Salicylic Acid Decreases the Levels of Dehydrin-Like Proteins in Tibetan Hulless Barley Leaves under Water Stress

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The effects of salicylic acid (SA) on the accumulation of dehydrins in leaves of Tibetan hulless barley seedlings under water stress were investigated. The results indicated that SA decreased the levels of the four dehydrin-like proteins induced by water stress. The concentrations of these dehydrin-like proteins increased under water stress. However, their levels in SA-pretreated seedlings were always lower than in those receiving only water stress. Our results also indicated that the levels of dehydrin-like proteins decreased as the SA concentration increased. In SA-pretreated seedlings, electrolyte leakage, MDA and H_2O_2 content were rather higher than in seedlings receiving only water stress. By these results, we suggest that lower levels of dehydrin-like proteins in seedlings with SA treatment may be due to the greater accumulation of H_2O_2 induced by SA, which causes more oxidative injury under water stress.

Key words: Salicylic Acid (SA), Dehydrin, Water Stress