New Agriculturist, **23**(1) : 49–54, 2012

Effect of fly ash and sewage sludge on chemical properties of soil and yield of radish (*Raphanus sativus*)

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Received December 11, 2011 and Accepted March 13, 2012

ABSTRACT : The experiment was conducted in sandy loam soil on soil science research farm of Sam Higginbottom Institute of Agriculture, Technology and Sciences during rabi season 2010, to study the effect of fly ash and sewage sludge on chemical properties of soil as well as yield of Radish. The results showed that fly ash increased pH (from 8.0-9.0), available P (11.0-22.5 kg/ha) when applied with fly ash @10 t/ha and also yield of Radish (384 q/ha) in T_2 as well as available potash (325.5 kg/ha) in T_3 (fly ash @ 10 t/ ha). It might be due to some essential nutrients present in the amendment (fly ash). It is seen that fly ash reduced the availability of heavy metals in the soil but with sewage sludge application, DTPA extractable Pb increased from 0.13-1.62 mg/kg which was observed maximum in all the treatments. Sewage sludge also increased nutrient content but pH decreased due to the organic matter content present in the sludge. The radish yield went up to 362 q/ ha in sewage sludge (20 t/ha) application with further yield 398.33 1/ha when applied with sewage sludge and fly ash (sewage sludge 20 t/ha + fly ash 5 t/ha). The combination of fly ash and sewage sludge resulted in enrichment of nutrients as well as yield of the radish. The most effective treatments were fly ash (5 t/ha) and sewage sludge (10 t/ha).

Key Words: Fly ash, sewage sludge, available nutrients, heavy metals, yield.