J Bacteriol Parasitol 2018, Volume: 9
DOI: 10.4172/2155-9597-C1-044

6th International Congress on
Bacteriology & Infectious Diseases
May 21-22, 2018 | New York, USA

# Isolation, characterization and investigation of the *Rhizobacteria* isolated from algerian growing wild argan impact on wheat germination and growth

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Using microorganisms as inoculants in agriculture is the most promising approach to improve cultivated plants production and yield. We start our study by the isolation of *rhizobacteria* from the rhizosphere of the argan tree from several regions in Algeria, than the investigation of their power to boost the plants growth by the determination of AIA after purifying our iso-lates on King B medium. This step allowed us to select 41 bacteria approving concentrations of AIA higher than 13.5 µg/ml among 78 isolates. The highest rate of AIA was 56µg/ml. The productions of HCN and NH3 were also measured as related activities to PGPRs. As a second part, we move to the application of our isolated PGPRs on seeds planting and the exploration of their effects on plant growth by the germination test on the varieties SIMITO and ARZ representing durum and soft wheat respectively. The germination rates were 47%, 55%, 25%, 56%, 68%, 64%, and 36% varying with bacteria. Finally, a statistical study has clearly shown the power of our PGPRs on wheat growth with very satisfactory results. One of our bacteria giving the most interesting result giving plants with an average of dry root weight of 125±4.08 mg leaves length of 110±29.15 cm and rods length of 100±33.02 cm. These results are very much higher than the control.

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