

SUMMARY

A study has been made of the increase in yield of rice due to applications of a phosphate fertilizer, leguminous green manure and placement of ammonium sulphate fertilizer under Trinidad paddy soil conditions. Experiments on the effect of placement and cropping with lowland rice on the degree of denitrification of ammonium sulphate in waterlogged soils were also conducted.

Preliminary pot experiment on the response of rice has shown that ammonium sulphate and leguminous green manure increase yields of dry grain, but that placing ammonium sulphate in the surface oxidising layer or 2 in. - 4 in. deep in the reducing layer did not show a significant difference in yield.

Loss of nitrogen - gas due to denitrification was greater when ammonium sulphate was applied to the surface oxidising layer, than when it was applied 3 in. below the surface in the reducing zone.

There was more root growth (by weight dry matter) when the ammonium sulphate applied to the rice plant was placed 3 in. deep in the reducing zone than when it was applied to the surface.

The results have been discussed and suggestions made on the experimental procedure to aid future work.