

EFFECT OF CONTINUOUS APPLICATION OF FERTILIZERS ON SOIL PROPERTIES AND CROP YIELD

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ABSTRACT

Three nitrogen (N) sources viz.; ammonium sulphate, ammonium nitrate, urea and one phosphate (P) source i.e. single superphosphate (SSP) were tried for 17 years @ 150-200 kg N or / P_2O_5 ha⁻¹ singly or in combination to observe their effects on soil properties and wheat yield. Application of N or P alone caused a decrease in crop yield during the last few years but no consistent differences were recorded amongst the three N sources. The maximum yield during each year was obtained with combined application of N and P. All fertilizer treatments reduced soil pH and the greatest reduction in pH was caused by ammonium sulphate alone. Whereas ECE, total soil N and CEC were increased by fertilizer treatments. Phosphorus alone or in combination with N increased the soil available P while N alone decreased it. All fertilizers decreased the degree of dispersion and this decrease was relatively more pronounced with P alone or in combination with N while the hydraulic conductivity was increased by all the fertilizer treatments except urea.