PHYSIOLOGICAL BASIS OF SUSCEPTIBILITY AND TOLERANCE IN RICE UNDER COMPLETE SUBMERGENCE

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Abstract: A pot experiment was conducted during the Kharif season 2010-2011 with submersion tolerant varieties (NDR 9930111, Swarna Sub 1 and IR 64 Sub 1) and intolerant varieties (Mahsuri, Swarna and IR 64) rice genotypes in order to find out physiological traits associated with submersion tolerant and intolerant. Plants were raised in pots. At the age of 21 days seedling, pots were submerged in tank for 10 days. One group of plants were kept outside as non submerged control set. After 10 days submersion period, the plant were taken out from submersion tank and placed in open again for survival and recovery growth. Plant recovery was recorded 20 days after de-submersion. Tolerant genotypes had moderate elongation ability during submersion as compared to susceptible genotypes with greater elongation. Submersion tolerant genotypes NDR 9930111, Swarna Sub 1 and IR 64 Sub 1 had higher dry weight of shoot after submersion as compared to susceptible genotypes. Tolerant genotypes had higher total carbohydrate as compared to intolerant during submersion and stored carbohydrate is utilized for regeneration after de-submersion.

Keywords: Susceptibility, Rice, seedling, Kharif

REFERENCES
