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EFFECT OF DFFERENT NITROGEN FERTILIZERS AND SOURCES OF PHOSPHORUS ON THE AVAILABILITY OF PHOSPORUS IN CALCAREOUS SOILS

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ABSTRACT

The application of nitrogenous and phosphatic fertilizers caused a significant increase in the yield of corn compared to phosphorus alone. Nitrogen application enhanced the uptake of phosphorus and ammonium sulfate caused higher phosphorus up-take as compared to ammonium nitrate and urea.A combined application of ammonium sulfate and ammonium dihydrogen phosphate caused the highest total phosphorus uptake. The uptake of phosphorus at different levels of calcium carbonate was in the order of 10% $CaCO_3$ > 5 % $CaCO_3$ >3% $CaCO_3$.There was no significant effect on phosphorus uptake on different phosphorus sources by the same nitrogen carrier.Soil reaction did not significantly vary with the level of $CaCO_3$. However, different treatments affected the soil pH significantly. The treatments receiving ammonium sulfate lowered the pH more than ammonum nitrate and urea because of greater residual acidity.

INTRODUCTION

Out of the three major nutrients, nitrogen seems to have most pronounced effect on plant growth as it is mulotifareous in function and vital processes depend directly on it. Nitrogen though occurs as protein, nucleoproteins but more active nitrogenous compounds occur largely in the protoplasm and nuclei of the cells. Phosphorus which is next to nitrogen, is necessary for life processes and is called a "Carrier of Light" and "Key to Agriculture"

Our soils have alkaline reaction and have variable amounts of calcium carbonate which affects the availability of major plant

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