

Abstract

Salt stress in plants is accompanied with decreased growth caused by lowered leaf water potential, closed stomata and thus reduced photosynthesis producing NADPH. However, NADPH is indispensable coenzyme for biosynthetic processes (e.g. biosynthesis of osmotically active compounds decreasing influence of stress) and for antioxidant system.

In this study it was examined, whether NADP-dependent enzymes: glucose-6-phosphate dehydrogenase (G6PDH), NADP-isocitrate dehydrogenase (NADP-ICDH), NADP-malic enzyme (NADP-ME) and NADP-shikimate dehydrogenase (SDH), producing NADPH are involved in plant defence response against 100 mM NaCl. Three different model plants were used: *Pisum sativa* L., *Phaseolus vulgaris* L. and *Cucumis sativa* L.

While in leaves of pea and bean plants salt stress caused rather decreased activities of particular NADP-dependent enzymes (especially of G6PDH and NADP-ICDH), in leaves of cucumber 9th and 11th day of stress condition were found increased activities of all studied enzymes.

Simultaneously the Na⁺ content in salt-stressed plants was analysed by atomic emission spectrometry.