DIFFERENTIAL PHOSPHORUS MOBILIZATION BY TWO WHEAT GENOTYPES ON A CALCAREOUS SOIL FERTILIZED WITH AMMONIUM SULPHATE, POTASSIUM NITRATE, AMMONIUM NITRATE AND UREA

M. Imran, Rahmatullah, M. A. Gill and Tariq Aziz

ABSTRACT

The effect of ammonium sulphate ($(NH_4)_2SO_4$), potassium nitrate (KNO_3), ammonium nitrate (NH_4NO_3) and urea ($CO(NH_2)_2$) forms of N on P mobilization by 'Dirk' and 'Inqlab-91' genotypes of wheat (Tritcum aestivum L.) was studied on an alkaline calcareous sandy clay loam soil. Phosphorus was added, as single super phosphate, @ nil and 100 mg kg^{-1} soil. Nitrogen was added at a uniform rate of 150 mg kg^{-1} from its various sources. Quantities of K added with KNO_3 were balanced in other pots using KCl. There was a significant ($p< 0.001$) main and first and second order interactive effect of N forms, P application and wheat genotypes on shoot growth and P uptake by plants. Wheat genotype 'Inqlab-91' was relatively more responsive than 'Dirk' to P application. Relative increase in shoot growth and P uptake by two wheat genotypes were maximum with $(NH_4)_2SO_4$ followed by urea and KNO_3 while NH_4NO_3 produced minimum relative increase in shoot growth and P uptake in the two genotypes.

Key words: P mobilization, N sources, wheat genotypes.