

Effect of Fly Ash and Farm Yard Manure on Soil Nutrient Dynamics in a Saturated Inceptisol Under Incubated Conditions

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ABSTRACT

An incubation experiment was conducted for 60 days with one kg soil (fine loamy, mixed hyperthermic Typic Haplustept) at saturated moisture conditions. The studies on available N, P, K, S, Fe, Mn, Cu and Zn contents in soil indicated that there was significant increase in nutrient availability due to application of fly ash and FYM and their interaction at all the time intervals studied viz., 7, 15, 30 and 60 DAI. The addition of fly ash @ 10 or 15 t ha⁻¹ along with FYM @ 10 t ha⁻¹ has recorded the highest available nitrogen (214.6, 222.0, 226.6 and 227.3 kg ha⁻¹), P₂O₅ (18.13, 20.20, 21.83 and 23.03 kg ha⁻¹), K₂O (308.6, 314.6, 318.0 and 320.3 kg ha⁻¹), sulphur (10.20, 11.20, 11.50 and 12.53 mg kg⁻¹), Fe (10.20, 10.50, 12.00 and 12.47 mg kg⁻¹), Mn (5.43, 6.10, 6.30 and 6.47 mg kg⁻¹), Cu (1.76, 1.85, 1.93 and 21.6 mg kg⁻¹) and Zn (1.50, 1.58, 1.50 and 1.51 mg kg⁻¹) at 7, 15, 30 and 60 days after incubation, respectively. The soil available N, Fe and Zn status increased from 7 to 30 days after incubation, which remained more or less the same at 60 DAI. The available P, K, S, Mn and Cu status increased with increasing incubation period from 7 to 60 days.

Key words : FYM, Groundnut, Growth, Phosphate rock, PROM and Yield.