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Effects of high temperature stress on active oxygen metabolism, anthocyanin contents and its synthase of eggplant peel

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This paper studies the effects of high temperature stress (HT) on the active oxygen metabolism, anthocyanin contents and its synthase of the eggplant seedlings. The results showed that HT could increase the Malonaldehyde (MDA) contents, superoxide radical production rate ($O_2^{\bullet -}$) and Hydrogen Peroxide (H_2O_2) contents, the activities of Superoxide radical (SOD), Peroxidase (POD), Catalase (CAT) and Ascorbate Peroxidase (APX), contents of proline and soluble protein. And HT could decrease the anthocyanin contents, CHS, DFR, ANS and 3GT activities, while increase the PAL activity. The above results illustrated that HT could increase the reactive oxygen species, raise the antioxidative enzyme activities and osmotic adjustment substance, and decrease anthocyanin contents and its synthase to alleviate the damage of high temperature stress to the eggplant peels.

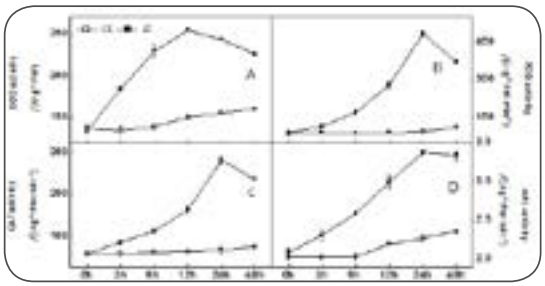

Figure 1: Effects of high temperature stress on the activities of SOD, POD, CAT and APX of eggplant peel

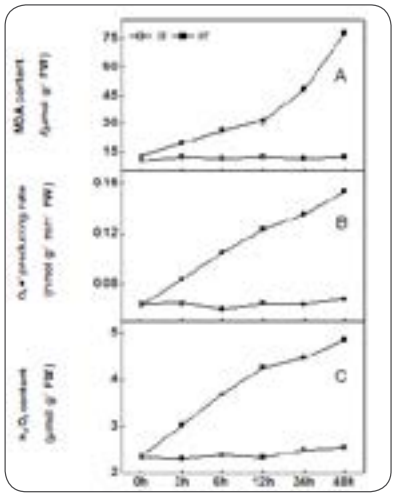

Figure 2: Effects of high temperature stress on the MDA content, $O_2^{\bullet -}$ producing rate and H_2O_2 content of eggplant peel

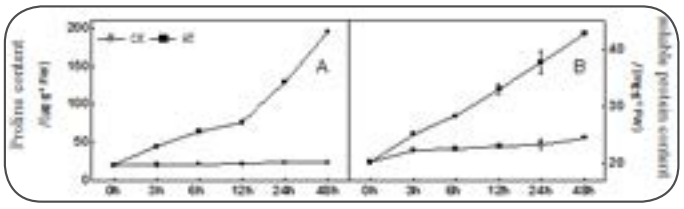

Figure 3: Effects of high temperature stress on the contents of proline and soluble protein of eggplant peel

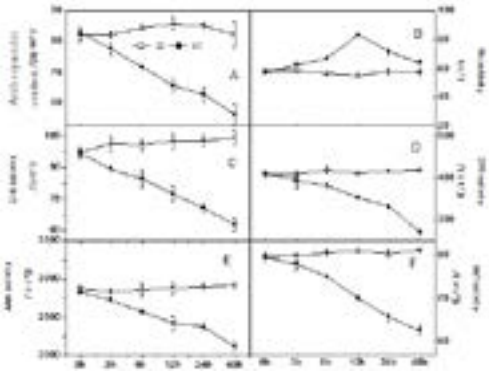

Figure 4: Effects of high temperature stress on the contents of anthocyanidin and anthocyanidin synthase of eggplant peel

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5. Huh E J et al. (2008) Thermo susceptible developmental stage in anthocyanin accumulation and color response to high temperature in red chrysanthemum cultivars. Korean Journal of Horticultural Science & Technology. 26:357-361.

Biography

Cha Dingshi has working at Shanghai Academy of Agricultural Sciences since 1984. Now he has his expertise in eggplant cultivation and breeding. He has chosen 5 eggplant varieties that have large area.

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Notes: