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Effects of Salt Stress and Synthetic Hormone Polystimuline K on Photosynthetic Activity of Trianea bogotensis Karst

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Abstract: In the present study the effect of kinetin like synthetic hormone Polystimuline K (PS-K) on photosynthetic activity of salt stressed Trianea bogotensis Karst (Hydrocharitaceae) has been shown. Chlorophyll variable fluorescence (Fv) and slow fluo- rescence (SF) have been used to investigate the sensitivity of Photosystem II (PS II) to different salt stress treatments (103, 155 and 344 mM), at different time courses (15, 30, 60, 360 and 720 minutes). Salt stress (155 mM NaCl) treatments of the seed- lings inhibited the SF magnitude approximately to 50 %. Pretreatment of seedlings for 30 minutes in 20 mg/l PS-K followed by salt stress resulted in an increase in SF magnitude. Under salt stress the magnitude of Fv/Fo decreases within all time measurments. In the presence of NaCl and PS-K until 60 min. of treatment there was a decrease in Fv/Fo value, then a slight increase was ob- served. The results of this study are important in understanding the protective function of PS-K on salt stress mechanism.

Key Words: Trianea bogotensis Karst, salt, polystimulin K, chlorophyll fluorescence

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