



Effect of integrated nutrient management on yield and economics of groundnut-pea-summer groundnut

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Abstract : Growing oilseeds and legumes generally on impoverished soil without proper application of nutrient through external sources constrained production in this country. Researches with a yearly cropping sequence of groundnut (Rainy season)- peas-groundnut(summer) carried out at zonal Agriculture Research Station Mainpuri of C.S. Azad University of Agriculture and Technology, Kanpur on a sandy loam soil indicated that the recommended doses of 20-30-45 and 20-60-40 kg/ha of N, P_2O_5 and K_2O for respective groundnut and Pea crops together with 30q/ha of FYM to rainy season crop of groundnut only could bring about the maximum productivity and profitability in pooled results of two years.

Key Words : Sequence groundnut (summer), Productivity Profitability

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INTRODUCTION

The short fall in production of oilseeds and pulses necessitated the import of oilseeds and pulses without effectively encouraging the local growers for more and more production of these crops in earliest possible time. The availability of suitable short duration varieties of groundnut and peas has widened the scope of yearly sequential cropping of these crops with proper nutrient management. The present experiment is an effort in this direction for semi-arid condition of central Uttar Pradesh.

MATERIALS AND METHODS

The research was carried out consecutively for two years at Zonal Agricultural Research Station Mainpuri of C.S.A. University of Agriculture and Technology, Kanpur. The sandy loam soil of experimental field had a pH of 8.0 containing organic carbon 0.33 per cent, available phosphorus 40 kg/ha and available K-268.00 kg/ha. Randomized Complete Block Design with four replications was followed and the same layout plan was used insitu for all three crops raised in sequence on the same field in both the years. The treatments

for rainy season groundnut and also the other crops in succession included T_1 -Control, T_2 -Farmers' practices (60kgDAP) T_3 -recommended doses of fertilizer(RDF) T_4 -RDF+10q FYM/ha T_5 -RDF+ 20q FYM/ha, T_6 -RDF+30q FYM/ha, T_7 -PSB (Phosphate solubilising bacteria), T_8 -RDF+PSB, T_9 -RDF+10q/ha FYM+PSB, T_{10} -RDF+20q FYM/ha+PSB, T_{11} -RDF + 30/ha FYM+PSB, T_{12} -RDF+PSB+20Kg S/ha. DH-86 variety of groundnut being of early duration was used for both rainy season and summer season cropping. Sapna variety of Pea was grown after the rainy season groundnut. FYM was applied to rainy season groundnut but with holding it for successive crops for the residual effects of FYM containing treatments viz., R.D.F. @ 20-30-45 for groundnut and 20-60-40 for pea in kg/ha of N, P_2O_5 and K_2O , respectively. PSB culture @2kg/ha was used. The dose for sulphur was 20 kg/ha in elemental form. FYM was applied 20 days before sowing the rainy season groundnut and NPK doses were applied in furrow at sowing time of all crops. DH-86 genotype was used for the both seasons of groundnut crop. The planting dates for rainy season groundnut, pea summer groundnut were 18 July, 25 October and 15 march, respectively in both years of investigation.