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# Genetic variability for $^{65}\text{Zn}$ uptake and transport in leaves and roots of rice (*Oryza sativa* L.) genotypes

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**ABSTRACT** : Based on seed and leaf zinc (Zn) content, contrasting rice genotypes were identified from the previous study. To know the relationship between uptake and translocation in rice, an experiment was conducted using radio labelled  $^{65}\text{Zn}$  with these selected genotypes in hydroponic solution culture containing radioactive  $^{65}\text{Zn}$ . Plants were harvested 6, 24 and 48 hrs after the treatment imposition. Activity of  $^{65}\text{Zn}$  was estimated using liquid scintillation counter. Zinc uptake was measured both in leaf and root samples. High Zn types showed high uptake compared to low Zn types. The shoot content was also high in high types. It can be inferred that the observed genotypic variation in Zn content was predominantly due to differences in uptake of Zn by roots. After 24 hrs after exposing the seedlings to  $^{65}\text{Zn}$ , the root Zn content was almost twice high in high Zn types compared to low Zn types. These results indicate that variability in Zn levels is attributed to differences in  $^{65}\text{Zn}$  uptake subsequent to its transport to shoot.

**KEY WORDS** : Leaf zinc, Radioactive  $^{65}\text{Zn}$ , Rice genotypes, Seed zinc

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