ABSTRACT

In the present study, *Oryza sativa* L. cv. Super Kainat was grown in pots and treated with different concentration of NaCl i.e., 15, 30, 45, 60 mM L^{-1}, and LiCl i.e. 1, 2, 3 and 4 ppm. The main purpose of this study was to lopk into the effect of NaCl and LiCl stress on *Oryza stiva* L.cv. super kainat for its growth, yield and physiological parameters i.e., rate of transpiration and photosynthesis and stomatal conductance, which were measured by using infrared gas analyzer. The fresh and dry weight was also measured after harvesting by using weighing balance. After exposure to NaCl and LiCl concentrations, the number of leaves and plant height were monitored on weekly basis. There were four treatments T0, T1, T2, T3, T4 and each consisted of five replicates. After four weeks of sodium and Lithium application the length of plant and number of leaves were reduced significantly as the compared to control. Na^+ Li^+ and K^+ uptake in roots, shoots, leaves and grains were analyzed by using flame photometer. The maximum level of Na^+ uptake was found in shoot of T3. The amount of Na^+ uptake in grains was found minimum than in roots, shoots and leaves. The Na^+ uptake in roots was found minimum in T0 and T4. Lithium uptake was maximum in the shoot of studied cultivar. Lithium uptake in grains and roots were minimum. The K^+ uptake found maximum in shoots. T4 had minimum uptake of K^+. The present study concludes that the rice plant cultivar Super Kainat could tolerate the NaCl upto 60 mM L^{-1} salt stress and LiCl upto 4 ppm concentration. This can help in its cultivation in different saline areas.