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(54) **Title:** PROCESS OF SYNTHESIZING BIOCONTROL- CHITOSAN-SILICA
NANOCOMPOSITE PESTICIDE AND CONTROL OF BACTERIAL WILT IN TOMATO

(57) **Abstract:** The present invention discloses a process of synthesizing chitosan-silica nano-composite biological control agent and process for control of bacterial wilt (*Ralstonia solanacearum*) in Tomato. The invention concerns synthesis of chitin (1) to Chitosan- nanoparticles (2) and then Chitosan-Silica nanocomposite (3) which in turn is synthesized to Bio-nanocomposite (4) as shown in Fig.1 below. The said Chitosan immobilized silica nanocomposites are used to deliver biological control agents comprising *R. solanacearum* Bacteriophage in controlling *R.solanacearum* in tomato. The invention discloses a process of adsorption of biological control agents on the nanocomposites carriers enhances germination and growth vigour of tomato plants. Also disclosed is a method for reducing damage to tomato plants caused by *Ralstonia solanacearum* consisting of applying a composition of a chitosan-silica nanocomposites (3) in concentration of at least 0.5%, wherein tomatoes are planted within 20 days of the application of the nanocomposition to the soil.