

## **Assessing the Salt Tolerance of Selected Rice Cultivars (*Oryza Sativa* L) during the Seedling Stage**

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A laboratory study was conducted to evaluate the salt tolerance of selected rice cultivars viz At 307, Bg 358 and 'Pachchaiperumal'. Paddy seedlings were raised in river sand and were transplanted in Modified Yoshida Solution which contained 120 (S<sub>1</sub> solution) and 0mM (S<sub>2</sub> solution) NaCl. The pH of these solutions was adjusted to 4.5 by adding 0.1% nitric acid. This experiment was laid out in the Completely Randomized Design (CRD) with six treatments and four replications. The plant height was recorded on the 3<sup>rd</sup> and 6<sup>th</sup> day after transplanting. The number of green leaves, root length and plant dry weight were obtained on the seventh day of transplanting in the culture solution. Results revealed that there were significant differences between treatments in the plant height, number of green leaves and plant dry weight. The maximum plant height was obtained in the At 307 (16.7cm) on the 6<sup>th</sup> day (under stressed condition) while minimum height was observed in the 'Pachchaiperumal' (9.25cm).

In contrast, 'Pachchaiperumal' produced the highest root length (19.8) while Bg 358 produced the lowest root length (16.8). There was no interaction effect on plant height and root length between the cultivars and solution at 5% level. The number of green leaves on the 7<sup>th</sup> day after transplanting was high in 'Pachchaiperumal' (2.25) and it was low in Bg 358 (1.00). Plant dry weight on the seventh day after transplanting in culture solution had significant difference among treatments. At 307 had the maximum plant dry weight (0.17g) in stressed condition and the minimum plant dry weight (0.14g) was obtained by 'Pachchaiperumal'. It was also found that there was significant interaction between cultivars and culture solution in plant dry weight. The overall performance of At 307 was the best compared to the other two cultivars with regard to plant height and plant dry weight. From these results, At 307 was selected as the best cultivar, which had better salt tolerance compared to the other two cultivars.

**Keywords:** Salt stress, RGR, Plant Dry Weight