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Effects of Salinity on growth and osmotic regulation substances of callus induced from *Reaumuria soongorica*

Huijuan Tan, Xinrong Li , Yubing Liu, and Xin Zhao
China (tanhj@cern.ac.cn)

Reaumuria soongorica (Pall.) Maxim is the strong xerophils plant in the northwest arid and semiarid regions in China. It plays very important roles in stabilizing sand dunes and in construction of agricultural shelter belts in north-west China.The present study aimed to evaluate the response to salinity of *R. soongorica*, which is more salt-resistant than other valuable shrub species used for afforestation on saline and alkaline desert, at the cellular level. To this purpose, callus was induced from shoot segments of *R. soongorica* on Murashige and Skoog (MS) medium supplemented with 0.2 mgL^{-1}6-benzyladenine (BA) and 2.0 mg mgL^{-1} 2,4-Dichlorophenoxyacetic acid (2 ,4-D). The relative growth rate of callus reached a maximum in the presence of 100 mmol L^{-1}NaCl and growth was inhibited with increasing NaCl concentrations. Examination of the changes of osmotic substances under salt stress showed that accumulation of proline, trehalose, Glycine betain and flavonoids increased with increasing salt concentrations. The results indicate that the response of the callus of *R. soongorica* to salt stress is similar to that of the whole plant.

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