Abstract: Salt stress is one of the devastating factors that hampers growth and productivity of soybean. Use of *Pseudomonas pseudoalterigenes* to improve salt tolerance in soybean has not been thoroughly explored yet. Therefore, we observed the response of hydroponically grown soybean plants, inoculated with halotolerant *P. pseudoalterigenes* (SRM-16) and *Bacillus subtilis* (SRM-3) under salt stress. *In vitro* testing of 44 bacterial isolates revealed that four isolates showed high salt tolerance. Among them, *B. subtilis* and *P. pseudoalterigenes* showed ACC deaminase activity, siderophore and indole acetic acid (IAA) production and were selected for the current study. We determined that 10^6 cells/mL of *B. subtilis* and *P. pseudoalterigenes* was sufficient to induce tolerance in soybean against salinity stress (100 mM NaCl) in hydroponics by enhancing plant biomass, relative water content and osmolytes. Upon exposure of salinity stress, *P. pseudoalterigenes* inoculated soybean plants showed tolerance by the increased activities of defense related system such as ion transport, antioxidant enzymes, proline and MDA content in shoots and roots. The Na^+ concentration in the soybean plants was increased in the salt stress; while, bacterial priming significantly reduced the Na^+ concentration in the salt stressed soybean plants. However, the antagonistic results were observed for K^+ concentration.

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Publications: α-Alkoxyalkyl Triphenylphosphonium Salts: Synthesis and Reactions

Facile synthesis of α-alkoxymethyltriphenylphosphonium iodides: new application of PPh3/I2

Facile Efficient Synthesis of New Alkoxymethylphosphonium Tetrafluoroborates; Valuable Alternative to Their Halide Analogues.

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