

# Sodium Chloride Salt Stress Induced Changes in Thylakoid Pigment-Protein Complexes, Photosystem II Activity and Thermoluminescence Glow Peaks

Amarendra Narayan Misra<sup>a,e,\*</sup>, Sachindra Mohan Sahu<sup>a</sup>, Meena Misra<sup>b,f</sup>,  
N. K.Ramaswamy<sup>c</sup> and T. S.Desai<sup>d</sup>

<sup>a</sup> Department of Botany, Utkal University, Bhubaneswar-751004, India

<sup>b</sup> A & M Division, RRL, Bhubaneswar-751013, India

<sup>c</sup> Biotechnology Division, BARC, Mumbai-400085, India

<sup>d</sup> Molecular Biology Division, BARC, Mumbai-400085, India

<sup>e</sup> Department of Botany, University of Pune, Pune-411007, India.

Fax: 91-020-353899. E-mail: misra@unipune.ernet.in

<sup>f</sup> Department of Biotechnology, University of Pune, Pune-411007, India

\* Author for correspondence and reprint requests

Z. Naturforsch. **54c**, 640-644 (1999); received November 28, 1998/March 16, 1999

Salt stress, Thylakoid membrane, Pigment-protein complex, PS II, Thermoluminescence, Mung bean (*Vigna radiata* L.), Indian mustard (*Brassica juncea* Coss.)

In the present study, mung bean (*Vigna radiata* L.) – a salt susceptible and Indian mustard (*Brassica juncea* L.) – a salt resistant crop was studied to find out the differences in stress responses of these crops. Seedlings were grown in water soaked cotton under continuous illumination of  $35 \mu\text{mole m}^{-2} \text{s}^{-1}$  at  $26 \pm 1$  °C. Salinity treatment of 0, 0.5 and 1.0% (w/v) was given to the seedlings at 6 day. Photosynthetic pigment content and PS II electron transport activity was reduced under salinity in both mung bean and Indian mustard. The pigment protein pattern of both the crops were similar. Ratio analysis of B and Q thermoluminescence (TL) glow peaks suggested that  $S_2Q_A^-$  charge recombination was relatively more affected than  $S_{2/3}Q_B^-$  charge recombinations.