

Progressive changes in oxidative enzymes and some biochemical constituent of chickpea genotype under salinity stress

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SUMMARY

A pot culture experiment was conducted to study the progressive stress responses and mechanism of salinity stress tolerance in chickpea genotype. Two chickpea genotype (one tolerant and one susceptible) CSG-8962 and Vijay of different adaptation were taken for the study in control and saline stress (150mM NaCl) condition at interval of 7, 14 and 21 days. The sample was analyzed for the levels of peroxidase and polyphenol oxidase enzymes and some of the key biomolecules like reducing sugars, soluble protein, proline, polyphenol and free amino acids to find out the biochemical markers involved in identifying the salt tolerance in chickpea cultivar. The result revealed that the activity of oxidative enzyme peroxidase and polyphenol oxidase, proline, free amino acids and polyphenol were found to be increased comparatively higher in salt tolerance cultivar than the susceptible cultivar under the salinity stress situation. Where the soluble protein content in salt susceptible cultivar decreased with salinity stress.

Key words : Chickpea, Peroxidase, Polyphenol oxidase, Proline, Soluble protein, Polyphenol reducing sugar, Free amino acids and salinity stress

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