

The Biofertilizer Effect of Pseudomonas of Salt Soils of the North-West Algerian, Study of Comportment of Bean (Vicia Faba)

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Abstract : Our study focuses on the identification of some species of Pseudomonas (P4, P5, P7 and P8) isolated from saline soils in northwestern Algeria and the effect of their metabolites on the growth of Alternaria alternata the causative agent of the blight of the bean disease (Vicia faba). We are also interested in stimulating the growth of this plant species in saline conditions (60 mM/l NaCl) and the absence of salts. The analysis focuses on rates of inhibition of mycelial growth of Alternaria alternata strain and the rate of growth of plants inoculated with strains of Pseudomonas expressed by biometrics. According to the results of the in-vitro test, P5 and P8 species and their metabolites showed a significant effect on mycelia growth and production of spores of Alternaria alternata. The in-vivo test shows that the species P8 and P5 were significantly and positively influencing the growth in biometric parameters of the bean in saline and salt-free condition. Inoculation with strain P5 has promoted the growth of the bean in stem height, stem fresh weight and dry weight of stems of 108.59%, 115.28%, 104.33%, respectively, in the presence of salt Inoculation with strain P5 has fostered the growth of the bean stem fresh weight of 112.47% in the presence of salt The effect of Pseudomonas species on the development of Vicia faba and the growth of Alternaria alternata is considering new techniques and methods of biological production and crop protection.

Keywords : pseudomonas, vicia faba, alternaria alternata, promoting of plant growth

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