

# **STUDY GROWTH SALINITY TOLERANT BACTERIA AND ITS CAPABILITY IN FREE NITROGEN FIXATION IN SALINITY MEDIUMS.**

**Kareem U. Hasan**

\*Lecturer- Dept. of Soil And Water Res.-College of Agric. –Univ. of Baghdad- Republic of Iraq.  
kareemaubaid@yahoo.com

## **ABSTRACT**

Salinity tolerant bacteria were isolated from salinity affected soil samples by Ashby's medium. The isolates were purified and identified based on morphology and biochemical's tests. Results showed five isolates related to, *Azotobacter Spp.* Their salt tolerance capability tested in growth and nitrogen fixation with mediums content 0.0%, 1.5% , 3.0% , 4.5% , 6% , 7.5% and 10.0% NaCl,. Results showed all isolates could grow in 0.0% - 3.0% NaCl ,and A1 , A4 isolates could grow in 4.5% NaCl. While only A1 isolate can grow in 6.0 % NaCl .The isolate A1 was superior in Nitrogen fixation ( $6.70 \text{ mg N gm}^{-1}$ ) whereas the lowest amount of nitrogen fixation ( $1.98 \text{ mg N gm}^{-1}$ ) was with A3 isolate. Salinity tolerant *Azotobacter Spp.* has attracted the attention of agriculturists as soil inoculums to improve the plant growth and yield in salinity soils.

**Key words:** Soil bacteria Salinity tolerant Nitrogen fixation