



## Identification of low pH induced differentially expressed genes in rice: An experimental and computational approach

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Rice (*Oryza sativa*) is a very important crop used in various forms for consumption by majority of the population. Its growth and productivity are affected by variety of biotic and abiotic stresses. Soil acidity is among the various factors depressing the rice crop growth and productivity. Majority of soil in Jharkhand, India is acidic having a pH < 5.5 and one of the major limiting factors for rice production. Considering above challenge investigating such genes which are induced under low pH conditions in the traditional variety of rice making them to be tolerant for acidic stress is a great of interest. For this study surface sterilized seeds of some varieties were sown in soil containing pots at varying low pH and kept in growth chamber under controlled conditions. Low pH treated varieties were studied for measuring the changes in morphological, biochemical, molecular and micro-structural parameters. Low pH induced changes in growth and biochemical parameters were observed. RT-PCR based differential gene expression pattern of various genes under acidic stress was observed. Rice homolog of these hub genes were identified and studied for Real-Time PCR based gene expression under low pH stress and obtained findings will be presented.



### Biography:

Dev Mani Pandey has completed his Ph. D. (Plant Physiology) from Chaudhary Charan Singh, Haryana Agricultural University, Hisar, India.

### Recent Publications:

1. Singh, B.N. 2011. Status of rice in Jharkhand – Rice Knowledge Management Portal
2. Kochian, L. V., Hoekenga, O. A., Pineros, M. A. 2004. How do crop plants tolerate acid soils? Mechanisms of aluminum tolerance and phosphorous efficiency. *Annu. Rev. Plant Biol.*, 55, 459-493.