

Response of Azospirillum Brasilense Bacteria to the Types and Concentrations of Different Salts

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Abstract. Carried out Two experiments laboratory in the Department of Horticulture - College of Agriculture Diyala University in 2011 to study the effect of salinity on the growth Azospirillum brasilense bacteria, as it included the first experiment salinisation of soil salt levels different (1.8, 4, 6, 8 and 10) ds.m⁻¹ for periods to incubation different (4, 8, 12 and 16) days, the results showed increasing levels of salinity caused a reduction significantly the numbers of bacteria. affected the periods of incubation affected significantly in the numbers of cells of bacteria. Gave period incubation (16) days on highest values for the numbers of bacterial cells. Was a significant effect of interaction in the numbers of bacterial cells, as it reached the highest numbers at the level of salinity (1.8) ds.m⁻¹ and at period incubation (16) days and gave the level (10) ds.m⁻¹ at period incubation (8) days lower the values Second experiment studied the effect of five salts (NaCl , Na₂SO₄ , MgCl₂.6H₂O , MgSO₄.7H₂O and CaCl₂.2H₂O), with six concentrations (0, 0.04, 0.08, 0.12, 0.16 and 0.20) Mole.L⁻¹ on the numbers bacterial cells Azospirillum brasilense, the results showed that increasing the level of salt reduced the numbers of bacteria cells a significant decrease irrespective of the type of salt. Mgcl₂ salt gave the highest numbers irrespective of the level of salt and not significant differences for salt (MgSO₄, CaCl₂), while the salt gave (NaCl₂) lower the values followed by salt (Na₂SO₄). That increasing levels of salinity affected significantly reduce the numbers of bacteria and all types of salts studied, as the salt (NaCl₂) and at (0.16) Mole.L⁻¹ did not record any growth of bacteria, and salt (Na₂SO₄) did not record any growth at (0.20) ds.m⁻¹, recorded salt (MgSO₄) at (0.04) Mole.L⁻¹ higher values for the numbers of bacteria.