

RESEARCH ON THE ACTIVITY OF SOME OXIDATIVE ENZYMES FROM POTATO LEAVES

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Abstract

Oxidative enzymes catalyze the decomposition of reactive oxygen species: hydrogen peroxide, superoxide, hydroxyl and singlet oxygen, which are formed during the normal plant physiological processes. The hydrogen peroxide is decomposed by peroxidase and catalase along with superoxide dismutase. This research studies the activity of those enzymes in potato leaves from plants subjected to thermo-hydric stress. The activity of oxidative enzymes studied had a similar dynamic in the potato leaves. The highest activity was determined during budding phase, in which the leaves are most sensitive to the action of thermo-hydric stress. All three enzymes analyzed had increased activity in the leaves of plants grown at a 50% AHI hydric regime compared with those from the variants grown at 80% AHI regime. Under thermo-hydric stress conditions the highest activity of catalase, peroxidase and superoxide dismutase was determined in Robusta variety, which proved to be more sensitive to the action of these factors, and the lowest activity of those enzymes was determined for Sante and Tresor varieties.

Key words: *Solanum tuberosum* L., thermo hydric stress, catalase, guaiacol peroxidase, superoxid dismutase.
