect of levels of phosphorus and levels of potassium on yield and quality of peanut grown in regosols.

The treatments included 3 levels of phosphorus (32.5, 65.0, and 130.0 kg  $P_2O_5$ /ha) and 3 levels of potassium (22.5, 45.0, and 90.0 kg  $K_2O$ /ha), as basal application with 40 kg nitrogen/ha given uniformly for all treatments. The experimental design used was 3 x 3 factorial RCBD with 4 replicates.

The results obtained from the investigation showed that the application of mineral phosphorus up to 130 kg/ha in the form of superphosphate improved growth, in terms of leaf area and biomass production in peanut, increased effective nodule number per plant by 33.54% and increased pod yield by 51%. Phosphorus application also influenced quality characteristics such as kernel oil content, kernel crude protein content, shelling percentage and hundred kernel weight which were increased by 17.51%, 18.75%, 14.40% and 27.90% respectively. Application of potassium in the form of muriate of potash did not influence pod yield or nodulation. Potassium at 90 kg  $K_2O$ /ha increased protein content of kernel but did not influence yield or oil content. Application of 45 kg  $K_2O$ /ha increased oil content of kernels by 12.04%. Shelling percentage was not influenced by potassium application.

It is concluded that yield and quality of peanut in the regosols under the condition of this experiment,

could be increased by the application of 130 kg  $P_2O_5$ /ha. With regard to potassium the results obtained were variable, therefore the findings are not conclusive.