

عنوان مقاله:

Effect of low- temperature stress on dehydrin protein, GABA, endogenous proline and antioxidant enzymes in Citrus reticulata extract in postharvest conditions

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خلاصه مقاله:

Low-temperature stress leads to accumulation of proteins, osmolytes and antioxidants, which involve in plant tolerance to stress conditions. This study aimed to evaluate dehydrin, gamma-aminobutyric acid (GABA), endogenous proline and activities of antioxidant enzymes in Citrus reticulata under low-temperature stress (1°C , -1°C and -3°C) during postharvest. The results of western blot showed proteins with the molecular weight of 30.19 , 36.3 and 62.25 kDa induced in response to low temperature stress. The level of endogenous proline, GABA and activities of antioxidant enzymes (SOD and APX) also increased with decreasing temperature. The amount of GABA and proline in temperatures of -1 and -3°C more than 1°C . With reduction of temperature induces the activity of SOD and APX in C. reticulata. As a result, at -3°C , the highest activity of SOD and APX was observed. Generally, in fruits under the temperature of -3°C , levels of antioxidants and protein accumulation increased.

کلمات کلیدی:

Antioxidant enzymes, Cold stress, Fruit, Antioxidant enzymes, Cold stress, Fruit

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