Nikul B.Chavada, J Microb Biochem Technol 2013, 5:4
http://dx.doi.org/10.4172/1948-5948.S1.010

OMICS Group Conferences
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2nd International Conference on
Clinical Microbiology & Microbial Genomics
September 16-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA

Study on diazotrophic and IAA producing bacteria isolated from desert soil

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Bio-fertilizer are generally bio-organic substance that have capability to improve the soil fertility significantly by fixing atmospheric nitrogen both in isolation with or without plant root. These can solubilize insoluble phosphate and produce plant growth hormone (auxin, indolacitic acid). Fixation of atmospheric nitrogen in to the soil is followed by three categories (1) Natural N_2 fixation (2) chemical N_2 fixation (3) biological N_2 fixation.

In present investigation, an attempt has been carried out for screening diazotrophic bacteria from saline desert soil. The isolates were further examined for morphological and biological heterogeneity study of pH starting from 4 ph to 9 pH as well as ability to survive under the different salt concentration of NaCl ranging from 0% w/v to 10% w/v. Moreover, Indol acetic acid growth promotion study was done on the wheat plant and compared with the available commercial bio-fertilizer. The results revealed that mixed cultures are better than single isolates.

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