

Expression of Micro-RNA268 in Zinc Deficient Rice

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Abstract : MicroRNAs play an essential role in the regulation and development of all processes in most eukaryotes because of their prospective part as mediators controlling cell growth and differentiation towards the exact position of RNAs response in plants under biotic and abiotic factors or stressors. In a few cases, Zn is oblivious poisonous for plants due to its heavy metal status. Some other metals are extremely toxic, like Cd, Hg, and Pb, but these elements require in rice for the programming of genes under abiotic stress resembling Zn stress when micro RNAs268 was importantly introduced in rice. The micro RNAs overexpressed in transgenic plants with an accumulation of a large amount of melanin dialdehyde, hydrogen peroxide, and an excessive quantity of Zn in the seedlings stage. Let out results for rice pliability under Zn stress micro RNAs act as negative controllers. But the role of micro RNA268 act as a modulator in different ecological condition. It has been explained clearly with a long understanding of the role of micro RNA268 under stress conditions; pliability and practically showed outcome to increase plant sufferance under Zn stress because micro RNAs is an intervention technique for gene regulation in gene expression. The proposed study was experimented with by using genetic factors of Zn stress and toxicity effect on rice plants done at District Vehari, Pakistan. The trial was performed randomly with three replications in a complete block design (RCBD). These blocks were controlled with different concentrations of genetic factors. By overexpression of micro RNA268 rice, seedling growth was not stopped under Zn deficiency due to the accumulation of a large amount of melanin dialdehyde, hydrogen peroxide, and an excessive quantity of Zn in their seedlings. Results showed that micro RNA268 act as a negative controller under Zn stress. In the end, under stress conditions, micro RNA268 showed the necessary function in the tolerance of rice plants. The directorial work sketch gave out high agronomic applications and yield outcomes in rice with a specific amount of Zn application.

Keywords : micro RNA268, zinc, rice, agronomic approach

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