Journal of Chemical, Biological and Physical Sciences

An International Peer Review E-3 Journal of Sciences

*Available online at*www.jcbsc.org

Section B: Environmental Biotechnology

CODEN (USA): JCBPAT

Abstract.

Biochemical Characterization of Rhizobacteria Isolated From Several Rhizospheric Soils

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Abstract: The aim of this work was isolate and characterize bacteria from several soil samples of plant rhizospheres. The characterization of these microorganisms was done by root colonization, siderophores production, antagonism activity, IAA production, proteolytic activity, among others, in order to obtain a bacterial collection with PGPR characteristics. The total isolated strains were 60. The hydrolases production tests were carry out four times per duplicate. The chitinases production tests were done two times per duplicate and the results were negative for all strains tested. Antagonism assays. The antagonism assays were negative for all strains. However, it was observed a recurrent effect in almost all the Petri dishes that show an inhibition halo and low mycelium production compared with Control (only the fungal strain). The enzymatic activity of proteases was positive in 90% of all the isolated rhizobacteria strains tested. The production chitinases tests were negative in all strains. Some rhizobacteria strains showed an antagonist effect, however, these results were not conclusive due to that measure of inhibition halo was weak. Siderophore production, eight strains produced siderophores of 20 strains. The halo diameters were measured between 0.5 to 1 cm. Five strains are candidate as PGPR from total of 60 strain isolated.

Keywords: Rhizobacteria, biochemical characterization, phytopathogens inhibition, PGPR.

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