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## **VIRULENCE OF *RALSTONIA SOLANACEARUM* PHYLOTYPIC II SEQUEVAR I, THE CAUSAL PATHOGEN OF POTATO BROWN ROT**

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### **ABSTRACT**

The present work was performed to characterize the variations between virulent and avirulent Isolates of *Ralstonia solanacearum* race<sub>3</sub> biovar<sub>2</sub>. Based on colony morphology on SMSA medium, (six virulent and six avirulent Isolates were Isolated) from different habitats. Tentative identification based on morphological, Cultural, Physiological and biochemical conformed with those of *Ralstonia solanacearum* race 3 biovar 2. Equivalent to phylotype II sequevar I Immunofluorescence antibody staining (IFAS) didn't show any variation between virulent and avirulent forms either in morphology or degree of fluorescence also Tag-Man Real time PCR showed typical curve over the threshold in virulent and avirulent isolates. Differences between the two forms of *Ralstonia solanacearum* can be recognized on semi selective media of South Africa (SMSA), Triphenyl tetrazolium chloride (TZC) and king's B (KB) media. Virulent and avirulent isolates were tested for pathogenic potentials on two potato cultivars in terms of pathogenicity.

Spectrophotometric estimation was made on surface polysaccharides extracts of the two forms for calculation the carbohydrate concentration from the standard curve and determination of surface lipopolysaccharide included. Concentration of carbohydrate (sucrose unit) was higher in virulent than avirulent isolates.

**Key Words:** avirulent, Exopolysaccharide, IFAS, lipopolysaccharides, pathogenicity test, phylotype II sequevar I, potato brown rot, *Ralstonia solanacearum*, virulence, Virulent.