

Development and Characterization of Transgenic Pigeon Pea Plants Carrying *OsruvB* Gene against Salinity Stress Tolerance

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Stress which arises due to environmental parameters such as salinity, drought, high temperature and cold disrupt the normal metabolism of plants. Almost all abiotic stress conditions generate osmotic stress in the plants. Salinity being a very vital problem for the survival of crops leads to major losses in crop productivity. Overexpression of DNA helicases like PDH 45, PDH 47 leads to abiotic stress tolerance (salinity tolerance in tobacco). However, the role of overexpression of *RuvB*, which is also a DNA helicase, in abiotic stress tolerance in plants has not been reported so far. Therefore, we have developed transgenic pigeonpea plants overexpressing *OsRuvB* gene, working under the control of CaMV35S promoter to analyse the effect of this gene on plants under saline conditions. The transgene integration in putative T_0 plants has been confirmed through PCR analysis and transformation efficiency of 35-40% has been observed. The transgene integration has also been confirmed in T_1 plants through PCR and these plants have been exposed to salinity stress. The physio-biochemical parameters such as relative water content, chlorophyll content, membrane stability test, proline content etc. have been studied to assess the tolerance level of the transgenic plants. The PCR positive transgenic plants are being analysed through southern hybridization and real time PCR to determine the transgene copy number.

Biography:

Rakshita Singh has been pursuing PhD from CCSHAU, Hisar, India and working on a very important problem of salinity stress in pigeonpea. Her major advisor is Dr. Pushpa Kharb and she has learnt a lot in her guidance. She is a person with scientific temperament. She love doing science and it's her ultimate passion and devotion. It not only excites her but also helps her being logical in her routine life.