

EFFECT OF SOIL AMENDMENTS ON PROPERTIES OF POST-HARVEST SALT-AFFECTED SOIL

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ABSTRACT : The pot experiment was conducted with rice crop in salt-affected soil (pH 10.2, EC 2.25 dS m⁻¹, ESP 90.5) in which certain amendments (compost, digested sludge, sulphitation pressmud, pyrite and gypsum) were incorporated before filling in pots and planting of seedlings. The treatments comprised of individual treatments of amendments and also the combinations of gypsum and pyrite with organic amendments. Nitrogen, phosphorus and potash were also applied @ 0.582 g, 1.674 g and 0.446 g/pot, respectively. After 15 days of treatments seedlings were transplanted. The analysis of soil after the harvest of rice crop showed that sulphitation pressmud alone or in combination with gypsum was most effective in lowering the pH and EC. The increase in water holding capacity and organic carbon content in post-harvest soil was more due to organic than inorganic amendments. Available N, P and K were also increased and this was more due to organic amendments either independently or in combination with gypsum. Exchangeable Ca and Mg showed increased values due to gypsum and sulphitation pressmud, but decreased values of ESP were found due to gypsum, pyrite and combination of inorganic and organic amendments. Amendments increased the population of bacteria and fungi but decreased the population of actinomycetes. There was positive effect of amendments on *Azotobacter* population in post-harvest rice soil.

Key Words : Soil amendments, salt affected soil.