

AN EVALUATION OF A SCREENING TECHNIQUE FOR SALT TOLERANCE IN PISTACHIO SEEDLINGS

Bahman Panahil & William E.Peat²

1-Pistachio Research Institute, P.O.Box: 77175-435, Rafsanjan, Iran

2-Department of Biological Sciences, Wye College, University of London,Wye,
Ashford,Kent TN25 5AH, U.K.

Leakage of UV-absorbing substances from root tips was used to evaluate salt tolerance of pistachio seedlings. Excised root tips from seedlings of *Pistacia mutica*, *Pistacia vera* "Sarakhs",

and *Pistacia vera* "Badami", were exposed to different salt solutions. In the first experiment, salt treatments were imposed in a step-wise manner.

NaCl was added to the irrigation solution at concentrations which increased by 50 mM per day until the final concentrations of 0, 100 mM, 200 mM and 300 mM were reached. In the second experiment, seedlings were irrigated with gradually increasing concentrations of NaCl and polyethylene glycol 6000 with final concentrations of 150 mM NaCl and 20% PEG.

Harvesting was carried out in the 10th day after stress. One root per plant per

treatment was removed in the glasshouse and shortened to 2 cm from the tip using a

razor blade. Root tips were taken to a laboratory in 5 ml of 0.5 mM CaCl₂, shaken for 24 hours, and transferred to treatment solutions for an additional

24 hours and finally transferred to distilled water for 4 hours. The efflux of UV-absorbing solutes was measured in this final solution at 260 nm (A_{260}) using a UV spectrophotometer.

Solutions were returned to their original containers, which were sealed, and frozen at -25°C for 24 hours. The absorbance at 260 nm (A_{260}) then again