EFFECT OF INORGANIC AND ORGANIC SOURCES OF NUTRIENTS ON YIELD AND YIELD ATTRIBUTES OF LEMON GRASS (*CYMBOPOGON FLEXUOSUS L.*) UNDER SALT AFFECTED SOILS IN BALIA DISTRICT OF U.P.

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Abstract : Field experiments were conducted at the Agricultural Research farm Nidharia of Sree Murali Manohar Town Post Graduate College district, Balliah, during 2005-2006 and 2006-2007 to evaluate the effect of different organic manures *viz.*, FYM , green leaf manure, vermicompost and poultry manure. The treatments were applied at the time of field preparation as $T_1 - 100\%$ NPK as RDF (40:60:40 Kg ha⁻¹), $T_2 - 50\%$ NPK+ 5t FYM/ ha⁻¹, $T_3 - GLM$ (Green leaf manuring) 10t / ha⁻¹.+10t FYM, $T_4 - 100\%$ N through vermi compost ha⁻¹ and $T_5 - 100\%$ N through poultry manure ha⁻¹. All the treatments increased the herbage yield, maximum herbage (lemon grass) yield under T_5 . Content in plants and their uptake in lemon grass were highest under T_5 followed by T_4 , T_1 , T_2 , and T_3 indicating thereby superiority of T_5 over all the treatments. Thus the effect of farmyard manure, green leaf manure, vermi compost, poultry manure and NPK alone or in combination with very useful in enhancing the status of N, P, K, Ca, Mg and S of crops.

Keywords : FYM , Green leaf manure, Vermicompost and Poultry manure

REFERENCES

Jackson, M. L. (1973). Soil chemical analysis. Prentice Hall of India Private Limited, New Delhi, P.205

Olsen, S.R., Cole, R.V. Watanabe, F.S. and Lean, L.A. (1954.) Estimation of available phosphorus in soils by extraction with sodium bicarbonate. *United States Department of Agriculture Circular*, 19; 939.

Singh, B., Singh, Y., Sadananda, U. S. And Meelu, O. P. (1992). Effect of green manure, wheat straw and organic manures on DTPA extractable Fe, Mn, Zn and Cu in a calcareous sandy loam soil at field capacity and under water logged conditions. *J Indian Soc. Soil Sci.*, 40:114-118.

Singh, R.P., Singh, R.S., Singh, R.K. and Singh, A. (2002). Effect of Palmarosa (*Cymbopogon martinii*)

on Improvement of Salt Affected Soils. Comm. *International Sem. held at Bangkok. Symposium*, 33 Paper No.2023.

Singh, R.S., Singh, M.P. and Singh, V.B. (1987). Physico-chemical characteristics of salt and alkali affected riverside soils of eastern U.P. *Proc. Nat. Acad. of Sci., Tiruchira Palli*, India, 57: 3

Sinha, M.K. and Jha, S.N. (1981). Proc. Mang. Salt-affected Calc. Soils, Push, Bihar. p 41.

Subbiah, B.V. and Asija, G.L. (1956). A rapid procedure for determination of available nitrogen in soil. *Cur. Sci.*, 25: 259-260.

Walkley, A. and Black, I.A. (1934). Rapid titration method of organic carbon of soils. *Soil Science*, 37 : 29-33.