

EFFECT OF SODIUM CHLORIDE (NaCl) SALINITY ON
SOME PHYSIOLOGICAL TRAITS OF RICE (ORYZA SATIVA L.)

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The report on the effect of salinity on total chlorophyll content of plants are scarce in the literature. Primary objective of the present study is to examine the effect of NaCl salinity on total chlorophyll content. In addition the effects of salinity on other physiological parameters were also studied.

Eighteen days old plants of two rice varieties, salt tolerant Pokkali and salt sensitive BG 11-11, were transplanted in a saline (EC=5.dS/m) and a non saline (control EC=1.5dS/m) plots. Water potential and dry weight of the shoot, and total chlorophyll content, Na⁺ and Cl₋ contents of the leaves were determined. For these analyses, plants were harvested one month after transplanting. Pokkali plants grown in the saline plot showed significantly lower water potentials and significantly higher dry weights, total chlorophyll, Na⁺ and Cl₋ contents compared to those of the plants in the control plot. In BG 11-11 significant differences were observed for total chlorophyll, Na⁺ and Cl₋ contents. Plants in the saline plot gave higher value than the plants in the control plot. In BG 11-11 no significant differences were observed for water potential and dry weight between the treatments.

Changes of the parameters due to salinity and their relationship to the physiology of salt tolerance of rice varieties will be discussed.